ENVIRONMENTAL ASSESSMENT REPORT FOR DISPOSAL AND REUSE OF TRUMAN WATERFRONT NAS KEY WEST FL

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Environmental Assessment for Disposal and Reuse of Truman Waterfront Naval Air Station Key West, Florida

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Prepared for:
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List of Acronyms

ACSC	Area of Critical State Concern
BEBR	Bureau of Economic and Business Research, University of Florida
BGS	Below Ground Surface
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQ	Council on Environmental Quality
CES	City Electric System
CNO	Chief of Naval Operations
dBA	Decibel (A-Weighted)
DCA	Florida Department of Community Affairs
DOD	Department of Defense
DRMO	Defense Reutilization and Marketing Office
E & E	Ecology and Environment, Inc.
EA	Environmental Assessment
EPA	United States Environmental Protection Agency
FAC	Florida Administrative Code
FCMP	Florida Coastal Management Program
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FFWCC	Florida Fish and Wildlife Conservation Commission
FGFWFC	Florida Game and Freshwater Fish Commission
FKAA	Florida Keys Aqueduct Authority
FKNMS	Florida Keys National Marine Sanctuary
FNAI	Florida Natural Areas Inventory
FS	Florida Statutes
ft^2	Square Foot
ha	Hectare
gcd	Gallons per Capita per Day
HMDR	Historic Medium Density Residential District
HNC	Historic Neighborhood Commercial
HPRD	Historic Planned Redevelopment and Development District
IRA	Interim Remedial Action
IRP	Installation Restoration Program
ITE	Institute of Transportation Engineers
JTFF	Joint Task Force Four
kg	Kilogram
km	Kilometer
kVA	Kilovolt-Ampere
KWNWR	Key West National Wildlife Refuge
KWPATA	Key West Port and Transit Authority

List of Acronyms (continued)

lb	Pound
lcd	Liters per Capita per Day
LDR	Land Development Regulation
LOS	Level of Service
lpd	Liters per Day
LRA	Local Redevelopment Authority
LUC	Land Use Control
m^2	Square Meter
m^3	Cubic Meter
mgd	Million Gallons per Day
mg/L	Milligrams per Liter
mld	Million Liters per Day
NAS	Naval Air Station
Navy	Department of the Navy
NEPA	National Environmental Policy Act
NGVD	National Geodetic Vertical Datum
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOx	Nitrogen Oxide
NPS	National Park Service
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OFW	Outstanding Florida Waters
OMI	Operations Management International, Inc.
PAH	Polynuclear Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
POL	Petroleum, Oil, and Lubricants
PVC	Polyvinyl Chloride
ROGO	Rate of Growth Ordinance
SFWMD	South Florida Water Management District
SHPO	State Historic Preservation Office
SVOC	Semi-Volatile Organic Compound
TNC	The Nature Conservancy
VOC	Volatile Organic Compound
USACE	United States Army Corp of Engineers
USAF	United States Air Force
USFWS	United States Fish and Wildlife Service
UST	Underground Storage Tank
WPA	Works Progress Administration
WTEF	Waste to Energy Facility
yd^3	Cubic Yard

Executive Summary

Background

On July 1, 1995, Naval Air Station (NAS) Key West was designated for realignment by the Secretary of Defense Commission on Base Realignment and Closure (BRAC) pursuant to the Base Closure and Realignment Act of 1990 (Public Law 101-510). On May 2, 1996, the Department of the Navy declared eight properties at the Naval Air Station surplus, including the Truman Waterfront. These properties are available for use by non-federal public agencies for public benefit purposes, by eligible non-profit groups, and by homeless provider groups, pursuant to the Base Closure Community Redevelopment Assistance Act of 1994.

Proposed Action

The proposed action is disposal and reuse of a portion of the NAS Key West Truman Annex (Truman Annex) in accordance with the preferred alternative for this property, as identified in the Key West Chapter 288 Military Base Reuse Plan prepared by the Local Redevelopment Authority (LRA) and adopted by the City of Key West as the approved Reuse Plan on September 8, 1999.

The portion of Truman Annex to be disposed of is known as the Truman Waterfront and comprises 41.4 acres (16.6 hectares [ha]) of land. The property consists entirely of filled land, including a 7.6-acre (3.0-ha) Mole (a massive seawall used as a breakwater) that encloses a 50-acre (20-ha) harbor, known as Truman Harbor. The Mole, or Mole Pier, contains berthing and wharf space, paved roads, utility infrastructure, and two buildings. The remaining 33.8-acre (13.5-ha) portion of the property contains 10 storage buildings and nine other structures, including a bomb shelter, dining facility, fire station, port operations building, and Naval Exchange Branch.

The proposed Reuse Plan incorporates the following land uses:

- Recreation and open space areas with uninterrupted public access to the waterfront;
- Berth for calling cruise ships along the Outer Mole Pier;
- Professional marina and a public marina;

- Ferry terminal operation center;
- Mixed-use development of affordable housing, retail, and social service uses;
- Preservation and enhancement of Fort Zachary Taylor;
- An interagency visitor and educational center; and
- Waterfront port-related, non-cargo use.

Purpose and Need

The purpose of the proposed action is to comply with the 1995 BRAC Commission recommendation that the Secretary of Defense realign NAS Key West to a Naval Air Facility and dispose of all property not required to support operational commitments, including certain portions of Truman Annex and Trumbo Point (including piers, wharves, and buildings). The installation is being realigned for the purpose of reducing military infrastructure and saving operation and maintenance costs over the long term. Disposal of the Truman Waterfront property is needed so that the Navy does not continue to incur costs to maintain the facility after it has closed.

Alternatives

Two alternatives are considered in this Environmental Assessment (EA), the Proposed Action Alternative and the No-Action Alternative. The Proposed Action Alternative is disposal and reuse of the Truman Waterfront property according to the reuse plan prepared by the LRA. The No-Action Alternative is continued ownership of the property by the Navy. These alternatives are described below.

Truman Waterfront Reuse Plan Alternative (Proposed Action)

The Truman Waterfront Reuse Plan Alternative is the reuse plan developed by the LRA through an intensive public planning process initiated in May 1997. The reuse planning process was designed to satisfy federal base reuse planning requirements to maximize community participation and ensure that the plan "appropriately balance the needs of the various communities for economic redevelopment, other development and homeless assistance," in accordance with federal regulations.

The proposed Truman Waterfront Reuse Plan is designed to extend the minority neighborhood known as Bahama Village into the property and strengthen the existing community through improved vehicle and pedestrian circulation systems. The proposed land uses generally divide the site into a village component and a harborside, mixed use element.

Mole Pier and Truman Harbor would provide facilities for cruise ships, ferries, and other vessels. The north Outer Mole would continue to serve as a berth for calling cruise ships, as it has since 1996 under lease from the Navy. Berthing areas for port vessels, including tugs and pilot boats, as well as for visiting ships, would be provided along the north and center Inner Mole and the northern portion of the eastern quay wall. Passenger ferry operations are proposed for the southern portion of Truman Harbor. Port administration functions would be located in an expanded facility at the southern end of the Mole. The port would also administer an area located along the southern quay wall that could be leased for light- and medium-industrial marine uses, such as boat and skiff manufacturing, customizing of boats, repair, dry dock, boat storage, riggings, chandlery, and other activities.

A large open space and recreational park is proposed for the northwestern portion of the site, between the existing Truman Annex Development (an area of the former Truman Annex Naval Station previously disposed of as surplus and developed as a residential community in the 1990's) and the eastern side of Truman Harbor. A public marina facility is envisioned for the southern portion of the harbor adjacent to this large park. A mega-yacht berthing area would be designated for the northeastern portion of the harbor, and a recreational boat marina, protected from wind and wave action by a breakwater, would be located to the south. Additional open space would connect Bahama Village to Fort Zachary Taylor and surround the historic Seminole Battery. A harbor promenade would connect cruise operations on Mole Pier, Fort Zachary Taylor, passenger ferry operations, the interagency visitor center, and recreation and open space areas.

An area of medium-density affordable housing is proposed along the eastern edge of the Truman Waterfront property. Light commercial retail areas and a village marketplace adjacent to Bahama Village would serve as an extension of the commercial uses on Petronia Street (the primary commercial corridor in Bahama Village) and appeal to both the Bahama Village community and area visitors, especially cruise ship passengers from the Mole Pier. A multi-use center providing a variety of social services and economic development enterprises for Bahama Village and other Key West residents would be developed using the Enlisted Dining Facility, Building 1287.

The Bahama Village marketplace, the enhanced Fort Zachary Taylor and Seminole Battery historic properties, and the visitor center would be developed to draw both tourists and residents to the Truman Waterfront property. Fort Zachary Taylor would be restored and expanded into a major site amenity and destination. The entrance to the park, as well as the Ranger Station, would be relocated, and a new parking area would be provided northeast of the Fort. The properties east of the Fort would be dedicated as an archeological preserve.

Vehicular traffic would be distributed over several ingress/egress points, including Southard

Street through Truman Annex Development and Petronia Street, Olivia Street, and Truman Avenue through Bahama Village. Traffic associated with cruise ship activities could be routed through Bahama Village, giving increased visibility to its retailers.

No Action Alternative

Under the No-Action Alternative, the property would remain vacant and unused. The Navy would retain ownership of the property and continue to maintain it under "caretaker status."

Environmental Impacts of the Proposed Action

Reuse of the Truman Waterfront property would have both minor beneficial and adverse effects on water quality. Redevelopment of the site would improve water quality by providing better stormwater treatment than currently available on the property, thereby reducing the amount of stormwater pollutants entering Key West Harbor. The impact on water quality from limited dredging and marine construction in Truman Harbor would be localized and short-term. Accidental petroleum and hazardous material spills from port-related activities or the light-industrial area could cause short-term acute or long-term chronic impacts to water quality. However, these potential impacts would be mitigated by preparation and implementation of spill contingency plans. Adverse impacts to water quality from illegal sewage disposal in Truman Harbor would be minor.

The proposed action would indirectly cause long-term, adverse effects on water quality from increased vessel-generated turbidity. However, no significant impacts to water quality would occur from increases in vessel-generated turbidity because federal and state regulatory permits and approvals must be granted before the cruise ship berth, ferry terminal and marinas that would support such vessel traffic could be constructed and operated (e.g. sovereign submerged lands lease, state environmental resources permits). Implementation of the Reuse Plan would contribute to cumulative, adverse impacts of turbidity on important marine resources, but whether the contribution exceeds a significance threshold would be determined by the planned United States Army Corps of Engineers' (USACE) study of Key West Harbor.

No significant, adverse, short-term or long-term air quality impact would result from the proposed action. Air emissions during proposed construction would result from the operation of vehicles and machinery and the generation of fugitive dust. The effects of these activities would be short-term and minor. Due to the relatively small increase in the number of vehicles, the increase in air pollutant loads would be negligible and unlikely to affect the current attainment status. The increase in vessel traffic anticipated as a result of the additional proposed harbor facilities would not significantly

affect existing air quality.

Implementation of the proposed action would not likely result in any potential for significant, adverse environmental contamination. Existing environmental contamination at four sites on the Truman Waterfront property will be cleaned up and will not affect or be affected by development. Land use restrictions prohibiting residential development will be required at two of the sites where environmental contamination may still exist at levels potentially unsafe for residential use. Any development of these sites would require conformance with all applicable laws and regulations governing the disposal of any existing contaminated material prior to redevelopment.

The proposed action would not cause direct or indirect impacts to terrestrial vegetation or wildlife of the area.

The direct impact of the proposed Reuse Plan on marine resources would be negligible. The installation of pilings and breakwaters as part of construction of the ferry terminal and marinas would cause a minor loss of benthic habitat in Truman Harbor. Increased visitation of sensitive marine resources in the vicinity of Key West by motorized private and commercial boats moored in Truman Harbor could result in increased disturbance to bird rookeries and impacts to seagrass beds and coral reefs from anchoring and propeller scarring, an indirect effect of the proposed action. The operation of the National Oceanic and Atmospheric Administration's (NOAA) proposed environmental education center would have a cumulative beneficial effect on the marine environment due to increased environmental awareness, particularly among tourists who are likely less-informed than residents about the potential adverse effects of their actions on the marine environment. The increase in boat traffic associated with implementation of the proposed Reuse Plan would contribute to cumulative adverse impacts on seagrass and coral reef ecosystems, but these impacts would not be significant due to monitoring and management programs under the Florida Keys National Marine Sanctuary (FKNMS).

Based on available information, the United States Fish and Wildlife Service (USFWS) concluded that the proposed action is not likely to affect federally-listed threatened and endangered species. Furthermore, no designated critical habitat is present in the vicinity of the project site or would be affected. The direct and indirect effects of the proposed action, in combination with past, present, and reasonably foreseeable actions, would not result in any significant cumulative impact to threatened or endangered species.

The proposed action would benefit the site's cultural resources by restoring and preserving them. Furthermore, by developing them as site attractions, the public would be educated about the military history of Key West.

Implementation of the Base Reuse Plan would have a positive and long-term impact on the

economy, employment, and income of the region. No adverse impacts to the region's taxes and revenues are anticipated as a result of the Reuse Plan. The proposed action would have a beneficial effect on recreation in Key West, by creating an additional 30 acres (12 ha) of open space.

Implementation of the Truman Waterfront Reuse Plan would potentially have an adverse or beneficial impact on the overall affordable housing situation in Key West. The actual impact would depend on a number of factors, including the number of affordable housing units to be built on the Truman Waterfront property, the number of low-wage jobs created by the proposed action, and the timing of construction of the proposed housing units versus the creation of low-wage jobs.

Implementation of the Truman Waterfront Reuse Plan generally would encourage both economic development and quality of life opportunities for residents of Bahama Village, which is considered an environmental justice-sensitive community . In addition to the potential benefits of implementation of the Reuse Plan, potential adverse impacts would occur in the Bahama Village community from increased traffic, housing gentrification, and displacement of long-term businesses and residents. However, the net effect of these impacts on Bahama Village socioeconomic and quality of life conditions would be generally beneficial and thus, the implementation of the proposed action would not invoke consideration of environmental justice.

On-site development constraints would not be a significant, adverse impediment to the proposed land use activity locations for the site. Land use restrictions prohibiting residential development will be required at two sites where environmental contamination may still exist at levels potentially unsafe for residential use. No significant, adverse, short-term or long-term internal or external land use conflicts would result from implementation of the Reuse Plan. Generally, proposed land uses would be compatible. Implementation of the proposed action would not be expected to result in a significant conflict with future plans for Bahama Village. Redevelopment of property, as proposed by the Reuse Plan, would generally enhance the aesthetic features of the site and provide a beneficial aesthetic impact to adjacent residential areas. No significant, adverse, cumulative impact would occur to land use from implementation of the Truman Waterfront Reuse Plan.

Implementation of the proposed action would decrease the operating level of service (LOS) for local roadways and increase roadway travel time. The cumulative effect of the proposed action would contribute to a direct adverse impact to the operating conditions on impacted local roadways adjacent to the Truman Waterfront property.

The proposed action would not result in significant adverse impacts on existing infrastructure systems. The additional demands on utilities generated by the proposed redevelopment would be within the existing or planned capacities of all of these systems.

Rationale for Proposed Action

The No-Action Alternative would not allow the City of Key West to implement the community's vision for reuse of the Truman Waterfront property. Although implementation of the No-Action Alternative would not affect environmental conditions, the land would remain vacant and unused, which is inconsistent with the Key West Comprehensive Plan. Transportation, public utilities, and community services would not be affected by this alternative. The No-Action Alternative would not result in a significant economic impact to the City other than lost opportunity. However, costs to maintain the property would be incurred by the Department of Defense (DOD) with no benefit to the federal government. Furthermore, the No-Action Alternative would not be in accordance with the 1995 BRAC decision for realignment of NAS Key West.

The Truman Waterfront Reuse Plan Alternative (the Proposed Action) would not be expected to result in any significant, adverse impact to environmental or socioeconomic resources. The Proposed Action would increase available open space and recreational facilities, expand the City's use of the Truman Waterfront for port activities, enhance economic opportunities for Bahama Village, restore historical connections between Bahama Village and the waterfront, and provide needed affordable housing and community services.

Furthermore, the LRA, through extensive public participation, has selected this Reuse Plan as the preferred alternative.

1 Introduction

1.1 Background

The Key West Naval Complex is located in the Lower Florida Keys (Monroe County, Florida), approximately 156 miles (251 kilometers [km]) southwest of Miami, Florida and 90 miles (96 km) north of Havana, Cuba. The Complex covers approximately 18,000 acres (72,000 hectares [ha]) distributed among 16 different areas, primarily on the islands of Key West and Boca Chica Key (U.S. Navy 1993).

Naval Air Station (NAS) Key West is the Host Activity. Its mission is to maintain and operate facilities and to provide services and material to support operations of aviation activities and units of the operating forces of the Navy and other activities and units, as designated by the Chief of Naval Operations (CNO).

On July 1, 1995, NAS Key West was designated for realignment by the Secretary of Defense Commission on Base Realignment and Closure (BRAC) pursuant to the Base Closure and Realignment Act of 1990 (Public Law 101-510). On May 2, 1996, the Department of the Navy declared eight properties at NAS Key West as surplus, including Truman Waterfront. All of the eight surplus properties are located on the island of Key West (see Figure 1-1). These properties are available for use by non-federal public agencies for public benefit purposes, by eligible non-profit groups, and by homeless provider groups, pursuant to the Base Closure Community Redevelopment Assistance Act of 1994. The City of Key West Naval Properties Local Redevelopment Authority (LRA) was created in 1996 to produce a plan to reuse these properties.

This EA was prepared in compliance with BRAC, the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) regulations (40 CFR 1500-1508), and Chief of Naval Operations Instruction (OPNAVINST) 5090.1B, *Environmental and Natural Resources Program Manual*, to address disposal and reuse of the Truman Waterfront property.

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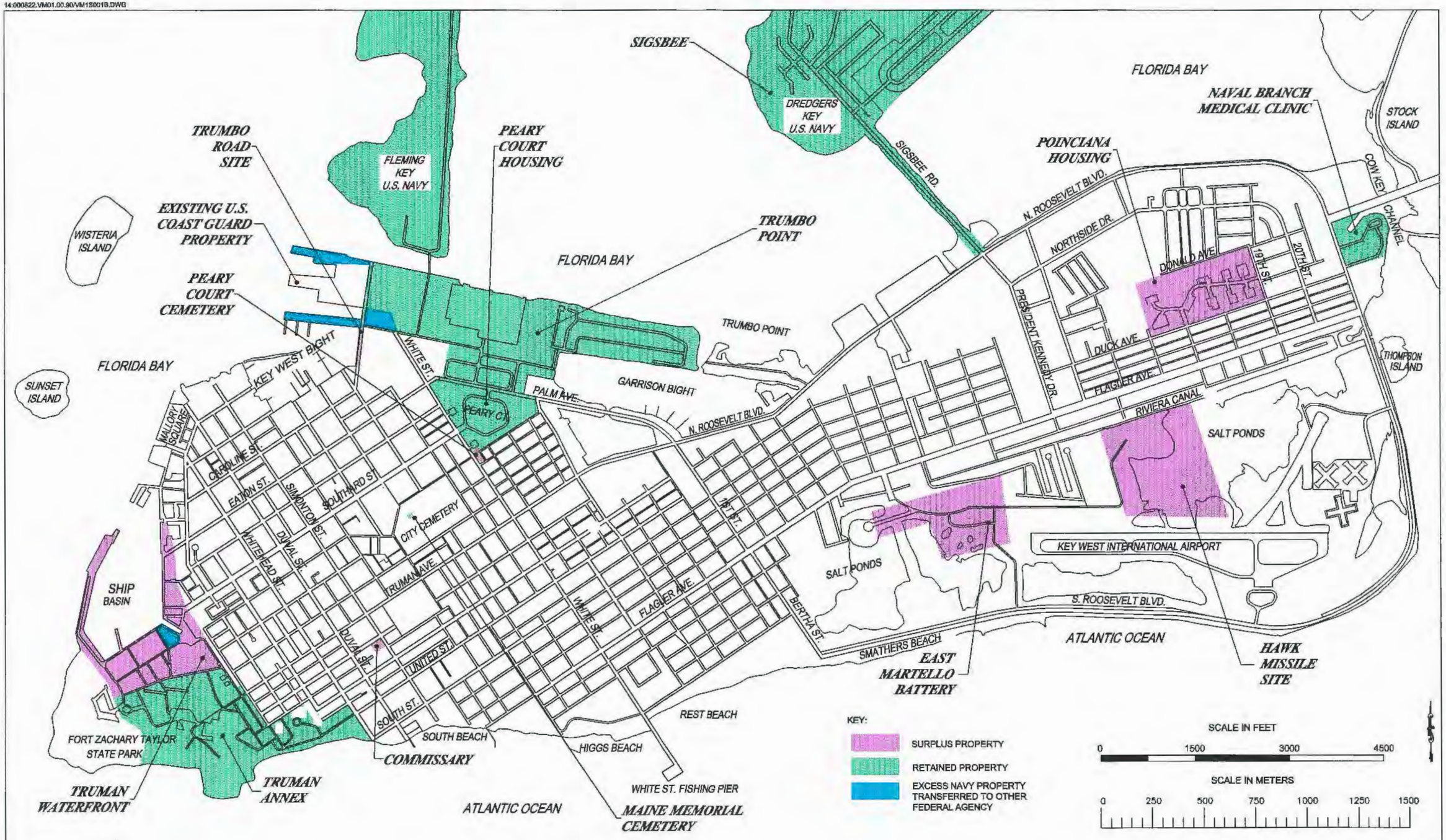

Source: Ecology and Environment, Inc., 1998

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Figure 1-1 **MAJOR NAVAL REAL ESTATE PARCELS TO BE RETAINED AND SURPLUSED, KEY WEST, FLORIDA**

1.2 Description of the Proposed Action

The proposed action is disposal and reuse of a portion of the NAS Key West Truman Annex (Truman Annex) in accordance with the preferred alternative for this property, as identified in the Key West Chapter 288 Military Base Reuse Plan prepared by the LRA and adopted by the City of Key West as the approved Reuse Plan on September 8, 1999.

The portion of Truman Annex to be disposed is known as the Truman Waterfront and comprises 41.4 acres (16.6 ha) of land (see Figure 1-1). The property consists entirely of filled land, including a 7.6-acre (3.0-ha) Mole (a massive seawall used as a breakwater) that encloses a 50-acre (20-ha) harbor. The Mole, or Mole Pier, as it is known, contains berthing and wharf space, paved roads, utility infrastructure, and two buildings totaling 1,679 square feet (ft^2; 156 square meters [m^2]). The remaining 33.8-acre (13.5-ha) portion of the property contains 10 storage buildings (approximately 74,867 ft^2 [6,955 m^2]) and nine other structures (approximately 50,000 ft^2 [4,645 m^2]), including a bomb shelter, dining facility, fire station, port operations building, and Naval Exchange Branch.

The proposed Reuse Plan incorporates the following land use activities:

- Recreation and open space areas linked by multi-modal greenways with uninterrupted public access to and along the waterfront;
- Berth for calling cruise ships along the outer Mole Pier;
- Professional marina along the west quay wall and a public marina along the east quay wall;
- Ferry terminal operation center at the small docking facility along the south quay wall;
- Mixed use development of affordable housing, neighborhood retail, and social service uses as an extension of the Bahama Village neighborhood;
- Preservation and enhancement of historic and archeological features, including Fort Zachary Taylor;
- An interagency visitor and educational center staffed by representatives of National Oceanic and Atmospheric Administration (NOAA), the United States Fish and Wildlife Service (USFWS), the National Parks Service (NPS), and other agencies; and
- Port-related, non-cargo use of portions of the south waterfront for possible light industrial and manufacturing, warehouse operations, and service or repair establishments.

1.3 Purpose and Need for the Proposed Action

The purpose of the proposed action is to comply with BRAC; President Clinton's 5-Part Plan, " A Program to Revitalize Base Closure Communities" (July 2, 1993); the National Defense Authorization Act for Fiscal Year 1994 (Title XXIX, Subtitle A - Base Closure Community Assistance); and the interim final rule promulgated by the U.S. Department of Defense (32 CFR Parts 90 and 91 - Revitalizing Base Closure Communities and Community Assistance).

The 1995 BRAC Commission recommended that the Secretary of Defense "realign Naval Air Station Key West to a Naval Air Facility and dispose of all property not required to support operational commitments, including certain portions of Truman Annex and Trumbo Point (including piers, wharves, and buildings)" (Commission Findings and Recommendations 1995). The installation is being realigned for the purpose of reducing military infrastructure and saving operation and maintenance costs over the long term. Disposal of the Truman Waterfront property is needed so that the Navy does not continue to incur costs to maintain the facility after it has closed.

1.4 Public Involvement/Agency Coordination

Since 1996, a series of public forums and workshops were held in Key West to solicit public comment on the reuse of surplus Naval properties, inform citizens of the planning process, and facilitate development of the Base Reuse Plan.

Public comments incorporated into the City of Key West reuse planning documents were referenced in preparation of this EA. Other issues and concerns were identified from conversations with representatives of local, state, and federal agencies and from correspondence solicited from agencies and non-governmental organizations during the data collection phase of the project. Table 1-1 lists the issues and concerns identified by these agencies and organizations, along with the section of the EA where each is addressed.

The Navy will distribute the draft EA to all interested parties for review and comment. Public comments on the draft EA received during a 45-day public review period will be considered in the final EA.

Table 1-1

ISSUES AND CONCERNS IDENTIFIED BY AGENCIES AND ORGANIZATIONS, TRUMAN WATERFRONT, KEY WEST, FLORIDA

Commenting Agency and Organization	Issues and Concerns	Section Addressed	Notes
U.S. Fish and Wildlife Service, Big Pine Key, Florida	Impacts of increased user traffic to the Key West National Wildlife Refuge.	4.7	
	Use of native plants in landscaping.	4.6	
	Water quality degradation resulting from increased boater and cruise ship traffic.	4.3.2	
U.S. Fish and Wildlife Service, Vero Beach, Florida	Potential impacts to federally-listed species.	4.8	
National Marine Fisheries Service, St. Petersburg, Florida	Water quality issues such as point and non-point source pollution, pollution abatement plans, oil spill response plans and control of marine debris and trash.	4.3.2	
	Increased groundings and effects on submerged habitats.	4.7	
	Increased collisions with protected marine mammals and sea turtles.	4.7, 4.8	
U. S. Coast Guard, Miami, Florida	Environmental impacts associated with marine fuel and oil spills and dumping of sewage, garbage and plastics into area waters.	4.3.2	
	Adequacy of port mooring infrastructure for the size vessels proposed	NA	This is not an environmental issue applicable to this EA.
Florida Keys National Marine Sanctuary, Marathon Florida	Water quality and damage to biological resources (i.e., seagrass beds and hard bottom habitat) resulting from turbidity plumes from ships and dredging	4.3.2, 4.7	
	Increased vessel groundings resulting from increased vessel traffic.	4.3.2, 4.7	
	Disposal of wastewater from docked vessels.	4.3.2	
	Toxic and hazardous waste in stormwater runoff from service and repair establishments and fueling facilities.	4.3.2	

Table 1-1

ISSUES AND CONCERNS IDENTIFIED BY AGENCIES AND ORGANIZATIONS, TRUMAN WATERFRONT, KEY WEST, FLORIDA

Commenting Agency and Organization	Issues and Concerns	Section Addressed	Notes
Florida Department of Environmental Protection, Tallahassee, Florida	Impacts on the municipal sewer system and the Key West Wastewater Treatment Plant.	4.13	
	Stormwater and hazardous materials management	4.3.2, 4.13	
	Impacts to water quality (i.e., turbidity) resulting from dredging and added ship activity.	4.3.2	
Florida Department of Community Affairs, Tallahassee, Florida	Adverse impacts to sea turtles, reefs, sea grasses, or other aquatic beds from potential future cruise ship berth.	NA	Plans for a second cruise ship berth were later eliminated from the reuse plan.
	Impact of proposed activities on the Florida Keys National Marine Sanctuary (FKNMS) and the requirements of the FKNMS Management Plan.	5.1	
	Consistency with the Florida Coastal Management Program.	4.11.3, 5.2	
	Potential conflicts with the City of Key West Comprehensive Land Use Plan.	4.11.3, 5.3	
Florida Department of State, Division of Historic Resources, Tallahassee, Florida	Adverse effects on historic properties listed, or eligible for listing, in the National Register.	4.9	
South Florida Regional Planning Council, Hollywood, Florida	Cumulative impacts to native plants and animals, wetlands, and fisheries.	4.7, 4.8	
	Consistency with the goals and policies of the *Strategic Regional Policy Plan for South Florida*	5.3	
South Florida Water Management District, West Palm Beach, Florida	Existing contamination within and adjacent to the Truman Waterfront property. Detailed information should be provided regarding the extent of contamination as well as remediation activities proposed.	3.5, 4.5	

Table 1-1

ISSUES AND CONCERNS IDENTIFIED BY AGENCIES AND ORGANIZATIONS, TRUMAN WATERFRONT, KEY WEST, FLORIDA

Commenting Agency and Organization	Issues and Concerns	Section Addressed	Notes
South Florida Water Management District, West Palm Beach, Florida	Re-suspension of pollutants in the marina sediments following dredging, pier construction, or other sediment-disturbing activity.	3.3.2, 4.3.2	
	Adverse impacts to listed species, including manatees and sea turtles from proposed marina facilities.	4.8	
Reef Relief, Key West, Florida	Ecological health of both marine and land based habitats.	4.6, 4.7, 4.8	
	Cleanup of IR and SWMU sites.	3.5, 4.5	
	Stormwater runoff	3.3.2, 4.3.2	
	Potentially harmful discharges from marina and cruiseship facilities must be eliminated.	4.3.2	
	Impacts of vessel propwash on seagrasses, patch reefs, and other bottom habitats.	4.7	
	Impact from increased traffic, leakage or other incidents adversely affecting the health of surrounding marine habitats.	4.7	
	Preservation of sufficient greenspace .	4.11	
	Pesticide and fertilizer use in green areas.	4.3.2	

2 Alternatives

2.1 Background

The Key West Chapter 288 Military Base Reuse Plan is intended to provide long-term, sustained, economic growth in Key West by adaptive reuse of surplus military land and facilities. The base reuse planning process determined the appropriate and feasible redevelopment uses, which reflect the community's vision. The Base Reuse Plan was developed to achieve the following goals (City of Key West 1999):

- Provide meaningful integration of the sites into the community fabric;
- Help diversify the economy;
- Encourage balanced growth in the area's economy, including commercial and service sector job growth;
- Provide employment opportunities for the region's unemployed and underemployed persons;
- Strengthen the local tax base;
- Help existing businesses and industries expand;
- Help small businesses develop;
- Provide affordable housing for Key West residents;
- Provide public recreation and access opportunities, especially on the waterfront;
- Provide opportunities for port, harbor, and marina improvements;
- Facilitate improvements and provide physical and economic links to Bahama Village;
- Ensure environmental sensitivity; and
- Provide opportunities for social services and special needs facilities.

2.2 Development of the Reuse Plan

Development of the Reuse Plan was accomplished by a two-step process that consisted of (1) preparation, adoption, and approval of the federally required Base Reuse Plan (City of Key West 1997a) and (2) refinement and translation of the federal plan into the City's growth management documents through a process provided by Chapter 288 of the Florida Statutes. The second plan is commonly referred to as the Key West Chapter 288 Military Base Reuse Plan or the Chapter 288 Plan (City of Key West 1999).

2.2.1 Development of the Federal Base Reuse Plan

The Federal Base Reuse Plan involved an intensive, five-month public planning process initiated in May 1997 by the LRA. The reuse planning process was designed to satisfy federal base reuse planning requirements to maximize community participation and ensure that the plan "appropriately balance the needs of the various communities for economic redevelopment, other development and homeless assistance," in accordance with federal regulations.

A series of public forums and workshops were held in Key West to solicit public comment on the reuse of surplus Naval properties, inform citizens of the planning process, and facilitate development of the Base Reuse Plan. Input received at these public meetings was used to help identify community priorities, identify potential site uses, develop and refine concept designs, and generate and refine reuse alternatives.

The first public meeting was held on May 30, 1997, to identify community priorities for use of all of the NAS Key West surplus properties. This initial meeting was also intended to promote understanding of the public participation process and its integration with the overall base reuse planning process.

The second public forum was held on June 14, 1997, to address reuse of the Truman Waterfront property. This meeting identified additional information for site planning and, based on priorities identified at the Initial Community Priorities Forum, identified opportunities and specific potential uses for the site. Forum participants voiced a wide range of concerns and issues pertaining to reuse of the Truman Waterfront. The primary concerns were infrastructure limitations (particularly wastewater management), compliance with the City of Key West Rate of Growth Ordinance and City of Key West Comprehensive Plan, height restrictions waterward of the Truman Annex development, potential cruise ship impacts on turtle nesting habitat, and public access to Truman Beach.

The third phase of the public participation process, the Alternatives Generation Workshop, was conducted on July 11 and 12, 1997. In this phase, design charrettes were conducted to develop a range of possible plans for the Truman Waterfront. Prior to soliciting public input, the planning team (i.e. Bermello, Ajamil & Partners) reviewed site constraints and opportunities, and informed participants of the federal surplus properties conveyance process and base reuse planning

requirements. Workshop participants were asked to consider this information, as well as the community priorities established at the first forum, in suggesting and evaluating possible reuse alternatives.

Participants divided into five groups based on the first rank priority uses for Truman Waterfront that were identified at the Potential Uses Forum. These groups each developed up to three group concept plans that focussed on their respective high priority use and that incorporated as many other proposed site uses as possible.

Eight alternative concept plans for the Truman Waterfront were generated by this charrette process. The eight concept plans are described in Table 2-1. Most of the generated plans incorporated several common design elements. The elements most common to the eight plans were:

- Harbor walk/recreation;
- Environmental educational center; and
- Public marketplace.

Table 2-1

ALTERNATIVE CONCEPT PLANS

Alternative	Description	Rank
1. Neighborhood	The primary intent of this plan is to reintroduce a residential urban fabric into areas of Truman Waterfront adjacent to Bahama Village (see Figure 1.B.1, Concept plan 1 – Neighborhood). The unifying element of the plan is a market place/community center featuring mixed used development and an amphitheater. This element links and is supported by existing residential uses in Bahama Village and proposed infill housing. The ability of the area to function somewhat self-sufficiently is strengthened with the potential introduction of a community meeting and convention center, a social services facility, recreational facilities, and open space.	1
2a. Marina & Sailing	The focus of this concept plan is the introduction of a community sailing center along the east quay (see Figure 1.B.2, concept Plan 2a – Marina & Sailing). Ingress/egress to and from the port is proposed via an extension of Angela Street. An unnamed road running parallel to Port Street is proposed to provide access to the sailing center.	6
2b. Marina & Sailing	This plan expands upon the community sailing center concept developed in Plan 2a (see Figure 1.B.3, Concept Plan 2b – Marina & Sailing). Two alternate locations are proposed for a public marina: along the north side of the east quay, and at the inner base of Mole Pier. Access to and from the harbor is treated in the same manner.	7

Table 2-1

ALTERNATIVE CONCEPT PLANS

Alternative	Description	Rank
2. Human Services	The Human Services Plan proposes a comparatively more complex program (see Figure 1.B.4, Concept Plan 3 – Human Services). With the introduction of a public transportation node, focus is drawn to the waterfront at the approximate junction of Angela and Port Streets. In close proximately to this junction, human services including a homeless center/job training center and a youth center. Other priority uses including a public market and public open space are incorporated in scattered locations throughout the site. Use of the harbor is maximized with the inclusion of a second cruise ship berth, a boat launching area, ferry terminal, and a public marina.	4
4a. Cruise Port	Like Concept Plan 3, this hybrid cruise port concept Plan incorporates a variety of priority uses together with its focus on cruise ship facilities (see Figure 1.B.5, Concept Plan 4ab – Cruise Port). Directly complementing the cruise ship operations, this plan includes a tender dock, tug vessels and a maritime commercial area along the Outer Mole. Maritime uses are expanded with proposed marine use/vessel repair facilities, a ferry parking/assembly area, as well as docking facilities for oceanographic vessels and mega yachts. A variety of other priority uses such as a straw market, a museum, and an amphitheater are also proposed as part of the program. Mindful of potential traffic impacts associated with auto ferry service, this plan proposes limited passenger ferry service.	3
4b. Cruise Port	This plan is the same as Plan 4a, except that it proposes development of automobile ferry service, in addition to passenger ferry service.	5
4c. Alternative Basin	This plan addresses the need to separate cruise ship traffic from small pleasure craft boats through the creation of an alternative maritime basin (see Figure 1.B.6, Concept Plan 4c – Maritime Alternative Basin). This concept also serves to bring the waterfront back into residential areas as once was.	2
5. Amphitheater & Ft. Taylor	The focus on this plan is the reinforced connection between Fort Zachary Taylor and residential areas to the east and improved east/west access between Truman Waterfront and Bahama Village via Petronia and Angela Streets (see Figure 1.B.7, concept Plan 5-Amphitheater/Fort Taylor). Other dominant features of this plan are the use of the Seminole Battery as an amphitheater and landscaped picnic area, and the reuse of the enlisted dining facility as a restaurant/culinary school and adjacent hydroponic garden.	5

Source: City of Key West 1997a

The reoccurrence of these elements indicates the community's consensus that these are high priority uses. A continuous harbor walk along the Truman Waterfront is consistent with public access and passive recreation, ranked as the highest priorities at the Initial Community Priorities Forum. The proposed educational facilities are also consistent with identified community priorities. Although the

public market was not identified at the first forum, participants agreed at this meeting that such a use would directly benefit residents of surrounding neighborhoods.

Following development and refinement of the group concept plans, all workshop participants evaluated and ranked the eight plans based on the following criteria:

- How well have the considerations from the initial priorities forum been addressed?
- How well have the environmental constraints been addressed?
- How will the lands be conveyed?
- How economically feasible are these schemes?

The results of the ranking are presented in Table 2-1.

Using the concept plans that received the highest rankings, and building on key design concepts and public opinions expressed during the Alternatives Generation Workshop, the planning team developed two refined concept drawings to elicit further public input. These alternative plans were presented to the public at the Alternatives Evaluation Workshop on July 26, 1997.

The two plans incorporate the following common design elements, which were expressed at previous public meetings:

Open Space and Passive Recreation Areas

- Dedication of not less than 25 percent of the Truman Waterfront as open space and passive recreation areas;
- Creation of a pedestrian and bicycle network (greenway) that allows for ingress/egress to Fort Zachary Taylor, Seminole Battery, Bahama Village, and special districts specific to each design alternative; and
- Creation of a harbor walk along the western and portions of the southern quay.

Restoration and Preservation of Historic Sites

- Restoration of the historic back entrance to Fort Zachary Taylor through demolition of two adjacent Navy buildings. The northernmost building (Building 261) would be preserved and modified to house related uses, including a Fort museum, artifact storage, and administration. Pedestrian, bicycle, and vehicular access to the Fort and adjacent state park would also be enhance; and
- Restoration of Seminole Battery and preservation of adjacent land as open space/passive recreation.

Port Operations

- Continued use of the north Outer Mole for berthing of cruise ships;
- Designation of the central Outer Mole as a potential future cruise ship berth. Additional study by the City of Key West as to potential fiscal, environmental, and quality of life impacts should be conducted before initiating development of this second berth;
- Assignment of the Inner Mole to port-related functions, including berthing of tugs, harbor pilot boats, vessels in distress, concessionaires, and other oceangoing vessels; and
- Relocation of port administration facilities to the south Mole. To meet U.S. Customs and U.S. Coast Guard safety regulations, a secure access point to the Mole Pier would be developed. Public access to the Mole Pier would occur unimpeded when cruise vessels are not berthed at the Outer Mole.

Social Services and Job Training

- Use of the Enlisted Dining Facility (Building 1287) to provide an array of community services, including job training, homeless assistance, and community meeting areas.

The two Refined Concept Plans presented at the Alternatives Evaluation Workshop are described below.

Refined Concept Plan A - Public Waterfront

The central theme of this design alternative is dedication of the waterfront to public access and passive recreation. A continuous, wide promenade would encircle the harbor and would connect with a large public plaza at the southeastern corner. Educational, cultural, and retail facilities would surround the plaza, drawing both residents and tourists. Tenants adjacent to the plaza would include an environmental education center, a maritime marketplace, artisan/craft stores, small restaurants, and other uses consistent with the character of Bahama Village. This area could serve as the new center for the Bahama Village community.

Public recreation and maritime facilities would be along the waterfront north and west of the central marketplace. A 100-slip, public marina, public recreational facilities, and community gardens would be located along the eastern quay, and a passenger ferry terminal would be located along the southern quay.

Southern and eastern portions of the Truman Waterfront would contain low- and medium-density housing as an extension of Bahama Village. Landscaped boulevards would provide pedestrian, bicycle, and vehicular thoroughfares between Bahama Village and the waterfront. A wide boulevard with recreational facilities in a central greenway would link Bahama Village and Seminole Battery with the waterfront and land uses along the eastern quay.

Refined Concept Plan B - Working Waterfront

This design alternative is based on a vision of an economically diverse working waterfront, which would provide steady, long-term employment opportunities. The design plan is focussed on a working waterfront district along the south quay. This district would contain businesses that complement adjacent marina facilities, such as boat and skiff manufacturing, boat repair and customizing, dry dock and boat storage, ship chandlery, and other light- and medium-industrial uses.

The area south and east of the industrial waterfront district would contain mixed-density residential housing that retains the character of the adjacent Bahama Village. A greenway would buffer the marine industrial uses from nearby residential and recreational uses. This greenway would link to a wide promenade along the eastern quay, where a large public recreation area, public marina, and maritime marketplace would be located.

To the west of the marine industrial site, a cluster of recreational and educational facilities would attract residents and visitors. These facilities would include Fort Zachary Taylor and the existing state park, an environmental education center, amphitheater, passenger ferry terminal, and a concession marina.

Public reactions to these two plans were used to develop the preliminary Base Reuse Plan. According to some forum participants (Daniels 1998, Woolwich 1998), these two plans failed to capture the basic intent or character envisioned by most of the particpants of the earlier forums. The public provided critical comments that communicated the missed essence, and the planning team was able to further refine these concept plans into a preliminary Reuse Plan.

Adoption of the Federal Base Reuse Plan

A preliminary Reuse Plan for the Truman Waterfront was developed by the planning consultant using considerations and design concepts generated through the public participation process, an analysis of site opportunities and constraints, and a review of previous community planning efforts for the area. This Reuse Plan for the Truman Waterfront (as a part of the preliminary Base Reuse Plan, which covered all surplus Naval properties) was presented at a public meeting on ___. The preliminary Base Reuse Plan was adopted by the City Commission as the proposed Base Reuse Plan on September 16, 1997, and approved by the federal government on August 11, 1998. This Base Reuse Plan was later refined during the Chapter 288 planning process.

2.2.2 Development of the Chapter 288 Plan

The purpose of the Chapter 288 process was to identify and implement changes in local and state regulatory documents or actions needed to implement the previously drafted Base Reuse Plan. The Base Reuse Plan must meet the requirements of the state's Growth Management Act (Chapter

163, F.S.) and the Principals for Guiding Development, as adopted per the Area of Critical State Concern (Chapter 380, F.S.) provisions.

Three public workshops were conducted (May 18, July 20, and November 2, 1998) to identify key issues to be addressed by the Chapter 288 process, and evaluate and refine the conceptual approaches developed by the planning team to address the issues identified. During the Chapter 288 planning process, the following significant changes were made to the federally approved Base Reuse Plan:

- Elimination of the second cruise ship berth at the Outer Mole;
- Conversion of approximately 14 acres (5.6 ha) from residential/commercial development to green space and parks;
- Conversion of 0.5 acre (0.2 ha) of residential area to parking lot; and
- Removal of 3.46 acres (1.39 ha) comprising the Seminole Battery property from the proposed conveyance.

The removal of the Seminole Battery property from the proposed conveyance was a Navy decision unrelated to the City's planning process.

The Chapter 288 Plan was adopted by the Key West City Commission on September 8, 1999. The Truman Waterfront Parcel Concept Plan defined in the Chapter 288 Plan is defined as the proposed action and is referred to as the Truman Waterfront Reuse Plan, or simply the Reuse Plan, throughout this EA.

2.3 Description of the Alternatives

2.3.1 Truman Waterfront Reuse Plan Alternative (Proposed Action)

The proposed Truman Waterfront Reuse Plan is designed to extend the minority neighborhood known as Bahama Village into the property and strengthen the existing community through improved vehicle and pedestrian circulation systems. The proposed land uses generally divide the site into a village component and a harborside, mixed use element (see Figure 2-1). The major features and land uses of the Reuse Plan are described below.

Recreation and Open Space Areas

A large open space and recreation park is proposed for the northwestern portion of the site, between the existing Truman Annex Development (an area of the former Truman Annex Naval Station previously disposed of as surplus and developed as a residential community in the 1990's) and the eastern quay wall. This area would offer views of the waterfront; tennis, bocce, and other

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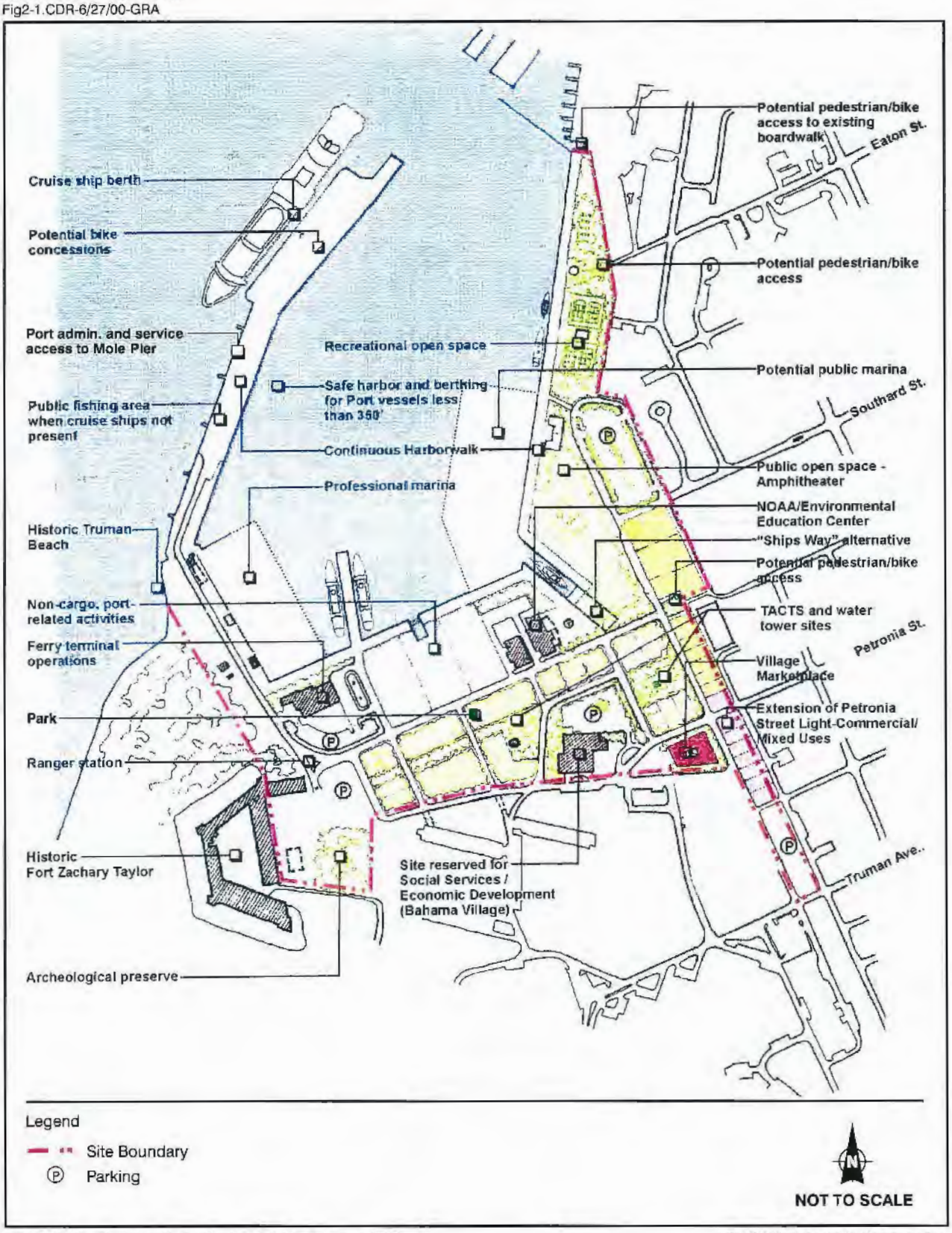

SOURCE: Modified from Bermello, Ajamil & Partners, Inc. 1999.

Figure 2-1 PROPOSED REUSE PLAN FOR TRUMAN WATERFRONT PROPERTY, KEY WEST

dedicated sports areas; community gardens; and open areas for field sports or passive recreation. An amphitheater could be developed at the center of this open area for public gatherings, outdoor theater and concerts, or a series of other uses. Several ingress/egress points would be developed along the northern end to provide pedestrian and bicycle access. Possible connections could include a continuation of Eaton Street and a harbor walk connection over Commodore Slip. An area for parking would be provided north of the terminus of Southard Street.

A public marina facility is envisioned for the southern portion of Truman Harbor adjacent to this large park. A mega-yacht berthing area would be designated for the northern portion of the eastern quay wall, and a small boat facility, protected from wind and wave action by a breakwater, would be located to the south. These uses would provide additional mooring facilities for Key West. The existing boat launch could be modified as a slip for large visiting boats or research vessels.

A second large open space located south of Dekalb Avenue would connect Bahama Village to Fort Zachary Taylor. This open space includes the TACTS tower, the water tower, and the archeological preserve at Fort Zachary Taylor. Once the Navy changes its utility service, the water tower would be abandoned and possibly demolished. A third recreation area is envisioned for the area around the historic Seminole Battery. Uses for this and the large open space area south of Dekalb Avenue could be tailored to meet the neighborhood recreational needs of the Bahama Village. These areas could also serve as alternate sites for the proposed amphitheater (the proposed open space area around the Seminole Battery may need to be reconfigured).

Each of these open space and recreation facilities would be linked together by a network of landscaped greenways. One greenway would run along Dekalb Avenue, connecting the waterfront and park area to TACTS tower park, the Bahama Village marketplace, and Seminole Battery.

Harbor Promenade

Designed for use by pedestrians, cyclists, in-line skaters, and other recreation enthusiasts, the Truman Waterfront promenade would connect cruise operations on Mole Pier, Fort Zachary Taylor, passenger ferry operations, the federal interagency visitor center, and recreation and open space areas. Ideally, the Truman Waterfront promenade would be linked at the Commodores Slip (northwest corner of the site) through to the existing harbor walk that extends from the Hilton Hotel to the Key West Bight. Landscaping and hardscape treatments, pavilions, and lighting elements would all be incorporated into the design of the promenade to create a diverse, safe, multi-use recreation facility.

Affordable Housing, Neighborhood Retail, and Social Service Uses

A central theme of the plan is to remove the perceived boundary between Bahama Village and the Truman Waterfront properties and create a continuous transition between uses and neighborhoods.

The Truman Waterfront property presents an opportunity to assist the City of Key West in meeting a portion of the demand for affordable housing. An area of medium-density housing is designated along the eastern edge of the Truman Waterfront property, between Angela and Southard streets. Housing would be similar in type and style to that found in historic Key West. Housing in these areas could be developed to meet Key West's affordability thresholds.

Light commercial retail areas would serve as an extension of the commercial uses on Petronia Street. These uses would culminate at a village marketplace, an idea first contemplated in the Bahama Village Neighborhood Charrette. Offering Caribbean-inspired shopping, dining, and entertainment, the village marketplace is envisioned as an activity center with appeal to both the Bahama Village community and area visitors, especially cruise ship passengers from the Mole Pier.

A multi-use center providing a variety of social services and economic development enterprises for Bahama Village and other Key West residents would be developed using the Enlisted Dining Facility, Building 1287. Services provided at this facility could include job training, community meetings, educational programs, day care, weekend church worship services, and others.

Educational and Historical Activity Nodes

Diverse, lively points of interest (activity nodes) would be developed to draw both tourists and residents to the Truman Waterfront property. These nodes include the Bahama Village marketplace, the enhanced Fort Zachary Taylor and Seminole Battery historic properties, and the visitor center and administration offices for NOAA and other agencies.

Under this plan, Fort Zachary Taylor would be restored and expanded into a major site amenity and destination. The historic entrance to Fort Zachary Taylor would be restored through demolition of two adjacent Navy excessed buildings (buildings 795 and 284). The northernmost building, Building 261, would be modified to house related uses, including a museum, artifact storage, and administration offices. The entrance to the park, as well as the Ranger Station, would be relocated, and a new parking area would be provided northeast of the Fort. The properties east of the Fort would be dedicated as an archeological preserve.

The Seminole Battery, located in the southern portion of the site adjacent to Bahama Village, would also be restored and preserved under this plan. As advocated in the Bahama Village Neighborhood Charrette, the Seminole Battery and adjacent site could be used as a central starting point for tours of Bahama Village. The underground bunker portion of Seminole Battery could also be developed into a war memorial and museum, depicting Key West's military history and the roles its citizens have played.

Two Navy excessed buildings, buildings 112 and 113, which are adjacent to the boat launch at the nexus of the eastern and southern quay walls, would be reused and expanded to house a federal

interagency visitor center and administrative offices for NOAA, USFWS, NPS and other agencies. (This parcel was conveyed by a federal-to-federal transfer and, therefore, is not addressed in this EA, except for consideration of the cumulative impact of this action in combination with redevelopment of the remaining property.) The facilities would serve as a single location for persons interested in obtaining information or learning about the natural and cultural resources of the Florida Keys. These facilities would front a plaza to the east and a newly landscaped boulevard to the south. Research vessels and boats offering tours to environmental areas could be moored within a new public marina contemplated for the portion of the basin north of the center.

Expanded Port Facilities

As a deepwater port, the Truman Waterfront affords the City a unique opportunity to expand maritime-related activities as well as continue its role as a port of emergency for ships at sea. Mole Pier and Truman Harbor are planned to provide facilities for cruise ships, ferries, and other vessels. The north Outer Mole would continue to serve as a berth for calling cruise ships, as it has since 1996 under lease from the Navy. A shaded public transportation pick-up/drop-off area, as well as a small area for a visitor information kiosk and bike concessions, could be developed on the north Mole.

Berthing areas for port vessels, including tugs and pilot boats, as well as for visiting ships under 350 to 400 feet (107 to 122 meters)--the largest vessels that can be safely navigated into Truman Harbor--would be provided along the north and center Inner Mole and the northern portion of the eastern quay wall.

Passenger ferry operations are proposed for the southern portion of Truman Harbor. Through use of the existing finger pier (Pier 8) that extends from the southern quay wall, two passenger ferries could be accommodated simultaneously. Ferry ticketing, luggage, and support requirements would be provided through modification and reuse of the existing Navy building (Building 149) located along the southwest corner of the basin. A small parking area and a bus and taxi drop-off is envisioned for the ferry terminal facility along the southern and eastern sides of the building.

Port administration functions would be located in an expanded facility at the southern end of the Mole. Location of these uses in this area would allow for port administration functions to be proximate to the majority of port activities. To meet U.S. Customs and U.S. Coast Guard safety regulations, a secure access point to Mole Pier could also be developed at this point or another appropriate area. Public access to the north Mole Pier would occur unimpeded when a cruise vessel is not berthed at the Outer Mole.

The port would also administer an area located along the southern quay wall that could be leased for light- and medium-industrial marine uses, such as boat and skiff manufacturing,

customizing of boats, repair, dry dock, boat storage, riggings, chandlery, and other activities. Bare-boat charter operations may also be feasible on this site.

Multiple Ingress/Egress Points

Uses proposed for the Truman Waterfront property would generate vehicular traffic, which would be distributed over several ingress/egress points, including Southard Street through Truman Annex Development and Petronia Street, Olivia Street, and Truman Avenue through Bahama Village. Angela Street would be opened to pedestrian and bicycle access only. Traffic associated with cruise ship activities could be routed along Petronia Street, giving increased visibility to Bahama Village and its retailers. Traffic could be moved north-south along an improved Dekalb Avenue, which would feed traffic to the northern portion of the site and to a new landscaped boulevard that would service uses along the southern quay wall.

The maximum development potential achievable under the Truman Waterfront Reuse Plan is summarized in Table 2-2.

Table 2-2

TRUMAN WATERFRONT MAXIMUM DEVELOPMENT POTENTIAL

Type of Development		Development Potential
Buildings	Residential	67,483 ft^2 (6,269 m^2) (69 dwelling units)
	Office	111,173 ft^2 (10,328 m^2)
	Retail	145,499 ft^2 (13,517 m^2)
	Industrial	66,382 ft^2 (6,167 m^2)
	NOAA/Environmental Education Center	25,000 ft^2 (2,323 m^2)
	Social Service/Economic Development	25,000 ft^2 (2,323 m^2)
Port Facilities	Ferry Terminal Operations	20,000 ft^2 (1,858 m^2)
	Professional Marina	30 slips
	Public Marina	150 slips
	Cruise Ships	1 berth
	Ferry Boats	2 berths
	Mega-Yachts	10 berths

Table 2-2 TRUMAN WATERFRONT MAXIMUM DEVELOPMENT POTENTIAL		
Type of Development		**Development Potential**
Parks	Open Space/Sports Areas	24.88 acres (9.96 ha)
	Addition to Fort Zachary Taylor	5.67 acres (2.27 ha)

Source: City of Key West 1999, Hamlin 1998.

Key: ft^2 = square feet
ha = hectare
m^2 = square meters
NOAA = National Oceanic and Atmospheric Administration

Note: This maximum development potential is presented for impact analysis purposes, however, this scenario represents a level of development that would be difficult to attain due to development restrictions imposed by local, state, and federal government regulations. Also, this scenario makes no adjustment for non-buildable areas such as road right-of-ways, easements, etc.

2.3.2 No-Action Alternative

The No-Action Alternative would entail relocation or termination of all military activities on the Truman Waterfront and retained ownership of the property by the U.S. Government. The property would be placed in caretaker status to limit deterioration of existing facilities and ensure public safety. A caretaker/maintenance staff would be responsible for protecting the property, maintaining grounds and buildings, and operating utilities as needed. The Navy would continue to lease the Outer Mole Pier to the City of Key West for berthing cruise ships. Therefore, the Mole Pier utilities and access roads to the Pier would have to be maintained by the Navy.

Implementation of the No-Action Alternative would be inconsistent with President Clinton's Five-Part Plan for Revitalizing Base Closure Communities as implemented by Title XXIX of the National Defense Authorization Act for Fiscal Year 1994, Public Law 103-160 (The Pryor Amendment). The No-Action Alternative would result in the Navy retaining ownership and liability for the property without deriving any functional use or benefit. Furthermore, this alternative would deprive the local community from making productive use of vacant waterfront property, which is a very scarce resource in this island community.

2.4 Rationale for the Proposed Action

The No-Action Alternative would not allow the City of Key West to implement the community's vision for reuse of the Truman Waterfront property. Although implementation of the No-Action Alternative would not affect environmental conditions, the land would remain vacant and

unused, which is inconsistent with the Key West Comprehensive Plan. Transportation, public utilities, and community services would not be affected by this alternative.

The No-Action Alternative would not result in significant economic impact to the City. However, costs to maintain the property would be incurred by the Department of Defense (DOD) with no benefit to the federal government. Furthermore, the No-Action Alternative would not be in accordance with the 1995 BRAC decision for realignment of NAS Key West.

The Truman Waterfront Reuse Plan Alternative (Proposed Action) would not be expected to result in any adverse significant impact to environmental or socioeconomic resources. The Proposed Action would increase available open space and recreational facilities, expand the City's use of the Truman Waterfront for port activities, enhance economic opportunities for Bahama Village and restore historical connections between Bahama Village and the waterfront, and provide needed affordable housing and community services.

The LRA, through extensive public participation, has selected this concept as the preferred plan in the Key West Base Reuse Plan and Chapter 288 Plan. Therefore, the Navy has identified this as the Proposed Action for the purpose of this EA.

3 Existing Environment

3.1 Topography and Bathymetry

The Truman Waterfront is located on the east side of Key West Harbor and the main ship channel (see Figure 3-1). The entire property is approximately 4 to 5 feet (1.2 to 1.5 meters) above sea level and is uniformly flat. The Truman Harbor, created by construction of the Mole Pier in 1916, covers approximately 50 acres (20 hectares; CE Maguire, Inc. 1981). (In this EA, references to the harbor mean the Truman Harbor; Key West Harbor is always referred to as such.) The harbor entrance faces west-northwest and is approximately 500 feet (152 meters) wide.

The harbor was dredged by the Navy in 1965, at which time the main ship channel and Key West Harbor were also dredged, from an existing depth of 30 feet (9 meters) to a depth of 34 feet (10 meters) below mean low water (CE Maguire, Inc. 1981). Portions of the harbor were dredged again in late 1985 when all of the finger piers except Pier 8 (the proposed ferry terminal dock) were removed. Twenty-foot- (6-meter-) deep limerock ledges on which these piers were built were excavated to a depth of 34 feet (10 meters). An area of accumulated sediment at the southernmost end of the harbor was also dredged (U.S. Navy 1986). This dredging project brought the entire harbor to a uniform depth of 34 feet (10 meters). Since the 1985 dredging event, sediment has again accumulated at the southernmost end of the harbor and reduced water depths to less than 4 feet (1.2 meters) near the quay wall.

3.2 Geology and Soils

Soils on the Truman Waterfront property were created from material dredged from the ship channel and Key West Harbor. The soils are classified as the Urban Land soil association and consist of sand, shell, and limestone fragments mixed with small amounts of marine sediments (U.S. Navy 1983). These unconsolidated soils are very permeable and, therefore, despite the property's flat topography, drainage is good.

Two types of marine sediments occur at the site. Sandy sediments, which predominate along the Outer Mole and on Truman Beach at the south end of the Mole, are composed primarily of calcareous (i.e. calcium carbonate) remains of algae, corals, and other invertebrates. Lime mud,

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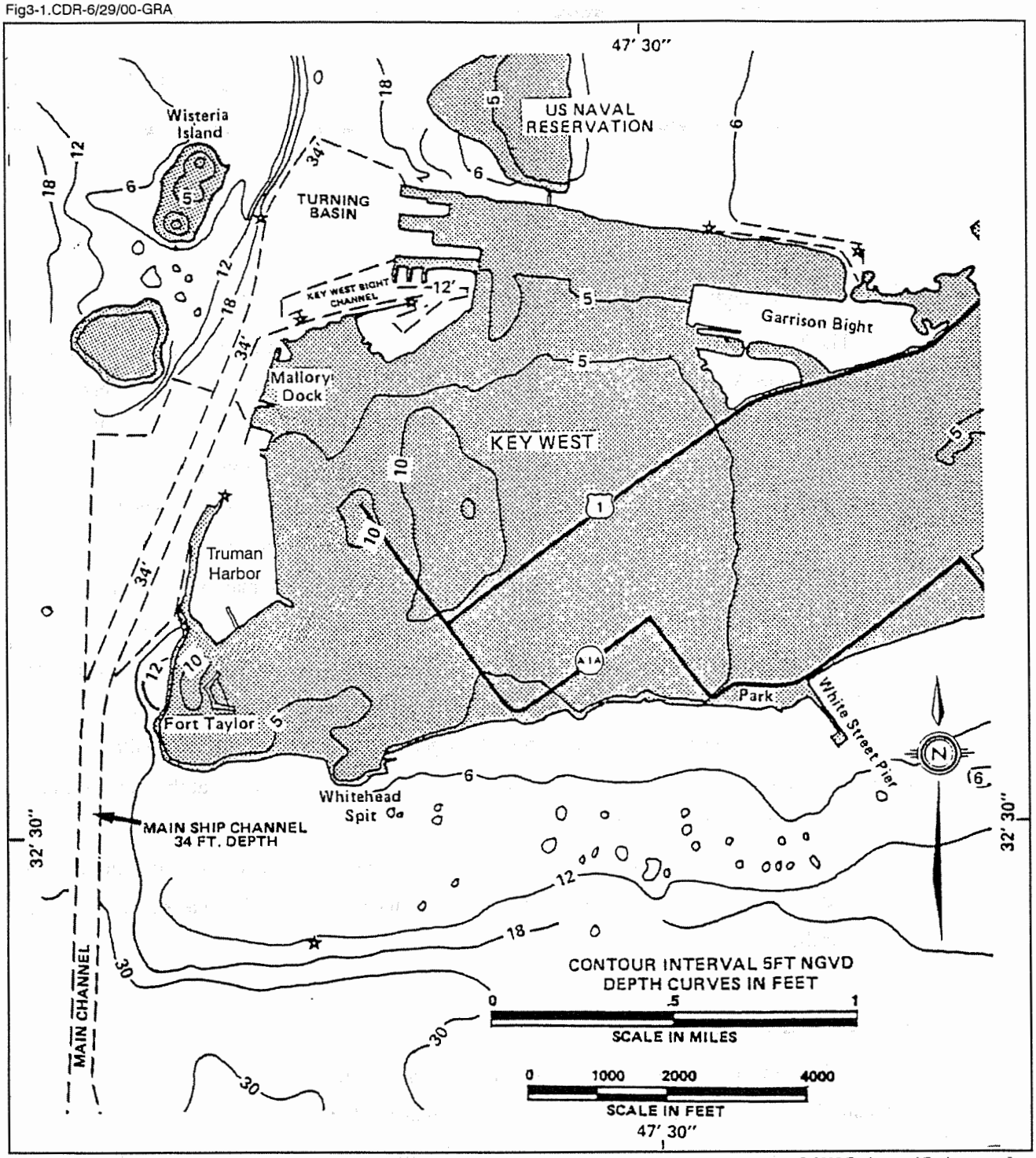

SOURCE: E & E after U.S. Navy 1986.

Figure 3-1 TOPOGRAPHY AND BATHYMETRY IN THE VICINITY OF TRUMAN WATERFRONT

which is predominant in Truman Harbor, is composed almost exclusively of very fine calcium carbonate particles derived from calcareous algae (U.S. Navy 1983). These very fine white sediments are easily suspended by currents and turbulence and give the normally clear local waters their chalky appearance when sustained high winds generate waves and turbulence.

3.3 Hydrology and Water Quality

3.3.1 Hydrology

Key West is subject to mixed semidiurnal tides (i.e. generally two high and two low tides per day) with a mean range of 1.3 feet (0.4 meters) and a spring tide range of 1.8 feet (0.5 meters). During flood tide, the tidal current flows toward the Gulf of Mexico, and during ebb tide, the current direction is toward the Atlantic Ocean. Currents in the main ship channel near the Mole average about 1.7 feet per second (0.5 meters per second) during peak flood tide, and tidal currents increase to an average of about 2.9 feet per second (0.9 meters per second) during peak ebb tide (CE Maguire, Inc. 1981).

The Mole Pier effectively shelters the harbor, reducing natural wave heights by over 36 %. The west-northwest orientation of the harbor entrance is exposed to direct or near-direct winds only 20 % of the time. During periods of northwest winds (usually during winter months), wave heights and harbor circulation may increase significantly. Wave heights are less than two feet (0.6 meters) about 50 % of the time. The potential for standing wave oscillation caused by resonance of wave action within the harbor is negligible. The reduced wave energy and currents reduces circulation within the harbor, thereby decreasing flushing of the harbor. The harbor exhibits a weak inner harbor counter-clockwise circulation. This weak inner harbor circulation has created an area of sedimentation and accumulation of debris in the southern corner of the basin where the existing boat ramp is located (CE Maguire, Inc. 1981; U.S. Navy 1986).

Like most of Key West, the entire Truman Waterfront property is within the 100-year floodplain and susceptible to storm surge flooding. The potential for strong currents and wave action compound the flood hazard. Storm waves can approach from either the Atlantic Ocean or the Gulf of Mexico. During a 100-year storm surge, the shoreline of Key West could experience waves with crest elevations as high as 12 feet (3.6 meters) above the National Geodetic Vertical Datum (NGVD). The 10-year stillwater flood elevation is 3.9 feet (1.2 meters) NGVD. About 86 % of the island below 5-foot (1.5-meter) elevation is subject to flooding from lesser storm surges about once every 15 years (U.S. Navy 1986).

3.3.2 Water Quality

Surface Water

The waters surrounding Key West and the Florida Keys are designated by the State of Florida as Class lII, Outstanding Florida Waters (OFW; Chapter 62-302, Florida Administrative Code [FAC]). This water quality classification essentially prohibits any significant decrease in ambient water quality. As an artificial waterway, Truman Harbor is exempt from the OFW designation. Water quality in the harbor is subject only to Class III water quality standards.

Historically, water quality in the Florida Keys has been excellent, but in recent years degradation of water quality has been implicated as a cause of declining coral recruitment, seagrass die-offs, and increases in the frequency and size of fish kills (United States Environmental Protection Agency [EPA] 1992; NOAA 1996; City of Key West 1997a).

In the Key West area, the major pollutant point source is the Key West Sewage Treatment Plant, which discharges an average of 6.28 million gallons per day (mgd; 23.77 million liters per day [mld]) of treated wastewater to the Atlantic Ocean approximately 3,300 feet (1,000 meters) south of Truman Annex. Monitoring in 1998 indicated that all permitted water quality criteria except cyanide were being achieved. The City of Key West applied for an increased mixing zone to rectify the cyanide violation (Rios 1998). Prior to 1989, this outfall discharged over 5.mgd (21.96 mld) of raw sewage (Solin and Associates, Inc. 1993; City of Key West 1997b).

Other pollutant types and sources affecting local water quality include small fuel/oil spills from commercial and recreational boats, and stormwater runoff, which contains hydrocarbons, pesticides, herbicides, and heavy metals. Liveaboard boats, which are numerous in some nearshore waters of Key West, are also sources of raw sewage. A report prepared for development of the Water Quality Protection Program for the Florida Keys National Marine Sanctuary (EPA 1992) contains a thorough review of pollutant types and sources and their effects on water quality in the Florida Keys.

Past land-based pollutant sources on the Truman Waterfront property include leaking underground storage tanks (USTs) and accidental releases of petroleum products (see Section 3.5 Environmental Contamination). The stormwater system discharges untreated stormwater from portions of the site directly into the harbor (City of Key West 1999).

There are no fresh water inputs into Truman Harbor, so water quality is influenced by tides, stormwater runoff, and activities within and surrounding the harbor. However, the Truman Annex Marina, located along the Inner Mole, has been identified as a confined water site with known or suspected severely degraded water quality caused by fueling-related operations (EPA 1992).

Ambient water quality parameters were measured at eight locations around Key West in January and February 1985 by the Florida Department of Environmental Protection (FDEP) to

determine baseline water quality conditions prior to the designation of the Florida Keys as OFW. Nutrient levels were highest in Key West Bight and Garrison Bight, both of which are areas with marinas and reduced circulation (U.S. Navy 1986).

Water quality sampling was conducted in Truman Harbor on March 13, 1986, as part of the EIS for the Navy's proposed Gulf Coast Strategic Homeporting action (U.S. Navy 1986). *In situ* and analytical water quality measurements within the harbor and outside the harbor indicated good water quality in both locations with minor differences between them. Turbidity generated by wind-induced turbulence was greater in the ship channel than in the harbor. The water samples were analyzed for EPA-designated priority pollutants (organic compounds, pesticides, and polychlorinated biphenyls [PCBs]), total phenols, metals, and nutrients. Detectable levels of cadmium, copper, lead, and zinc were measured, as well as nitrogen and phosphorus compounds. The concentrations of metals were slightly higher in the harbor than in the channel, whereas nitrogen concentrations were higher in the channel than in the harbor. All priority pollutants and total cyanide were below detection limits in both samples.

In the Florida Keys, turbid waters occur naturally during periods of sustained high winds or high tidal currents. Waters become chalky or milky from fine-grained carbonate sediments suspended by water turbulence and may persist for more than a week (Little 1998; Sargent *et al.* 1995). Propeller wash from vessels with drafts that are deep relative to the depth of water also cause turbidity trails or plumes.

The Florida Keys National Marine Sancturary (FKNMS) and FDEP have received multiple citizen complaints about cruise ships causing excessive turbidity during maneuvering in Key West Harbor (Barbera 1998, Causey 1998). FDEP has performed limited compliance sampling and has notified the City of Key West that cruise ship-generated turbidity may be a violation of state water quality standards; however, to date, FDEP has not taken enforcement action (Barbera 1998). Turbidity plumes created by propeller wash in Key West Harbor and the ship channel tend to disperse within several hours due to rapid tidal flushing through the area (Sandra Walters Consultants 1999).

Sediment

Sediments in Key West Harbor do not exhibit significant levels of metals or petroleum contamination, based on the analytical results of four sediment samples collected in 1999. Sediment collected between the Mole and the ship channel did not contain any measurable levels of polynuclear aromatic hydrocarbons (PAHs), petroleum range organic compounds, or volatile organic compounds (VOCs). Metal concentrations were similar to those measured at control stations (Sandra Walters Consultants 1999).

No sediment quality data are available for Truman Harbor. Sediments in the harbor would likely have accumulated heavy metals, polynuclear aromatic hydrocarbons (PAHs), and other pollutants from past Naval activities (e.g. vessel maintenance and repairs, refueling operations, discharge of industrial effluent). However, because the harbor has been dredged twice in the last 30 years, most recently in 1985, levels of sediment contamination are likely not commensurate with historical inputs to the harbor.

Groundwater

The Biscayne Aquifer (commonly referred to as the Surficial Aquifer), and the Floridan Aquifer (a confined artesian aquifer), are the two main aquifers that underlie the Florida Keys (EPA 1992). The Biscayne Aquifer is the primary system, and is considered one of the most productive and permeable in the world. However, because of its excessive chloride content in the Florida Keys, the Biscayne Aquifer is a nonpotable water source, although water from this aquifer is used for numerous other nonpotable water uses (EPA 1992). The City Engineer of Key West reports that some of these wells might be used for drinking water after treatment such as reverse osmosis. The freshwater lens averages 5 feet (1.5 meters) below the center western half of Key West. The lens contains 20 to 30 million gallons (75.7 to 113.5 million liters) of freshwater depending on the season (U.S. Navy 1998).

3.4 Air Quality

The air quality in Key West is good, according to the FDEP (City of Key West 1997b). Although most pollutants are not routinely measured, the City of Key West estimates that most pollutant levels are unlikely to exceed one percent of the state or federal ambient air quality standards (U.S. Navy 1992). Air quality is expected to remain good to excellent due to regional air dispersion characteristics, the non-industrialized nature of the area, and the City's distance from major urban areas.

Most air pollution in Key West is caused by automobile emissions. Therefore, air quality degrades slightly during the peak tourist season (December through April) when automobile traffic increases. The only major point sources of air pollution are oil-burning electrical-generating units at Key West and Stock Island. No major sources of air pollution are located on the Truman Waterfront or any other NAS Key West property. Large naval vessels and cruise ships that frequent Key West do not generate sufficient pollution to affect local air quality (City of Key West 1997b; U.S. Navy 1992).

3.5 Environmental Contamination

A variety of hazardous materials were used at Truman Annex, including petroleum, oil and lubricants (POL) solvents and thinners, caustic cleaning compounds and surfactants, antifreeze, adhesives, acids, paints, and pesticides. The hazardous materials were principally used for ship support activities. A number of the hazardous waste sites have undergone investigation for suspected site contamination under the DOD's Installation Restoration Program (IRP), in compliance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) for former waste sites (U.S. Navy 2000). Remedial actions have been selected by the Navy, in consultation with the EPA and FDEP and with input from the public, for each of the identified sites. The selected remedies for each site are discussed below. At sites where contaminated soil has been removed, it was replaced with clean fill to the existing grade.

Truman Annex DRMO Waste Storage Area

The Truman Annex Defense Reutilization and Marketing Office (DRMO) area includes buildings 795, 284, and 261 and two large, fenced storage areas known as the former Oil Container and Scrap Metal and Refugee Item Storage Area, collectively known as the DRMO Waste Storage Area. The DRMO primarily stored metal debris. In addition, motors, vehicles, and other equipment have been stored on site. Maps from the 1940's through 1950's indicated the presence of oil racks within the storage areas. In the recent past, Building 261 was used to store hazardous materials. Oil may have been spread over the area in the past to contain dust.

The selected remedy for this site is to provide Land Use Controls (LUCs), because contamination at the site has been sufficiently remediated. In 1999, as part of an Interim Remedial Action (IRA), 12,000 cubic yards (yd^3; 9,175 square meters [m^3]) of contaminated soil were removed form the DRMO Waste Storage Area to a depth of 2 to 4 feet (0.6 to 1.2 meters) below ground surface (BGS). The soil removal activities were performed in accordance with the FDEP Brownfields Cleanup Criteria Rule, which provided a regulatory basis to determine engineering controls for the site. This site will have deed restrictions that prohibit residential use.

The area between buildings 261 and 284 required no further action because contamination at the site has been sufficiently remediated. An IRA performed at the site in 1999 removed approximately 300 yd^3 (229 m^3) of soil to a depth of 2 feet (0.6 meter) BGS. No chemicals of concern were detected above action levels in confirmation samples.

Truman Annex Former Location of Building 136

Building 136 was located on Truman Annex Inner Mole Pier. The area served as a docking and support facility for more than a century. The building was demolished in 1951 and the debris was removed for disposal.

The selected remedy for this site is to provide LUCs because contamination at the site had been sufficiently remediated. The IRA performed in 1999 at the site removed approximately 3,000 yd^3 (2,294 m^3) of contaminated soil to a depth of 2 feet (0.6 meter) BGS. Arsenic was detected above its action levels in one confirmation sample. However, the location of the sample is below an existing road, which provides an engineering control to limit possible exposure. The LUC at the site include deed restrictions that require anyone who disturbs the permanent containment material to comply with all appropriate laws and regulations and that prohibit residential use of the property.

Truman Annex Building 103

Truman Annex Building 103 is located near the east quay wall. Building 103 is the former central power plant and is still standing, but out of service. Hazardous materials, especially VOCs, semivolatile organic compounds (SVOCs), and inorganic compounds, are believed to have been used in the building. In addition, PCBs are known to have been present in transformers at Building 103. These transformers have been removed from the building in the mid-1980's.

The IRA performed in 1999 removed contaminated soil to depths ranging from 2 to 6 feet (0.6 to 1.8 meters) BGS at two different locations. A third location north of Building 103 will be remediated to remove contaminated soil.

Truman Annex Buildings 102 and 104

Truman Annex buildings 102 and 104 are located on the Inner Mole Pier on either side of Building 103. Knowledge of the operations conducted in these buildings is limited to naval submarine support activities. The site was used for the storage of hazardous materials and contains USTs.

The selected remedy for these sites was no further action because contamination at the sites has been sufficiently remediated. A total of 1,022 yd^3 (781 m^3) of contaminated soil were removed at the site in two different locations. No CERCLA-designated chemicals of concern were detected above their action levels.

Truman Annex Building 223, Former Hazardous Waste Management Storage Area

Building 223 functioned as a repair shop and storage area for port services. A closed hazardous waste storage area containing VOCs, SVOCs, and inorganic compounds is located immediately south of the building.

Further remedial action for this site is required. The IRA performed in 1999 at Building 223 removed approximately 62 yd^3 (47 m^3) of contaminated material. Arsenic in excess of the action level was left in place at two different locations beneath concrete foundations. Further excavations will be performed to remove the concrete pads and contaminated soils.

Truman Annex Former Lube Area

The former lube area is located across the street from Building 223 just south of the entrance to Fort Zachary Taylor State Park. Fuels, solvents, metals and other petroleum products were stored at the former lube area.

No further remedial action is required at the site because the existing contamination has been sufficiently remediated. Approximately 62 yd^3 (47 m^3) of contaminated soils to a depth of 2 feet (0.6 meter) BGS were removed from the site in 1999.

3.6 Terrestrial Resources

Vegetation

Maintained grass lawns and non-native vegetation cover nearly all of the pervious surfaces of the Truman Waterfront property. Only a scattering of trees are present on the property, most of which are Australian pines (*Casuarina equisetifolia*). Several species of trees on the property are protected by the City tree protection ordinance (Article XIV, City of Key West Land Development Regulations), including coconut palm (*Cocos nucifera*), mahogany (*Swietenia mahogani*), and strangler fig (*Ficus aurea*).

Wildlife

The Truman Waterfront is devoid of native terrestrial wildlife habitat. The most common wildlife are raccoons and birds. Lists of bird species common to NAS Key West and the Lower Florida Keys are contained in the City of Key West Comprehensive Plan (Solin and Associates, Inc. 1993) and the Fish and Wildlife Section of the Natural Resources Plan for U.S. Naval Air Station Key West (U.S. Navy 1996).

Two national wildlife refuges are located near Key West (see Figure 3-2) and are often visited by boaters from Key West. The Key West National Wildlife Refuge (KWNWR) is located west of Key West, approximately 0.3 mile (0.5 km) from the Truman Waterfront. The southeastern corner of the Great White Heron National Wildlife Refuge is located approximately 3 miles (4.8 km) north of the Truman Waterfront. The refuges were established as preserves and breeding grounds for native birds and other wildlife. The KWNWR contains more than a dozen named keys within 12 miles (19.3 km) of Key West, including one privately owned island, Ballast Key. Within both refuges, the USFWS manages the federally-owned islands, as well as the state-owned submerged land under agreement with the state (USFWS and Florida Department of Natural Resources [FDNR]1992).

Roosting, foraging, and nesting activities of birds within the refuges are susceptible to disturbance by motorized watercraft. Between 1979 and 1990, the number of boaters using the refuges increased dramatically in response to population and tourism growth in the Lower Keys, leading to increased human-wildlife interactions. Furthermore, the advent of shallow draft vessels, particularly jetskis, during this period, compounded the human disruption of wildlife habitats by enabling public access to previously inaccessible areas of the refuges. Consequently, in 1992 the USFWS and the State of Florida instituted a prohibition on use of personal watercraft (e.g. jetskis), airboats, water skiing, and aircraft landing within both refuges, as well as establishment of idle speed, no motor, and no access buffer zones in appropriate areas for the protection of wildlife (USFWS and FDNR 1992).

Several islands in KWNWR, specifically Woman, Marquesas, Boca Grande, and Man keys, contain beaches that are used by nesting sea turtles, including the Atlantic Ridley, Atlantic loggerhead, Atlantic hawksbill, and Atlantic green. Turtle nesting activities are susceptible to disturbance from boaters who camp and build campfires on these beaches (USFWS and FDNR 1992)

3.7 Marine Resources

Benthic Communities

An underwater survey of the nearshore areas of Truman Beach and the Outer Mole was conducted by Ecology and Environment, Inc., (E & E) on May 3, 1998, to characterize the size and condition of nearshore seagrass beds and benthic communities. A band of discontinuous seagrass beds is located approximately 30 feet (9.1 meters) seaward of the southern half of the center Mole Pier. These seagrass beds contain turtle grass (*Thalassia testudinum*), manatee grass (*Syringodium iliforme*), and some shoal grass (*Halodule wrightii*). The seagrasses off Truman Beach are lush and

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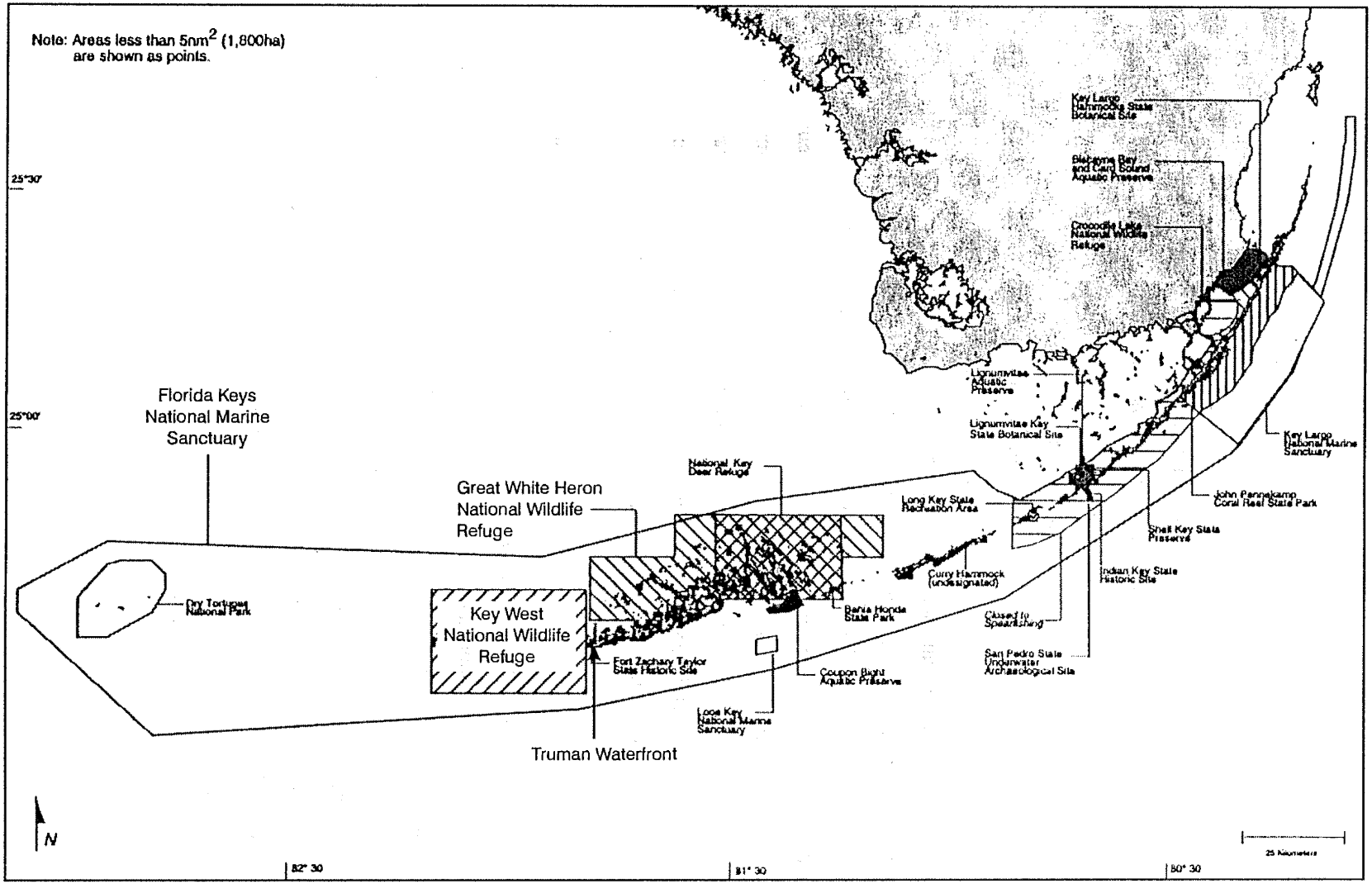

SOURCE: E & E after U.S. Navy 1986.

Figure 3-2 NATIONAL WILDLIFE REFUGES AND OTHER MANAGED AREAS IN THE VICINITY OF TRUMAN WATERFRONT

relatively continuous. Seagrass beds offshore of the Mole Pier are less dense and discontinuous with coralline algae/coral rubble areas. The seagrass beds are generally located in a depth of 4 to 12 feet (1.2 to 3.7 meters), where the bottom slopes steeply to the bottom of the ship channel.

The five groins that extend from the center Outer Mole are heavily covered with sponges and epiphytes, and holes in the sheet piling provide habitat for small fish. Coral rubble/sand areas surround the groins; areas between the three southernmost groins are exposed at low tide. Submerged concrete rubble near the junction of the Mole Pier and Truman Beach provides habitat for reef fish, spiny lobsters, sea urchins, and other reef inhabitants.

The entire shoreline of the Truman Waterfront is composed of hardened bulkheads, except for Truman Beach, a 200-foot- (61-meter-) long, calcareous sand beach at the base of the Outer Mole Pier. The beach provides foraging habitat for shorebirds and nesting habitat for sea turtles. The bulkheads and adjacent concrete and steel debris along the interior perimeter of the basin are colonized with soft and hard corals, tunicates, sponges, and other reef-building organisms, which provide habitat for numerous species of fish and invertebrates. The harbor bottom consists of soft, silty sediments (see Section 3.2), inhabited by molluscs, poylchaete worms and other burrowing invertebrates. Benthic sampling conducted in 1986 indicated that benthic faunal communities within Truman Harbor were less diverse and less productive than in the area adjacent to the center Outer Mole (U.S. Navy 1986). This difference was attributed to the higher flushing and colonization rates outside the harbor and also to the fact that portions of the harbor had been dredged only 2 to 3 months prior to sampling.

Commercial and Recreational Fisheries

Lobsters are known to inhabitat a ledge that parallels the ship channel offshore of the Mole Pier. Recreational lobster fishermen dive along this ledge to harvest lobsters, primarily at the beginning of the lobster season (early August) when as many as 10 boats at a time anchor in the channel or drift along the shoreline (Little 1998).

Key West Harbor and the ship channel historically provided some of the best tarpon fishing in the Lower Florida Keys, attracting numerous recreational fishing boats during spring and summer. However, the number of tarpon coming through Key West Harbor has declined significantly in the past decade, with a corresponding decrease in the number of tarpon fishermen (Crusoe 1998).

3.8 Threatened and Endangered Species

Four federally listed species are known to occur on or near the Truman Waterfront property (see Table 3-1). No critical habitat for any federally listed species has been designated on NAS Key West property.

Table 3-1

THREATENED AND ENDANGERED SPECIES, AND SPECIES OF SPECIAL CONCERN TRUMAN WATERFRONT PROPERTY, NAS KEY WEST, FLORIDA

Scientific Name	Common Name	Status[a]	
		USFWS	FFWCC
Birds			
Sterna antillarum	Least tern	--	T
Sterna dougalli dougalli	Roseate tern	T	T
Pandion haliaetus	Osprey	--	SSC
Reptiles			
Caretta caretta caretta	Loggerhead sea turtle	T	T
Mammals			
Trichechus manatus latirostris	West Indian manatee	E	E

Source: U.S. Navy 1996.

The Florida manatee (*Trichechus manatus latirostris*) is a subspecies of the West Indian manatee, which is a federal and state endangered species. Manatees have been sighted in Key West Harbor as well as other waters around the island. Although manatees may occur in the Keys throughout the year, state-wide surveys have found a maximum of six manatees in the Lower Keys at any one time, but most of the time only one or two individuals are present (Ackerman 1997, cited in United States Air Force [USAF] 1998). Abundant seagrass beds in the Lower Keys provide good foraging habitat for manatees, but the lack of fresh water is likely the main factor limiting their occurrence in the area (Florida Natural Areas Inventory [FNAI] and The Nature Conservancy [TNC] 1994).

The greatest chronic threat to Florida manatees is accidental mortality due to collisions with boats (Humphrey 1992). No manatee deaths have been recorded in the vicinity of Key West (Solin and Associates, Inc. 1993). Destruction and/or alteration of seagrass beds, the species' habitat, also has been implicated in the population's decline in Florida. The amount of boat use in manatee habitat

has increased rapidly in Florida, creating substantial disturbance to their habitat (e.g. scarring of seagrass beds) as well as greater potential for injury and death (Humphrey 1992; Sargent *et al.* 1995)

Five species of sea turtles occur throughout the marine waters of the Keys. The Atlantic loggerhead (*Caretta caretta caretta*) is the most common sea turtle in the Keys and the only species that regularly uses the Keys' beaches for nesting (NOAA 1996). Truman Beach and adjacent beaches on Fort Zachory Taylor State Park provide good potential nesting habitat for sea turtles (see Figure 3-3). One loggerhead sea turtle nest was confirmed on Truman Beach adjacent to the Mole Pier in 1991; another unconfirmed nest was reported in 1989 (U.S. Navy 1996). The most common threats to sea turtles include shrimp trawl drownings, destruction of nesting beaches by coastal development, artificial lights near nesting beaches (which cause hatchlings to migrate away from their ocean destination), ingestion of marine debris and tar balls, entanglement in fishing gear, water quality degradation, and collisions with vessels (NOAA 1996).

Colonies of least terns (*Sterna antillarum*) nest annually on the roofs of five buildings on the Truman Waterfront property (buildings 102, 103, 104, 112, and 113), as well as seven other buildings located at Truman Annex (Schuetz 1998; see Figure 3-3). Least terns typically nest on beaches, open sandy or gravelled areas, and flat-topped, gravel roofs, but they are opportunistic and have been known to nest on dredge spoil, highway easements, rock pits, roadside shoulders, and parking lots (U.S. Navy 1996; NOAA 1996). Approximately 75 % of terns nesting in the Lower Florida Keys nest on roofs. The terns prefer the rooftops with the most gravel and no overhanging tree limbs, which can provide access to predators (primarily raccoons). In recent years, few terns have nested on tops of buildings 102, 103, and 104 due to the paucity of gravel. The terns typically nest from mid-April to late August (U.S. Navy 1996; Shuetz 1998). In April 1998, 25 least terns were accidentally killed at Truman Annex during reroofing of several buildings. These least terns were entrapped and died when they alighted on wet shingle mastic that failed to dry rapidly.

Roseate terns (*Sterna dougallii dougallii*) sometimes nest with least terns, but prefer shell/sand beaches, broken coral heaps, and eroded limestone in open or sparsely vegetated areas (NOAA 1995). Roseate terns have been reported from Sunset (formerly Tank) Island and Wisteria Island (two spoil islands in Key West Harbor) and Molasses Reef Dry Rocks (NOAA 1996). At NAS Key West, roseate terns are known to nest on rooftops, usually with the largest least tern nesting colonies (U.S. Navy 1996, Schuetz 1998). Threats to the least and roseate tern populations include loss of suitable nesting sites due to development, disturbance of nest sites by humans, and predation of eggs by raccoons and black rats (NOAA 1996). Although rooftops may provide some isolation from human disturbance and predators, they may present other potential hazards, including flooding (common on flat roofs) and falls by young that cannot fly (NOAA 1996).

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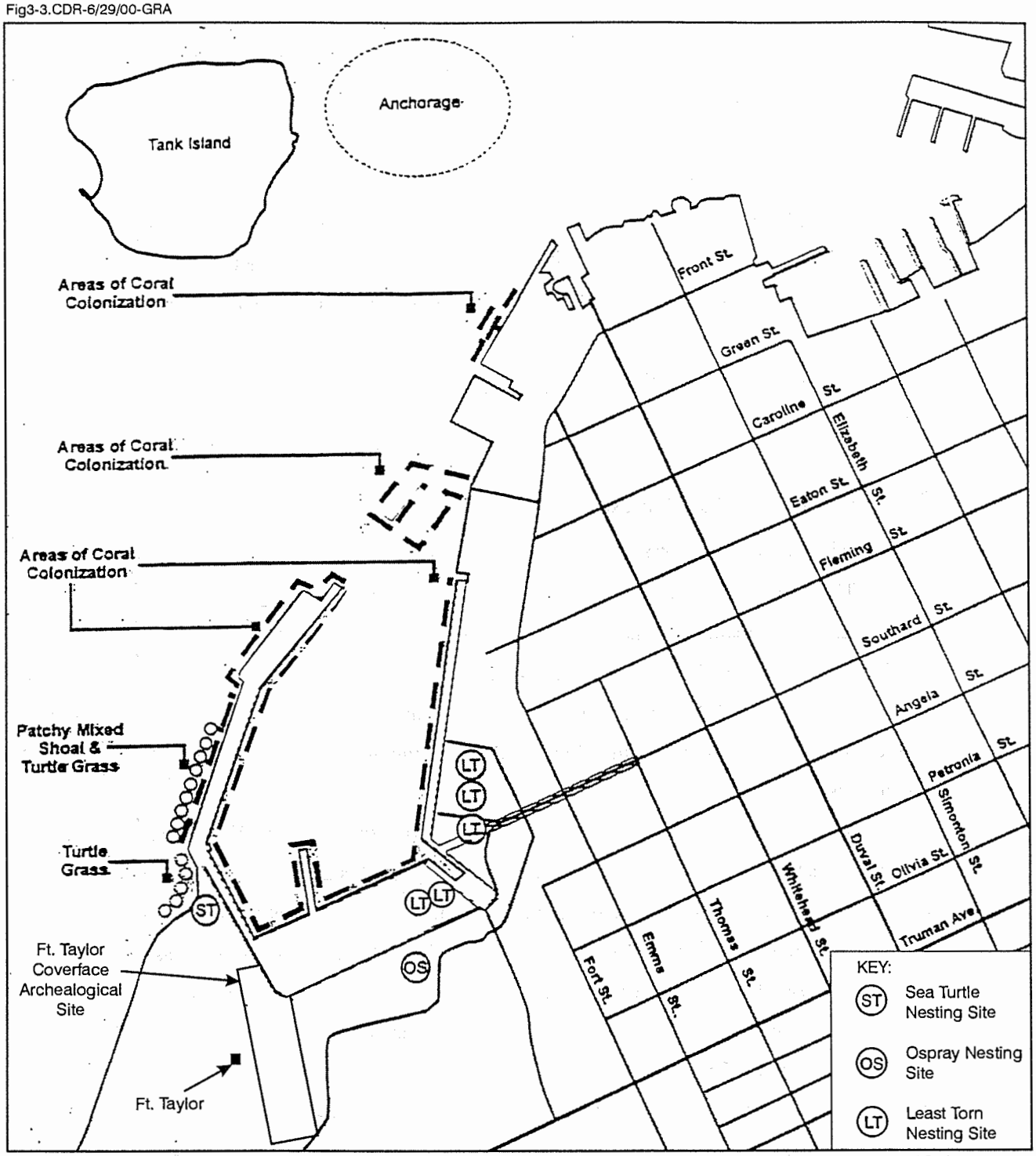

SOURCE: E & E after U.S. Navy 1986.

Figure 3-3 NATURAL AND CULTURAL RESOURCES AT TRUMAN WATERFRONT

The osprey (*Pandion haliaetus*) is designated as a State Species of Special Concern only in Monroe County. Ospreys are known to nest on Truman Annex; an active nest is located approximately 300 feet (91 meters) south of Truman Waterfront (see Figure 3-3). Ospreys nesting on poles or platforms next to roads or residences are habituated to vehicular traffic and other human activities. However, ospreys that nest in mangroves on uninhabited, backcountry islands in the Lower Keys (primarily within the two national wildlife refuges) are substantially less tolerant of human disturbance. Ospreys in these areas commonly nest less than 4 feet (1.2 meters) above normal high tide and are easily disturbed by boaters. Some of the lowest nests can be overwashed at high tide by boat and jetski wakes. Frequent and prolonged human disturbance in these backcountry habitats can lead to nest abandonment or otherwise negatively affect reproductive success of ospreys (USFWS and FDNR 1992).

3.9 Cultural Resources

3.9.1 History of the Property

The Mole Pier was constructed during World War I to create a protected basin for submarines. The remainder of the Truman Annex property was created by the Navy during World War II from approximately 5.5 million yd^3 (4.2 million m^3) of fill material. This was the last major filling episode in Key West, except for the addition of land in front of Fort Zachary Taylor and the creation of Dredgers Key (now called Sigsbee Park) during the late 1950's (Mickler 1945; Brockington and Associates 1997).

More than 14,000 ships came into Key West during the period of World War II. The Naval Station's Industrial Department conducted approximately 7,160 ship repairs, including drydocking more than 1,700 vessels. (These activities occurred either on or adjacent to the Truman Waterfront property.) At times during World War II, more than 15,000 Naval personnel were ashore in Key West. At its peak, the Naval Operating Base employed 3,400 civilian workers (Mickler 1945).

During the period of 1978 to the mid-1980's, commercial vessels and liveaboard boats were docked or anchored in Truman Harbor. In 1983, boats from the Mariel (Cuban) boat lift were also moored in the harbor. Cruise ships started making port calls in Key West in the 1960's, gradually increasing through the 1990's, with the first use of the Mole Pier for cruise ship docking in 1995.

3.9.2 Surveys of Archaeological and Historical Resources

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider the effects of their actions on historic and prehistoric properties. Responding to this requirement, surveys of archeological and historic resources were conducted at NAS Key West in the

mid-1990's. *An Architectural Inventory - Naval Air Station Key West, Key West, Florida,* (hereafter, the inventory) was completed by the U.S. Army Corps of Engineers (USACE), Mobile District, in 1995, and *Archaeological Survey of Key West Naval Air Station, Monroe County, Florida,* (hereafter, the survey) was completed by Brockington and Associates, Inc., in 1997.

The purpose of the archaeological survey was to identify and locate all prehistoric and historic archaeological sites on government-owned lands at NAS Key West and to evaluate them to determine their eligibility for listing on the National Register of Historic Places (NRHP). This survey was conducted in compliance with Section 110 of the NHPA.

Fort Zachary Taylor, a Civil War-era Fort listed on the NRHP, is located directly adjacent to the southwest boundary of the Truman Waterfront property (see Figure 3-3). The Fort, listed as Site 8MO206 by the State Historic Preservation Office, is located on state property contiguous with the western boundary of Truman Annex.

The survey identified one area on the Truman Waterfront property with a high potential for containing significant intact archaeological deposits. This site, located adjacent to the east side of Fort Zachary Taylor, consists of a sand coverface (an earthen cover over the brick face of the fort) constructed on the landward side of the Fort during the Civil War to help protect the Fort (Figure 3-3). The coverface has been completely filled over and is entirely within Navy property. The limited archaeological survey did not locate any intact archaeological deposits or features in the coverface area, but archival information indicates that a nineteenth century military midden debris may be present below the surface of the coverface. Therefore, as a result of this investigation, the boundary of Site 8MO206 was expanded to incorporate the subsurface coverface area. The boundary of the site includes approximately 4 acres (1.6 ha) of the Truman Waterfront property.

Whitehead Spit, another site with high archaeological potential, was identified within Truman Annex approximately 2,000 feet (656 meters) south of the Truman Waterfront boundary. Although no subsurface archaeological investigations were conducted at this site because of the potential presence of hazardous materials, two 8-inch (20.3-centimeter) cannonballs were discovered during previous excavations of the area as part of clean-up efforts. These finds support archival evidence that this area has high potential for nineteenth century archaeological deposits.

The remainder of the Truman Annex, including the Truman Waterfront property, is considered to have very low potential for containing significant intact archaeological deposits due to the extensive filling that created the land (Brockington and Associates 1997).

The architectural inventory located and evaluated all buildings and structures built prior to 1947 and/or associated with major historical Cold War-era events to determine their eligibility for listing on the NRHP. The inventory identified 14 historic buildings or structures. The Base Reuse

Plan states that, based on the findings of the architectural inventory, two of the buildings/structures located on the Truman Waterfront property are considered eligible for listing on the NRHP: the Seminole Battery and Underground Bunker (Building 283) and the Old Quay Wall (City of Key West 1997a). The Seminole Battery and Underground Bunker were constructed as part of Fort Zachary Taylor in 1889 in response to the Spanish-American War. The Underground Bunker is believed to have been designated a fallout shelter and/or command center bunker during the Cuban Missile Crisis. The Old Quay Wall is a seawall that is believed to have marked the shoreline at the time it was built at the turn of the century (City of Key West 1997a).

However, according to the Navy, the Old Quay Wall is located south (outside) of the Truman Waterfront property boundary (Davis 1998). Furthermore, the Seminole Battery property (approximately 3.46 acres [1.4 ha]) was removed in 1999 from the surplus property designation. Therefore, no buildings or structures on the property to be conveyed are considered NRHP-eligible.

3.10 Socioeconomics

3.10.1 Population and Demographics

Population

As of fiscal year 1998, 1,357 active-duty military personnel, including 160 officers and 1,197 enlisted personnel, were stationed at NAS Key West. In addition, 830 civilians and 361 contractor personnel were employed full-time at the station. Total Navy population in Key West has fluctuated over the past 12 years, and has decreased considerably since 1992/1993, from 4,543 full-time personnel to the 1998 fiscal year population of 2,548. This population decrease is primarily associated with the departure of several aircraft squadrons from the NAS. The Navy does not presently have plans for other activities that would cause significant changes to the current permanent military population (U.S. Navy 1998).

The resident population of the City of Key West was 24,832 in 1990 (U.S. Bureau of Census, 1990), and was estimated by the Shimberg Center for Affordable Housing (University of Florida) to be 26,842 in 1995. However, as noted in the 1997 City of Key West Comprehensive Plan Evaluation and Appraisal Report (City of Key West 1997b), estimation and projection of the Key West resident population is a more difficult task than for most other small cities because of two major factors:

- The City is located on an island that is largely built out, with little available space remaining that is suitable for development; and

- The City and Monroe County have adopted Rate of Growth Ordinances (ROGO) that restrict the number of building permits that can be issued for construction of new dwelling units (see Section 3.10.4).

Given the above constraints to development, the City's consultant that prepared the City of Key West Comprehensive Plan and Appraisal Report used a "holding capacity" population projection methodology (City of Key West 1997b). This methodology takes into account that future resident populations will mainly be living in housing units that already exist. The ROGO growth cap from 1996 through 2002 does allow the construction of a limited number of housing units, and beyond this date there are no plans for allowing additional housing units in the City. Consequently, the holding capacity population projection model indicates a slight increase of the permanent resident population through 2002, to 26,657, followed by a flat population growth trend into the years beyond (see Table 3-2). Under this model, a housing unit occupancy rate of 85.3 % and a population per household of 2.31 persons were observed from 1990 Census data and carried through the model. Growth cap housing units were assumed to be occupied at a rate of 91 % per year through 2002.

Table 3-2

HOLDING CAPACITY PERMANENT POPULATION PROJECTIONS FOR THE CITY OF KEY WEST

Year	1990	1996	2002	2005	2010	2015
Permanent Population	24,504	25,581	26,657	26,657	26,657	26,657

Source: City of Key West Comprehensive Plan Evaluation and Appraisal Report (City of Key West 1997b).

Note: Population projections were developed with consideration of growth cap housing unit limitations imposed by the City rate of growth ordinance; and assumptions for a continued 85.3 % housing occupancy rate (as observed from the 1990 Census), and a population per household of 2.31. Growth cap housing units were assumed to be occupied at a rate of 91 % per year through the year 2002 (see text).

In addition to the permanent resident population of the City of Key West, seasonal resident/household populations and overnight tourists comprise a significant portion of the total population of the City on any given day, and particularly during winter and early spring months.

The total seasonal visitor population for Key West, combining seasonal residents and overnight tourists, was estimated to be 12,887 in 1990, and is projected at 13,382 in 2000, and at 13,916 in 2010 (City of Key West 1993).

Demographics

According to the 1990 Census, 10.4 % of the City's population is black, and 86.1 % is white (see Table 3-3). The black population is more concentrated in the Bahama Village neighborhood, which is an approximately 22-block area in the Old Town sector adjacent to the Navy's Truman Annex. The City of Key West Bahama Village Redevelopment Plan (1995) estimated that 40 % of the Key West black population resides in Bahama Village, where the racial distribution is estimated as 64.4 % black, 34.5 % white and 1.1 % of other racial origins. This contrasts to the remainder of the City, where the distribution by race was estimated at 5.8 % black, 90.4 % white and 3.8 % of other racial origins (City of Key West 1995).

Table 3-3

MINORITY AND LOW-INCOME RESIDENTS IN KEY WEST, FLORIDA

Location (Census Tract No.)	Total Residents	White		Black		Other		All Minorities Combined		Percent of Residents Considered Below Poverty Level
		%	No.	%	No.	%	No.	%	No.	
9719	4,362	91	3,952	5	234	4	176	9	355	8
9720	2,956	94	2,765	3	87	3	104	6	271	9
9721	5,863	87	5,125	7	428	5	312	12	356	6
9721.99	74	83	63	11	0	7	9	18	0	0
9722	2,924	94	2,730	4	122	3	72	6	323	11
9723	2,636	93	2,578	4	21	3	101	7	226	9
9724	**3,429**	**55**	**1,666**	**44**	**1,592**	**1**	**35**	**4**	**657**	**19**
9725	1,394	90	1,335	6	56	4	55	10	87	6
9725.99	37	89	48	11	0	0	0	11	0	0
9726	1,157	96	1,099	2	44	3	23	4	232	20
Total	24,832	86	21,361	10	2,584	4	887	14	2,507	10

Source: U.S. Bureau of the Census, 1990.

Note: Census Tract #9724 includes Bahama Village, as well as additional area comprised of non-minority neighborhoods. Therefore, the percent minority of Census Tract #9724 does not correspond to that cited in the text, which is specific to Bahama Village.

Census data for 1980 and 1990 indicate an increase in median age of Key West residents from 31 to 33.7. The Bureau of Economic and Business Research, University of Florida (BEBR)

projections indicate the median age will continue to rise through the year 2000, when it is projected to be 38.1. School age populations, as a percentage of total population, decreased from 1980 to 1990, but are projected to remain relatively stable through 2000. Elderly populations increased slightly from 1980 to 1990, as a percentage of total population, but are projected to remain relatively stable through 2000.

3.10.2 Economy, Employment, and Income

Economy

During the period of 1830 to 1930, the Key West economy was represented by a diverse set of activities that included the U.S. Navy, fishing, shipwreck salvage, sponging, and cigar manufacturing. In the decades that have followed, the economy has been driven by Navy expenditures, tourism, and development. Recently, tourism is the most critical element in the economy of the City, with a significant contribution from government services, although the military contribution has become less of a factor in the dynamic of the local economy (City of Key West 1997).

In a one-year period during 1995 and 1996, it is estimated that there were approximately 2.54 million tourist visits to the Keys, and 1.4 million of these tourist visits included time spent in Key West. The average length of stay was 5.2 days (Leeworthy and Bowker 1997). An assessment of the economic contribution of tourism to the Monroe County economy for the period of June 1995 through May 1996 estimated that $1.334 billion (or 61 %) of the total $2.203 billion economic output (i.e. sales) of the county was attributed to tourism. Income from tourism in Monroe County was estimated as being $506 million (or 45 %) of the reported $1.124 billion income in the county. These figures include the direct contribution of tourist spending, as well as the indirect and induced effect it had upon the local economy (English *et al.* 1996).

The economic output of Monroe County increased by 27.6 % between 1989 and 1996 and income increased by 29.2 % during the same period (Florida Department of Revenue; U.S. Department of Commerce 1996).

Monroe County's income by place of work as a percentage of place of residence was 50.4 % in 1994 versus 61.3 % for Florida as a whole. To a large degree, this more pronounced effect in the county is attributed to the amount of income entering the county in the form of transfer payments. There are many retired persons residing in Monroe County who receive income in the form of retirement pensions, investment dividends and interest, and social security, which represents a base of income that is independent of employment. As this income arrives in the local economy, there is demand for local goods and services, in turn creating local employment and income. Inter-county

commuters also contribute to this effect, as a significant number of people live in Monroe County and commute to their jobs outside of the community, as well as non-residents who commute into Monroe County to their jobs. In 1994, there were 2,172 residents working outside the county and 2,046 non-residents working inside the county, and the net difference in these transfers brought $67 million into Monroe County (English *et al.* 1996).

The Florida Price Level Index has ranked Monroe County as having the most expensive cost of living among Florida's 67 counties in 1997 (Florida Department of Labor and Employment Security 1998). Although Monroe County is more expensive relative to most counties, with respect to food, apparel, transportation and health, recreation and personal services, the high cost of housing is the driving force behind the county's number one price level index ranking throughout the 1990's.

Employment

According to the Florida Department of Labor and Employment Security, the Monroe County labor force was 47,180 in February 1998. Included in the Monroe County total, the Key West labor force was 15,190 during this same period. In February 1998, the unemployment rate for both Monroe County and Key West was 2.7 %. During this period, the unemployment rate for Florida and the United States was 4.4 and 5.0 %, respectively.

The Key West unemployment rate decreased during the period of 1993 through 1997, with a high rate of 5.3 % in January 1993 to a low of 2.0 % in July 1997. The Key West unemployment rate has not been above 2.8 % since February 1996. While Key West's unemployment has remained low, high demand for workers in the private sector has grown steadily. The population of the employed wage labor force in Key West was an average of 13,861 (employed persons per month) in 1996 and 14,253 in 1997. For the first quarter of 1998, the employed wage labor force in Key West was an average of 14,792 persons (Florida Department of Labor and Employment Security 1998).

The largest entities providing employment in Key West are companies providing lodging and recreational activities to tourists; federal, state and local government entities and regional authorities; and a regional health care provider (Key West Chamber of Commerce undated; City of Key West 1997). Table 3-4 shows the wage employment profile for Key West in years 1990 and 1995. The distribution of wage employment across general employment sectors is proportionally similar to Monroe County, and the major growth sectors for wage employment are in the retail and services sectors.

Table 3-4

WAGE EMPLOYMENT PROFILE FOR THE CITY OF KEY WEST IN 1990 AND 1995

Industry	1990	1995	Average Annual Change	Average Annual Percent Change
Agriculture	296	359	13	4.3
Construction	865	1,002	27	3.2
Manufacturing	365	314	(10)	(2.8)
Transportation Equipment	36	46	2	5.0
Transportation, Communications and Utilities	903	893	(2)	(0.2)
Wholesale Trade	240	278	8	3.2
Retail Trade	3,771	4,273	100	2.7
Finance, Insurance and Real Estate	718	749	6	0.9
Services	4,176	4,673	99	2.4
Federal Government	819	808	(2)	(0.3)
State Government	476	556	16	3.3
Local Government	1,248	1,257	2	.01
Total	13,913	15,206	259	1.9

Source: Key West Base Reuse Plan, Appendix 2, Socioeconomic Profile of Key West, Table III-11 (City of Key West, 1997a).

In 1994, proprietor employment was found to be 21.7 % of the 46,784 total employment in Monroe County. Compared to proprietor employment rates of 14.9 % in Florida and 15.5 % in the U.S., the high proportion of proprietor employment in the county reflects the dominance of small businesses in the tourist industry (English *et al.* 1996).

The seasonal cycle of tourism activity during the course of a year in Monroe County has an effect on economic activity and employment. However, the general decrease in employment that occurs in late spring and continues to the beginning of tourist season in late autumn, has not, in recent years, reached levels that are considered extreme. English *et al.* observed that over a four-year period between 1989 and 1992, 1990 had the highest seasonal change in non-proprietor. In that year, employment was at its highest in March (32,040), and lowest in October (29,209), which was an 8.8 % change. The relatively low degree of change was surmised to be related to the dampening affect that transfer payments (i.e. retirement income) have on the seasonal economic cycle.

Income

Between 1994 and 1996, per capita personal income rose 6.6 %, to $28,759, in Monroe County. During the same three-year period, Florida per capita personal income rose 6.3 % to $24,198, and the United States per capita personal income rose 5.6 % to $24,436. (U.S. Department of Commerce, Bureau of Economic Analysis 1998).

Median household income in Key West increased from $28,121 in 1989, to $34,299 in 1996, an increase of 22 %. Monroe County median household income increased 29 % over the same period, from $29,351 to approximately $38,000. Florida household income increased 24 %, to approximately $34,000 over this period (U.S. Department of Commerce 1990; City of Key West 1997a).

As shown on Table 3-5, a dramatic shift occurred in the household income range distribution in Key West during the seven-year period of 1989 through 1995. There was a 10 % decrease in the number of households earning less than $35,000, while there was a marked increase in the number of households (447) with incomes in the $50,000 to $75,000 range. The most striking change, however, is the 244 % increase in households with incomes exceeding $150,000. These shifts attest to the affluence that is now more present in the community (City of Key West 1997a).

Table 3-5

HOUSEHOLD INCOME
CITY OF KEY WEST

Income Range	1990 Census 1989	Estimated 1995	Total Change	Percent Change
Less than $15,000	2,246	1,945	(301)	(13)
$15,000 to $25,000	2,241	2,086	(155)	(7)
$25,000 to $35,000	1,970	1,796	(174)	(9)
$35,000 to $50,000	1,854	2,009	155	8
$50,000 to $75,000	1,352	1,799	447	33
$75,000 to $100,000	363	559	196	54
$100,000 to $150,000	233	440	207	89
Greater than $150,000	166	571	405	244
Total	10,425	11,205	780	7

Source: Key West Base Reuse Plan, Appendix 2, Socioeconomic Profile of Key West, Table III-10, (City of Key West 1997a).

3.10.3 Housing

The total number of housing units in the City of Key West in 1990 was 12,221, increasing from 10,866 in 1980. During this period, the number of households occupied by families declined from 63% to 55%, while the number of households occupied by one person or more non-related persons increased from 37% to 45%. Homeowner occupancy declined between 1980 and 1990, from 42% in 1980 to 35.9% in 1990, while rental occupancy has increased from 42.7% to 49.4% (U.S. Bureau of Census 1980, 1990)

The average price of a single-family home in Key West increased from $188,750 in 1994 to $244,000 as of May 1997 (City of Key West 1997a). Rental housing in Key West is also very expensive, ranging from $750 to $1,750, on average. In 1997, the National Association of Realtors ranked Key West as the fourth most expensive housing market in the United States (City of Key West 1997a).

There are 886 publicly subsidized rental units in Key West managed by the Key West Housing Authority. In 1998, the Housing Authority had a waiting list of 125 applicants for public housing. Private developments that are considered affordable housing include Ocean Walk (63 units), Mariners Cove (78 units), and Stock Island Apartments (129 units).

The City of Key West has attracted affluent homeowners, comprised of retirees and seasonal or "second home" buyers. This in-migration of homeowners, coupled with the virtual moratorium on housing development, has significantly contributed to the increase in housing prices in Key West. Similarly, the rental housing market for permanent residents is being displaced by the conversion of large homes, accessory units, and housing complexes to transient lodging for seasonal visitors who are willing to pay higher rents or fees.

Due to these circumstances, many permanent residents of Key West are unable to afford housing, resulting in economic hardship and overcrowding. In 1995, approximately 40% of the households in the City were considered cost burdened (i.e. more than 30% of the household income is used for rent or mortgage and utilities; Shimberg Center 1998). Table 3-6 shows the 1995 estimated need for affordable housing in the City of Key West, with projections of affordable housing needs for the years 2000 and 2010.

Table 3-6

DEFICIT OF AFFORDABLE OCCUPIED HOUSING UNITS IN KEY WEST, 1995-2010

Year	Total Households Projected	Deficit of Owner-Occupied Units	Deficit of Renter Occupied Units	Total Unit Deficit	Percent Deficit of Total Occupied Households
1995	11,309	5,246	918	6,164	55%
2000	11,664	5,483	1,137	6,620	57%
2010	12,065	5,928	1,297	7,225	60%

Source: Shimberg Center 1998.

In 1993, the City of Key West passed a number of ordinances to establish a building permit allocation system. The ordinances are commonly referred to as the Rate of Growth Ordinances (ROGO). The purpose of the ordinances was to establish the existing number of residential units and transient units that could be built within the City limits over a certain time period. As of February 2000, the City of Key West had a total of only 40 units (33 single-family units, 0 multi-family units [waiting list], and 7 accessory units) available under the ROGO program through the time period 2000-2002 (Tucker 2000), indicating that residential growth in Key West is severely constrained by ROGO.

3.10.4 Taxes and Revenues

The City of Key West budget for fiscal year 1997/1998 was $88,316,266. This figure included the General Fund Budget of $22,407,382 and 13 activity funds totaling $65,908,884.

The General Fund Budget expenditures are distributed largely to law enforcement (27%), fire department (17.6%), general government (11.0%), public works (8.2%), and expenses associated with berthing of cruise ships (7.1%). Lesser allocations are distributed over numerous other government administrative functions and services.

The primary revenue source for the General Fund Budget is *ad valorem* taxes, which are levied by the City at a millage rate of 3.7220. Key West has a taxable property value of $2.162 billion, and the *ad valorem* millage generates $7.70 million. Key West property values have risen dramatically over the past several years, necessitating a "rollback" of the *ad valorem* millage. In 1997, Key West property values increased 14.5 %, and the *ad valorem* millage was rolled back at a

corresponding percentage in order to avoid an increase in taxes from property owners. Since 1988, the sharp increase in property values has resulted in a roll back from 6.040 to the current rate of 3.7220.

Other sources of revenue to the General Fund Budget include intergovernmental revenue, charges for services (including cruise ship passenger disembarkation fees), license and permit fees, fines and forfeitures, and other sources.

Cruise ship disembarkation fees have increased in recent years to comprise a significant source of General Budget Fund revenues for the City of Key West. Prior to the City's obtaining a license from the Navy for berthing of cruise ships at the Outer Mole at Truman Annex, City revenues from cruise ship disembarkation were $850,058 in fiscal year 1994/1995. In the City's General Budget Fund for fiscal year 1997/1998, disembarkation fee revenues were budgeted at $2.7 million. In March 1998, the City of Key West Port Director projected that scheduled cruise ship calls to the City for fiscal year 1998/1999 would generate $3.81 million in disembarkation fee revenues, of which $2.42 million would be generated from use of the Outer Mole, and the remainder from the berthing areas at Mallory Square and Pier B (Hamlin 1998).

In addition to the General Budget Fund, the City maintains 13 activity funds that each serve specific purposes. For fiscal year 1997/1998, the largest of these funds were the sewer fund ($29 million) and the solid waste fund ($11.8 million).

3.11 Land Use and Development

3.11.1 Key West Land Use

Key West incorporates approximately 3,273 acres (1,309 ha), of which, there is very little land available for development. As of 1997, only about 1.7 % (47 acres [19 ha]) of Key West was considered vacant and developable; however, this does not include military property that may become available. Another 0.3 % was vacant with development approval. The most common land use in the City is residential occupying approximately 763 acres (305 ha), or 27.6 % of the area. Behind institutional land uses, military property is the third most common land use activity at 415.5 acres (166.2 ha), or 15 % of the land area (City of Key West 1997b).

The 1993 City of Key West Comprehensive Plan divides the City into six planning areas: Old Town, Central Residential, Northern Commercial, Ponds, North Stock Island and Military lands. The Old Town planning area surrounds the U.S. Naval Station Truman Annex property. Important planning components of Old Town are Duval Street, Key West Bight, Bahama Village, Truman Annex Development (private development) and Fort Zachary Taylor.

3.11.2 Existing Land Use

Site Description and Land Use

The Truman Waterfront surplus property consists of approximately 41.44 acres (16.6 ha) of land. Although historically this property was a hub of Navy waterfront activity, the site has been virtually vacant for the last 10 years. The entire area consists mostly of vacant land, several vacant structures, and maritime-related facilities. Mole Pier has an upland area of 7.6 acres (3 ha) of which 4 acres (1.6 ha) are comprised by the pier. There are two buildings totaling 1,679 ft^2 (156 m^2) on the base of the pier. The northernmost section of the Outer Mole fronts along a 34-foot- (10.3-meter-) deep-water federally maintained ship channel. Use of the southern portion of the Outer Mole is restricted by a series of groins and sand shoals which transition into seagrass beds. The bulkhead shoreline along the interior basin fronts a 32-foot- (9-meter-) deep-water harbor, which connects to the 34-foot (10.3-meter) ship channel. The Mole Pier underwent major renovations in 1986 as part of improvements made by Navy to ready the site for a surface attack fleet, a plan that was later tabled. Mole Pier is both a breakwater and berthing wharf and contains electric distribution, sanitary sewer, wastewater, telephone utility lines, as well as street lighting. There has also been a major renovation to the eastern bulkhead. Remaining maritime-related structures are in various stages of dilapidation. The area east of Pier 8 has been enclosed by fence due to its dilapidated state.

Main activities at the site include berthing of cruise ships and military vessels. The Navy has a license with the City of Key West to provide berthing and anchorage to cruise ships at the Outer Mole. Berthing uses have also been granted to various entities for use of Pier 8. A 20-slip marina located on the Inner Mole provides moorings for recreational boats owned by military personnel. Port Services and the fire department detachment operate from Building 149. A police detachment operates a boat and office on the Mole and a Defense Resale Management Office, which accepts merchandise and material from NAS Key West for resale, recycling, and disposal, remains active. In addition, access to Fort Zachary Taylor State Park is through the site.

The submerged land within Truman Harbor is state-owned and is leased to the Navy through a lease agreement that expires in 2007 .

Surrounding Land Use

The Truman Waterfront property is bounded by four distinctive land use areas: Truman Annex Planned Unit Development, Bahama Village, Fort Zachary Taylor, and NAS Key West Truman Annex.

Truman Annex Planned Unit Development

The northeast portion of the site abuts the Truman Annex planned unit development, a gated community. This is a private, mixed-use development of mainly single-family residential units built in the 1980's on previously excessed Navy property. Many of the property owners are seasonal residents or use their property as vacation homes. Wide streets, lined by sidewalks and white picket fences, are prevalent in the development. While public vehicular access to the development is limited to Front and Southard Streets, pedestrian and bicycle traffic may access the site from Whitehead Street. Overall, the Truman Annex planned unit development is isolated from the Truman Waterfront by a fence.

Bahama Village

Bahama Village is a 22-block area east of the Truman Waterfront property with a unique cultural identity and history of over 150 years, since Bahamians first emigrated to Key West. The area is comprised of single-family homes, blocks of multi-family homes and public housing. Private single-family dwellings occupy the largest amount of area. Non-residential uses, such as neighborhood commercial shops, personal service establishments, recreation facilities, and churches, are generally concentrated along Petronia Street. There are no industrial activities in Bahama Village. Most people residing Bahama Village are year-round residents.

Nearly all of Bahama Village is within the National Register District as identified in the City's Comprehensive Plan; however, all of the neighborhood is protected as an historic zoning district. Approximately 75 % of the Bahama Village structures located within the historic district retain their historic character and are considered contributing structures within the historic district (City of Key West 1995). Bahama Village is isolated from the Truman Waterfront property by a fence.

Fort Zachary Taylor

Fort Zachary Taylor State Park is directly west of the site. The Fort, constructed to protect Key West during the Mexican War, and later controlled by the Union army during the Civil War, is a National Historic Place and appears on the NRHP. The park includes a beach, picnic areas, and public restrooms.

NAS Key West Truman Annex

The Truman Annex property (also referred to as the "Joint Task Force Four (JTFF) Compound") is to the south and west of the surplus Truman Waterfront property. The property is headquarters for

JTFF and provides support facilities, such as military family housing and enlisted barracks for all NAS Key West tenant commands, as well as facilities to support various military missions that visit Key West.

3.11.3 Relevant Plans and Future Actions

Of the four distinctive areas surrounding the Truman Waterfront property, only two of the properties have identifiable future plans or actions: Bahama Village and NAS Key West Truman Annex.

Bahama Village

The 1998 Bahama Village Redevelopment Plan (1998 Plan) recognizes, through its goals, objectives, and policies, the long-term importance to the community of the Truman Waterfront site (City of Key West 1998). The 1998 Plan was developed in consideration of the Base Reuse Plan and recommends and encourages actions that integrate Bahama Village physically and economically into the Truman Waterfront site. According to the 1998 Plan, physical integration will achieve economic benefits for the residents of Bahama Village through an increase in tourist-related traffic. This traffic will create employment opportunities and strengthen the commercial core of the Village by capturing some of the tourist dollars being spent in Key West. Physical integration will occur through a series of transportation improvements, including vehicular access points and enhancements in pedestrian, bicyclist, and transit circulation routes.

The physical integration portion of the1998 Plan places emphasis on the use of Angela, Petronia, Olivia, and Southard streets to serve as the primary access points into the Truman Waterfront property. The 1998 Plan recommends that the existing street grid be extended into the Truman Waterfront property via Petronia Street as a one-way street for vehicular traffic westbound into the property. Petronia Street is considered the commercial center of Bahama Village and the primary pedestrian access point into the community. Olivia Street would extend into the property as a one-way street eastbound, whereas Angela Street would be one-way eastbound east of Dekalb Avenue and would primarily be for bicycle and pedestrian access. Truman Avenue would remain a two-way road and provide access to the site via Fort Street.

According to the 1998 Plan, it would be necessary for Southard Street to continue to provide two-way access into the Truman Waterfront property because of its physical capacity to handle large volumes of traffic. Southard Street has the greatest width of any of the east-west roadways expected to provide direct ingress and/or egress to the property.

The 1998 Plan expects all public and private transportation supporting the cruise ships docking at the Mole Pier to use Petronia and Angela streets through Bahama Village.

NAS Key West Truman Annex

At the Truman Annex property, the Navy plans to expand its mission areas and renovate Building 289, which is a 40,000 ft^2 (3,716 m^2) structure that is currently vacant. The JTFF command is constructing additional facilities and completing a multi-million dollar renovation of their existing facilities. Also, an increase in pedestrian (vessel and public works personnel) and vehicular (fuel trucks and personnel transport vehicles) activity in and around Truman Annex is expected as a result of a projected increase in military vessel usage of Truman Harbor and the Mole Pier.

3.11.4 Land Use Classifications

The Truman Annex planned unit development property is classified as a historic planned redevelopment and development district (HPRD). According to the City's Comprehensive Plan, the HPRD district is intended to promote historic preservation, neighborhood facility improvement, and architectural and urban design amenities consistent with the traditional Old Town historic character.

Most of Bahama Village is classified as a historic medium-density residential district (HMDR). The HMDR district accommodates historic Old Town medium residential development for permanent residents, including single-family, duplex, and multiple-family residential structures. The intent of the district is to preserve the residential character and historic quality of the medium density residential areas with Old Town.

That portion of Bahama Village not classified HMDR is the historic neighborhood commercial (HNC-3 and HNC-4) district along Petronia Street. This is a redevelopment area directed toward maintaining and/or revitalizing existing structures, preventing displacement of residents, and includes a commercial center linked to Duval Street.

Lands owned by the United States Navy are classified as Military. These include NAS Key West Truman Annex, the Truman Waterfront property, and Fort Zachary Taylor.

3.11.5 Land Development Control

Because of its inclusion in a military installation, the Truman Waterfront property has not been subject to land planning and development control by the City of Key West. Although the City has not exercised regulatory control for managing land and water resources at the site in the past, the City is obligated under Chapter 28-36, FAC, to coordinate with the Navy to effectively manage the impacts of Navy development on public infrastructure and natural resources.

There are three basic sources for guiding development in Key West. The first is related to the City being located within a region that is designated as an Area of Critical State Concern (ACSC) under Chapter 380, Part I, Florida Statute (FS), as implemented in Chapter 28-36, FAC. The other two sources are the Local Government Comprehensive Planning and Land Development Act (LGCPLDA), Chapter 163, Part II, FS, and the Florida Coastal Management Program (FCMP). These programs and their control of local development are discussed below.

Area of Critical State Concern

The ACSC program protects areas of the state where unsuitable land development would endanger resources of regional or statewide significance. Protection of an ACSC is ensured by the Administration Commission (Governor and Cabinet) through creation of principles for guiding development that local governments must adopt.

Because of the City's designation as an ACSC, the Florida Department of Community Affairs (DCA) has review authority over all development orders, the City's Comprehensive Plan, and LDRs. Under Florida DCA authority, a residential growth cap exists for Monroe County and Key West related to hurricane evacuation clearance time from the Keys. To implement the residential growth cap, Key West adopted a Building Permit Allocation System Ordinance (Section 34.1375 Code of Ordinances), otherwise known as ROGO. The ordinance limited the number of building permits issued for permanent and transient units to 1,093 units between April 1, 1990 and April 1, 2002. According to the City of Key West Planning Department, as of February 2000, nearly all ROGO units issued to the City through 2002 have been allocated (Elwood 1998).

The impact of the Building Permit Allocation System on development of residential and transient units is significant. Although the exact number of ROGO units available, as reported by the building department, may change (slightly) due to changes in vested or approved development status, future development of residential or transient units is severely limited, because there are few potential scenarios for creating additional ROGO units through and past 2002.

Local Government Comprehensive Planning and Land Development Act

The LGCPLDA requires local governments to prepare, adopt, and implement Comprehensive Plans that encourage the most appropriate use of land and natural resources in a manner consistent with the public interest. As part of the LGCPLDA, counties and municipalities must adopt a Comprehensive Plan that identifies goals, objectives, and policies to guide the community's development. The City of Key West Comprehensive Plan was approved by the Florida DCA and adopted in July 1993.

Pursuant to Chapter 163, Part II, FS, local governments must adopt LDRs to implement their Comprehensive Plan. The City Commission officially adopted new LDRs to implement the 1993 plan in 1997. The LDRs were reviewed and approved by the Florida DCA and the Governor and Cabinet.

Concurrency management, as defined in Chapter 163, Part II, FS, requires that public facilities and services necessary to support a proposed development be available, or will be made available, concurrent with the impacts of development. Facilities in Key West subject to the concurrency requirement include potable water, recreation, sanitary sewer, solid waste, drainage, and roads. The adopted level of service (LOS) for concurrency facilities is specified in Section 3-9.8, of the City's LDRs and established in the City's Comprehensive Plan.

Coastal Zone Management

The entire City of Key West is defined as a coastal area. In coastal areas, Rule 9J-5, FAC, requires local governments to designate Coastal High Hazard Areas within their jurisdiction. Most property at Truman Waterfront is outside the Coastal High Hazard Area and is not subject to flooding by a Category I Hurricane storm surge. Mole Pier, however, is within the Federal Emergency Management Agency's Coastal High Hazard Area (City of Key West 1997a) and is subject to hazard area development restrictions identified in Section 3-11.4 (H) of the City's LDRs.

The FMCP, the State of Florida federally approved management program, was approved by the NOAA in 1981. The FCMP compiles 23 Florida Statutes, which are administered by 11 state agencies and four of the five state water management districts, and are designed to ensure the wise use and protection of the state's water, cultural, historic, and biological resources; to minimize the state's vulnerability to coastal hazards; to ensure compliance with the state's growth management laws; to protect the state's transportation system; and to protect the state's proprietary interest as the owner of sovereign submerged lands. Consistency with the statutes constitutes consistency with the FCMP.

3.11.6 Aesthetics

Aesthetics resources at the Truman Waterfront vary between waterfront and terrestrial environments. Most of the waterfront is functional; therefore, the area possesses little or no improvements for positive aesthetics. Support infrastructure systems such as power and light poles, electric transformers, and fences are readily visible throughout the waterfront area. As infrastructure systems are the main objects present, the discontinuity of shapes and sizes negatively impacts the area. Off-setting this negative aesthetic is the natural presence of the large, deep-green water basin.

The presence of cruise ships and military vessels may be aesthetically interesting to some, but not to others.

The terrestrial aesthetic resources of the area are also limited due to the lack of vegetation, and physical and location conformity of the structures. Locational conformity has been displaced over the years due to removal of under-utilized buildings. Much of the site is grass area surrounded by impervious or semi-impervious surfaces (roads and former building locations).

Overall, the aesthetic image of the property is largely negative, primarily due to the abandoned and dilapidated state of most of the buildings. The image of the property is largely due to the caretaker status the facility has been in for most of the last 10 years.

3.12 Transportation

The character of development, travel purpose, and transportation modes in Key West is markedly different from other urban areas. The compact urban character, level terrain, sunny climate, short trips, and disproportionate number of tourist trips in comparison to other communities of its size result in a significant amount of travel by foot, bicycle, or motor scooters.

Most of the primary destination points are at the western end of the island (Old Town) and along the North Roosevelt Boulevard commercial district. Because many of the City's residents live on the eastern side of the island and many employees who work in downtown live on other Keys, travel patterns in Key West are heavily oriented westward during the AM peak hour and eastward during the PM peak hour.

3.12.1 Regional Roadways

U.S. 1 Highway provides the City of Key West's only roadway entrance from Florida's mainland, splitting into North and South Roosevelt boulevards upon entering the island. Together with Flagler Avenue, North and South Roosevelt boulevards are the major east-west roads from the east-end of the island west to Bertha/First Street. North Roosevelt Boulevard is the only continuous east-west road on the island.

Four two-lane roads funnel the majority of east-west travel west of Bertha/First Street into Old Town. These roads are Truman Avenue (continuation of North Roosevelt), Palm Avenue, Flagler Avenue, and Atlantic Avenue.

Major east-west roadways in Old Town include Eaton Street, Truman Avenue, Palm Avenue, and United Street. Major north-south roadways include Whitehead Street, Duval Street, Simonton Street, and White Street. These roadways carry the bulk of traffic in and through Old Town. Typically, the heavily traveled roads in Old Town are sufficient in width to allow parking on one or

both sides of the street without significant encroachment into travel lanes. Although most of the side streets are narrow with tight corners, some street parking, which encroaches into the travel lane, is permitted. Because of congestion problems on the main roads, side streets are used for cut-through traffic, although not designed for this purpose.

To help understand the ease in which vehicular trips are able to travel over a roadway segment, a level of service (LOS) for the roadway established. A LOS is a qualitative condition (i.e. it is the driver's perception on how well traffic is moving) that is measured in terms of roadway capacity. LOS A represents the best operating condition while LOS F represents the worst operating condition (e.g. traffic gridlock). Roadway capacity is measured numerically by first estimating the maximum number of vehicular trips a roadway can accommodate at an adopted LOS (i.e. the LOS may be C) within a specified timeframe (for capacity determinations, an LOS for the AM peak-hour, PM peak-hour, or 24-hour period is generally used). The maximum number of trips a roadway can accommodate at a predetermined LOS is calculated using a transportation modeling program and is largely dependent upon the characteristic of the roadway. Roadway characteristics include intersection conditions, such as turning lanes, volume/capacity ratios, signal phasing and timing, etc; the length of the roadway segment; the number of lanes; lane width; turning lanes, medians, pedestrian and bicycle traffic, and types of vehicles in the traffic stream.

To determine whether a roadway is operating at a lower or higher LOS than adopted, the maximum number of trips is compared to the actual number of trips (the number of actual trips can be determined by person counts or by electronic counters) occurring over the roadway. For example, if the maximum number of trips a roadway can accommodate is 600 during the PM peak hour at LOS C and the actual number of trips occurring during the period is 400, the roadway is operating at an acceptable LOS and has capacity for an additional 200 trips before the operating LOS for the roadway would be lowered to LOS D.

LOS standards for functionally classified roadways in Key West are adopted as part of the City's Comprehensive Plan Policy 2-1.1.1. For the major roadways listed in Table 3-7, actual trips exceed the maximum trip capacity for the roadway at its adopted LOS.

Table 3-7

MAJOR ROADWAYS OPERATING BELOW THE ADOPTED LOS

Roadway	Roadway Segment	Roadway Classification	Adopted LOS	PM Peak-Hour Operating LOS
N Roosevelt	Palm Ave to Kennedy Dr	4-lane (U) state principal arterial	C	F
Truman Avenue	White St to Eisenhower Dr	2- to 4-lane (D & U) state principal arterial	C	F

Table 3-7

MAJOR ROADWAYS OPERATING BELOW THE ADOPTED LOS

Roadway	Roadway Segment	Roadway Classification	Adopted LOS	PM Peak-Hour Operating LOS
Palm Avenue	White St to N Roosevelt Blvd	2-lane (U) county minor arterial	D	F
Flagler Avenue	White St to Kennedy Dr	2- to 4-lane (D & U) county minor arterial	D	F
First Street	Flagler Ave to N Roosevelt	2-lane (U) county minor arterial	D	F
South Street	Simonton St. to Reynolds St	2-lane (U) City urban collector	D	E
Bertha Street	Atlantic Blvd to Flagler	2-lane (U) county minor arterial	D	F
Eaton Street	Whitehead St to White St	2-lane (U) county minor arterial	D	F
Duval Street	United St to Fleming Ave	2-lane (U) county/City urban collector	D	F
Grinnell Street	Eaton St to Caroline St	2-land (U) City urban collector	D	F
Whitehead Street	Truman Ave to Caroline St	2-lane (U) state principal arterial	C	D

Key:
(D) = Divided Roadway
LOS = Level of Service
(U) = Undivided Roadway

3.12.2 Local Roadways

The Truman Waterfront property is adjacent to two distinctive areas that are expected to provide access routes to the proposed project site: Truman Annex Development and Bahama Village. The roadways within the areas are generally local, non-functionally classified.

Truman Annex Development.

Southard Street is the only street for public use that provides for through-traffic within the development. It is also the only street that provides unrestricted access to the Truman Waterfront property. Public access limitations prohibit the use of other roadways within the development for through-traffic; however, ingress or egress via electronic gates along Whitehead Street provide through access for residents of the development.

Bahama Village

The streets of Bahama Village do not provide public access to the Truman Waterfront property. The street layout in Bahama Village is an extension of the grid street system that exists throughout Old Town. Most of the streets of Bahama Village are not functionally classified in the City's Comprehensive Plan, because they are considered local roads. The purpose of a local roadway

is to collect traffic from adjacent land uses and possibly several other minor streets (cul-de-sac, loops, lanes) and channel it to the collector/arterial street system. Local streets are intended to carry the lowest traffic volumes, discourage through-traffic (usually do not carry traffic between two streets of a higher classification), and provide access to abutting land.

In Bahama Village, on-street parking is generally permitted; and where permitted, automobiles often straddle the roadway and sidewalk because of the lack of available space for complete on-street or off-street parking. The roadways of Bahama Village have various right-of-way and pavement widths. North-south roadways generally have a 50-foot (15-meter) right-of-way width with an average pavement width of 24 to 32 feet (7 to 10 meters). Major east-west roadways generally have a 30-foot (9-meter) right-of-way width with pavement widths of 14 feet (4 meters). Most east-west roads dead-end into Fort Street, which parallels the eastern boundary of the Truman Waterfront property.

Physical Characteristics and Traffic Counts

The following subsections provide an overview of the physical characteristics of key roadways west of Duval Street that could be considered potential access routes to the Truman Waterfront property. All of the following roadways, with the exception of Southard Street, are within the Bahama Village area.

East-West Roadways Adjacent to the Truman Waterfront Property

1. **Southard Street** is a privately owned, two-way brick roadway between Thomas Street and the Truman Waterfront gate. The Navy has an access easement for use of the roadway; the easement is transferable. Between Thomas Street and Whitehead Street the roadway is a two-way, publicly owned roadway. East of Whitehead Street, Southard Street is one-way west bound. Roadway width is approximately 24 feet (7 meters). Curb, gutter and a sidewalk are present on each side of the roadway. Adjacent land use is residential. Southard Street is a local roadway.

2. **Angela Street** is a publicly owned two-way road. Pavement width is approximately 14 feet (4 meters) with on street parking. No curb or a sidewalk is present. Adjacent land use is residential. Angela Street is a local roadway.

3. **Petronia Street** is split as a two-way and one-way (westbound) roadway between the site and Duval Street and is publicly owned. East of Duval Street and continuing west to Emma Street, Petronia Street is one-way westbound. It is a two-way roadway between Fort and Emma streets. Pavement width is approximately 14 feet (4 meters) with parking permitted only along certain sections of the road. Curb, gutter, and sidewalks are present along the roadway. Adjacent land use along the one-way portion of Petronia Street is primarily commercial with limited residential. Land use along the two-way portion of Petronia Street is primarily residential. Petronia Street is a local roadway.

4. **Olivia Street** is split as a two-way and one-way (eastbound) roadway between the site and Duval Street and is publicly owned. Between Duval and Emma streets, Olivia Street is one-way eastbound. It is a two-way roadway between Fort and Emma streets. Pavement width is approximately 14 feet (4 meters) with on-street parking. Curb, gutter, and a sidewalk are present on the north side of the road. Adjacent land use is predominantly residential. Olivia Street is a local roadway.

5. **Truman Avenue** is a publicly owned two-way road. Between Whitehead and Fort streets, pavement width is approximately 14 feet (4 meters). Curb, gutter, and a sidewalk are present on both sides of the road. Adjacent land use is predominantly residential. West of the intersection of Whitehead Street, Truman Avenue is a local roadway.

North-South Roadways Adjacent to the Truman Waterfront Property

1. **Thomas Street** is a publicly owned two-way road. Pavement width varies between approximately 24 and 32 feet (7 to 10 meters) with parking on both sides of the street. Curb, gutter, and a sidewalk are provided on both sides of the street. Adjacent land use is predominantly residential with some commercial. Thomas Street is a local roadway.

2. **Emma Street** is a publicly owned two-way road with on-street parking. Adjacent land use is predominantly residential. Emma Street is a local roadway.

3. **Fort Street** is a publicly owned two-way road with on-street parking. Adjacent land use is predominantly residential. Fort Street is a local roadway.

During June 13 and June 14, 2000, traffic counts were collected for Southard Street, Angela Street, Petronia Street, Olivia Street, and Truman Avenue. All traffic counts were conducted at a location along the roadway just west of each roadway's intersection with Whitehead Street. Traffic count locations were determined after a survey and evaluation of roadway configurations and traffic patterns. The locations just west of Whitehead Street were determined as the best locations for recording the average amount of traffic within the area. It was believed that traffic count locations farther west or east would result in count numbers lower and higher, respectively, given existing traffic patterns and access locations to the streets. Existing traffic roadway counts for the recorded 12-hour period are shown in Table 3-8.

Table 3-8

EXITING ROADWAY COUNTS, KEY WEST, FLORIDA[a]

Count Hour	Southard Street (east and west)		Angela Street (east and west)		Petronia Street (westbound)		Olivia Street (eastbound)		Truman Avenue (east and west)	
	12 hr	Peak	12 hr	Peak	12 hr	Peak	12 hr	Peak	12 hr	Peak
7 – 8 AM	175	211	20	98	18	38	33	34	58	79
8 – 9 AM	201		98		38		30		79	
9 – 10 AM	148	na	61	na	41	na	35	na	71	na

Table 3-8

EXITING ROADWAY COUNTS, KEY WEST, FLORIDA[a]

Count Hour	Southard Street (east and west)		Angela Street (east and west)		Petronia Street (westbound)		Olivia Street (eastbound)		Truman Avenue (east and west)	
	12 hr	Peak	12 hr	Peak	12 hr	Peak	12 hr	Peak	12 hr	Peak
10 – 11 AM	174	na	68	na	47	na	41	na	78	na
11 – 12 PM	174		95		48		50		75	
12 – 1 PM	227		78		71		41		102	
1 – 2 PM	264		92		60		47		103	
2 – 3 PM	219		73		51		44		107	
3 – 4 PM	192		97		39		57		104	
4 – 5 PM	201	201	108	124	68	74	37	48	94	141
5 – 6 PM	142		107		57		48		132	
6 – 7 PM	135	na	70	na	48	na	52	na	97	na
TOTAL COUNT [b, c]	2,252	na	967	na	586	na	515	na	1,100	na
AVERAGE PER 12 HOUR	188	na	81	na	49	na	43	na	92	na

Key:

hr = hour
na = not applicable

Footnotes:

a Counts were collected for east-west streets only. It is expected that east-west streets would carry the bulk of any traffic generated by the proposed redevelopment. In addition, the physical limitations of the east-west roadways are expected to have a more decisive role in determining potential impacts.

b A seasonal adjustment factor was not applied to the data collected. It is expected that the amount of traffic at the count locations does not significantly fluctuate with seasonal factors because the area is largely non-transient residential with no tourist destination (exception would be Southard Street).

c During the June survey, the amount of commercial traffic was recorded. Commercial traffic included commercial vans, trucks, and cars. The following commercial traffic numbers and percentages were recorded: (1) Southard Street with 381 commercial trips (17%); Angela with 154 commercial trips (16%); Petronia with 118 commercial trips (20%); Olivia with 72 commercial trips (14%); and Truman with 156 commercial trips (14%).

3.12.3 Other Modes of Transportation and Transportation Improvements

The most recent alternative mode of transportation study in Key West was conducted in 1996 as part of the Truman Annex Diversion Study (City of Key West 1996). The origin and destination survey component of the study was conducted at several locations in Old Town to determine modes of travel to Old Town and Key West. Major findings of the survey for residents are summarized below.

- **Resident Travel Mode**. The most common mode of travel to the survey locations in Old Town was by bicycle (31%). The second and third most common modes of travel to the survey locations were by automobile (28%) and walking (26%). The majority (54%) of the residents surveyed responded that the purpose of their trip was to come to work. Trips for social and recreation purposes were the second most reason at 33%.

- **Mass Transit and Bicycle Travel.** Existing bicycle facilities on Key West includes a Class III lane along on North and South Roosevelt boulevards, a Class III route along Atlantic Boulevard, and a Class III route along Simonton Street. A bicycle route along Flagler Avenue is proposed in the City's Comprehensive Plan.

As a component of the June 2000 traffic count survey, other modes of transportation were recorded. Other modes included walking, bicycle, and moped. The surveyor recorded all east-west travel passing the point of the surveyor. As a group, the following numbers of east-west movements by other modes of transportation were collected for a 12-hour period.

- Southard Street - 1,690;
- Angela Street - 524;
- Petronia Street – 1,132;
- Olivia Street – 519; and
- Truman Avenue – 591.

Transit and Shuttle Services

The Key West Port and Transit Authority (KWPATA) Department provides fixed route transit service in Key West that operates in a long narrow loop shape consistent with the shape of the island. The fixed route transit service provides access into Bahama Village along Petronia Street, Truman Avenue, and Emma Street. The KWPATA operates a park 'n' ride shuttle from the Grinnell Street Garage to major destination points in the Old Town area. The Grinnell Street Garage is one of four parking garages in the Old Town area, but is the only one to provide a park 'n' ride service to the downtown destinations. A shuttle bus route operates as far west as Whitehead Street within the area of Old Town.

Transportation Improvements

The Florida Department of Transportation (FDOT) does not have any roadway capacity building projects for Key West scheduled in their current 5- or 10-year capital improvement program. The current project design and engineering study FDOT is conducting for north and south Roosevelt boulevards is not for capacity building (Shortal 1998). Implementation of the concepts under study

would provide for pedestrian, bicycle, and vehicular safety improvements in the form of additional sidewalks, a raised roadway median, improved bicycle routing facilities, and pedestrian crosswalks. These safety improvements would provide a slight increase in roadway capacity for automotive traffic because of the better distinction and separation between automotive and non-automotive forms of travel.

Monroe County's seven-year capital improvement program does not include any roadway capacity building projects in the City of Key West (Blount 1998). The City of Key West does not have any roadway capacity building projects scheduled (Flowers 1998).

3.13 Public Utilities

3.13.1 Potable Water

The Florida Keys Aqueduct Authority (FKAA) serves the Truman Waterfront site with potable water. The FKAA is permitted by the South Florida Water Management District (SFWMD) to withdraw its supply of water from the Biscayne Aquifer at its own well field in Florida City. In 1995, a modification to the FKAA's Consumptive Use Permit established an average and maximum daily well field withdraw of 15.83 mgd (59.92 mld) and 19.9 mgd (75.32 mld), respectively, through the year 2005 (FKAA 1996).

The average and maximum daily withdrawal rate for fiscal year 1997 was 14.49 mgd (54.84 mld) and 17.60 mgd (66.62 mld), respectively.

Available potable water capacity under FKAA's existing Consumptive Use Permit is shown in Table 3-9.

Table 3-9

AVAILABLE POTABLE WATER CAPACITY UNDER EXISTING CONSUMPTIVE USE PERMIT

Withdrawal Categories	Consumptive Use Permit Withdrawal Rate mgd (mld)	Fiscal Year 1997 Withdrawal Rates mgd (mld)	Available Capacity mgd (mld)
Average Daily Withdrawal	15.83 (59.92)	14.49 (54.84)	1.34 (5.08)
Maximum Daily Withdrawal	19.9 (75.32)	17.60 (66.62)	2.3 (8.70)

Key:

mgd = million gallons per day
mld = million liters per day

When considering the 22.0 mgd (83.27 mld) design capacity of the water treatment plant, available potable water capacity for average and maximum daily withdrawal rates, using 1997 data, increases to 7.51 mgd (28.44 mld) and 4.4 mgd (16.66 mld), respectively. Currently, FKAA is permitted by FDEP to treat 18.6 mgd (70.40 mld).

Potable water is pumped to Key West from the Florida mainland through a series of 36-, 30-, 24-, and 18-inch (91.4-, 76.2-, 60.9- and 45.7-centimeter) pipes. Water is supplied to Key West through storage tanks on Stock Island and Key West. The four storage tanks on Stock Island have a combined 20-million-gallon (75.7-million-liter) capacity and are served by a 24-inch (60.9-centimeter) line installed in June 1998. Two 1-million-gallon (3.8-million-liter) storage tanks, served by a 30-year-old, 18-inch- (45.7-centimeter-) diameter, welded steel transmission pipeline, are located on the island of Key West (Cates 1998). A reverse osmosis system is under construction on Stock Island and will have a capacity of 2 mgd (7.57 mld) for emergency situations (Cates 1998).

The FKAA reports that private wells in the freshwater lens in the surficial aquifer (see Section 3.3.2) may be used for potable and nonpotable purposes. It is estimated that the number of people using local groundwater for potable and nonpotable purposes is less than 500 (U.S. Navy 1998).

The FKAA provides water directly to the Navy's pumping station and water storage tank located within the boundaries of the Truman Annex planned unit development at the western end of Caroline Street. The Navy maintains an easement for the property. Operation and maintenance of the pumping station and distributions lines to the site are the responsibility of the Navy. From the pumping station, water is transported through an 8-inch- (20.32-centimeter-) diameter main along Emma Street and enters the Truman Waterfront site north of Angela Street. Besides providing water to the site, the pumping station also provides water to the NAS Key West Truman Annex property through water mains which cross the Truman Waterfront property. Most potable water mains at the site are polyvinyl chloride (PVC) and have 6- to 8-inch (15.24- to 20.32-centimeter) diameters. The 8-inch- (20.32-centimeter-) diameter water mains, which are connected to the 250-gallon (946-liter) elevated storage tank, are believed to be cement asbestos (Ruzich 1998).

A water meter at the Caroline Street pumping stations records water consumption for the NAS Key West Truman Annex. Because the meter records water usage for the Truman Waterfront site and the NAS Key West Truman Annex, the amount of potable water used at Truman Waterfront cannot be adequately determined. In 1998, water consumption at the properties varied between 2.3 mgd (8.7 mld) and 3.2 mgd (12.1 mld). The highest level previously recorded was 4 mgd (15.1 mld). Water usage at the Truman Waterfront site is believed to represent a very small percentage of the overall consumption (Ruzich 1998).

3.13.2 Sanitary Sewer

Operation and maintenance of the City's sanitary sewer system is performed under a contract operations agreement with Operations Management International, Inc., (OMI). The collection system is divided into 8 primary districts with a pump station located in each district. Previously, all pump stations conveyed flow to pump station "A" which then pumped sewage to the City's wastewater treatment facility on Fleming Island. This conveyance configuration resulted in significant wastewater conveyance problems. With recent improvements, pump stations B and C are directly connected to the treatment plant. Pump Station "D" will also be connected directly to the plant (Fernandez 1998).

FDEP has imposed a Consent Order that requires the City to reduce saltwater infiltration by 40%, which accounts for about 40% of the wastewater flow to the treatment plant. To achieve this, the City is in the process of spending $53 million over 5 years to rebuild 50% of its collection system and replace the existing ocean outfall with a deep injection well. Total rehabilitation of the system is projected within the 10-year Capital Improvement Program (Fernandez 1998).

The wastewater treatment plant on Fleming Key has been operating since February 1989. The plant has a design capacity of 10 mgd (38 mld) and is permitted for 7.2 mgd (27.2 mld). The most recent 12-month average annual daily flow was 7.35 mgd (27.78 mld). A permit application to operate at 10 mgd (38 mld) average annual daily flow is pending with FDEP (Fernandez 1998). Effluent from the plant is currently being discharged into Hawk Channel and the Atlantic Ocean. Effluent discharge into Hawk Channel will cease upon completion of the first deep injection well. Concentrations of total nitrogen and phosphorus in effluent discharge are generally 4 milligrams per liter (mg/L) and 1.1 mg/L, respectively (Fernandez 1998). Available EPA water quality data shows no water quality violations or benthic impacts beyond 100 yards (91 meters) from the outfall (Kruczynski 1998).

The Navy is the City's largest single wastewater customer, currently contributing approximately 23 % of the wastewater system's total flow to the Fleming Island wastewater treatment plant. The NAS Key West Truman Annex property, including the Truman Waterfront property, is divided into 3 separate sewage system. The system serving the Truman Waterfront is independent of the other two systems (Ruzich 1998). Wastewater generated at the Truman Annex is pumped through lift station "A."

The Navy owns and operates its own collection and conveyance system within the boundaries of Truman Waterfront. The conveyance system connects to the City's system approximately 100 feet (30.5 meters) outside the property boundary at the western end of Angela Street. A meter records sewage flow from the site. Flow is estimated at 1,748 gallons per day (gpd; 6,616 liters per day [lpd];

Fernandez 1998). Most of the conveyance system is PVC piping; however, some sections may be constructed of clay (Ruzich 1998). Use of the gravity system serving buildings along the east quay wall has been discontinued due to system conditions. Between 1985 and 1990, the entire wastewater system within Mole Pier was rehabilitated. Rehabilitation included installation of a 10-inch (25.4-centimeter) force main, lift station with an oil/water separator, and 4-inch (10.2-centimeter) sanitary and bilge lines. Four-inch (10.2-centimeter) sanitary and bilge lines also run from Pier 8 along the south quay wall to the lift station on Mole Pier.

3.13.3 Stormwater

The City of Key West stormwater facilities are made up of a patchwork of mini-collection systems constructed as Works Progress Administration (WPA) projects and/or by City sewer and public works departments. Most of the systems constructed by City crews used substandard construction material and/or designs that have caused drainage problems. The City has identified eight flood districts, all of which are located west of Bertha and First streets. Flooding in District 4 has been minimized due to the recent completion of a stormwater retention pond. In addition to general flooding problems, several of the ocean outfalls backup into City streets during extreme high tides (Fernandez 1998).

To solve some of these problems, the City began system rehabilitation and cleaning in 1995. The stormwater system is now cleaned three times per year by OMI staff. Fifteen stormwater injection wells were installed between 1996 and 1998. These wells have triple chamber sediment traps designed to remove 95% of pollutants. By the end of 1998, triple chamber sediment traps were installed on three of the City's 20 stormwater outfalls. Some of the City outfalls have debris traps. In accordance with the 1987 Water Quality Act Amendment to the Clean Water Act, the City is not required to have a National Pollution Discharge Elimination System (NPDES) permit for their stormwater ocean outfalls. The Clean Water Act exempts municipalities with populations less than 100,000 from the NPDES requirements (Childress 1998).

The Truman Waterfront site is relatively flat with less than a 2-foot (.61-meter) change in elevation. There are five drainage basins within the boundaries of Truman Waterfront, four of which flow into the water basin (Key West Drainage Map, date unknown). The fifth drainage basin flows southwest towards Fort Zachary Taylor. Stormwater flows into Truman Harbor through both point and non-point sources. Four stormwater outfalls, ranging in diameter from 18 to 30 inches (46 to 76 centimeters), discharge into the harbor. Two outfalls discharge from points along the east quay wall, and two discharge from the south quay wall. In addition to receiving stormwater from the site, the two outfalls along the east quay receive runoff from the Truman Annex planned unit development.

Also, there are five outfalls near the mouth of the harbor that discharge runoff from the Truman Annex planned unit development. The site has no retention/detention facilities, nor are NPDES permits required for the outfalls (Ruzich 1998).

3.13.4 Solid Waste

The City operates a Solid Waste-to Energy Facility (WTEF), which is rated at 150 tons (136 tonnes) per day, and a Solid Waste/Ash Transfer Center. At the WTEF, the average amount of solid waste material processed by burning is approximately 107 tons (97 tonnes) per day with peak rate at approximately 120 tons (109 tonnes) per day (Fernandez 1998). Non-burnable items, such as metals, white goods, concrete, and asphalt, are recycled. Ash disposal is handled by a contractor and the ash is hauled to a federally-approved monofill site in Okeechobee. Concrete and asphalt recycling, and ferrous metal recovery from ash and white goods are also handled by City-approved contractors.

The City is in the process of rehabilitating the WTEF facility to comply with the Clean Air Act. This rehabilitation includes an air pollution control retrofit scheduled for completion by 2003.

The City operates a voluntary curbside recycling program. Curbside collection of solid waste/recyclables, operation of the recycle transfer station, hauling recyclables, and marketing recyclables are conducted by a private contractor. The City has 32 categories of recyclable materials and recycles 380 to 400 tons (345,454 to 363,636 kilograms) of materials per month from the curbside program (Fernandez 1998).

3.13.5 Fuel and Gas

Diesel fuel was transported by pipeline to Truman Waterfront from the Navy's Trumbo Point Fuel Depot, prior to abandonment of the depot. At the site, the steel fuel line runs from Eaton Street, near the east and south quay walls, and extends onto Mole Pier. The portion of the fuel line between Trumbo Point and Truman Waterfront has been formally closed (Ruzich 1998). After the fuel lines were abandoned, military vessels fueled at the Coast Guard's D-2 north pier. However, with condemnation of the fuel lines at D-2, for logistical reasons, the Navy began refueling military vessels at Mole Pier in September 1997, using fuel trucks dispatched from NAS Key West Boca Chica (Riherd 1998). Cruise ships are not permitted to refuel at Mole Pier (Hamlin 1998).

3.13.6 Electricity

Electrical power is supplied to the Truman Annex site by City Electric System (CES). CES provides electrical service from the south end of Seven Mile Bridge to Key West. Average daily consumption within the service area is 120 megawatts. Approximately 85 % of the power

consumption is to non-federal properties in Key West. CES power distribution has increased by an average annual rate of 3 % (City of Key West 1997a).

Electricity enters the site at the main switch gear near the western end of Angela Street. The switch gear, which feeds the entire NAS Key West Truman Annex, functions as a circuit breaker and has nearly unlimited capacity (Ruzich 1998). Electric power is provided to areas along the south and east quay walls and the Mole Pier through an underground distribution system of 13,800-volt lines. From the switch gear, aboveground lines distribute electricity to the south and southwest portion of the Truman Waterfront property and to NAS Key West Truman Annex. However, near Building 1287, the distribution line is located underground.

A series of aboveground, pad-mounted transformers regulate power distribution throughout the site, including Mole Pier. The transformers on Mole Pier are each rated at 5,000 kilovolt-ampere (kVA). Although relatively new, the transformers are corroding rapidly and need to be replaced (Ruzich 1998).

3.13.7 Telecommunication

Telecommunication lines enter the property at Eaton and Angela Streets. The Eaton Street line is underground; the Anglea Street line is aboveground. These systems provide telecommunication to the entire NAS Key West Truman Annex Property. The Navy provided the specially-designed conduit for the lines and Bell South provided the cable. The conduit for the Eaton Street line would be retained by the Navy (Ruzich 1998).

3.13.8 Fire Suppressant System

A fire suppressant system, consisting of a salt water well, pump, and storage tank, is located along the east quay wall. The system was installed in the late 1980's, and has never been used, but is believed to be in good condition. The distribution system is constructed of ductile steel. There is no fire suppressant system on Mole Pier (Ruzich 1998).

3.13.9 Mole Pier Infrastructure

Infrastructure components at Mole Pier were completely renovated between 1985 and 1990 in preparation for realignment of a Navy surface attack fleet to Truman Harbor (which never occurred). Major infrastructure systems present at Mole Pier are:

- Ten-inch (25.4-centimeter) steel diesel oil line;

- Six-inch (15.2-centimeter) PVC potable water line;
- Ten-inch (25.40centimeter) PVC sanitary force main;
- Four-inch (10.2-centimeter) sanitary and bilge water lines;
- Underground electric (13,800-volt) and telephone lines;
- Three electric substation/transformers rated at 5,000 kVA;
- Sewage pump station and oil/water separator; and
- Aboveground lighting.

4 Environmental Consequences

4.1 Topography and Bathymetry

Direct Impacts

The proposed redevelopment would alter the topography of the site in areas where stormwater retention ponds would be excavated. These ponds would consist of shallow depressions that would hold stormwater following rain events, but would be grassy dry depressions at other times. The retention ponds would be located within proposed green space areas; the size of these areas would be dependent on the actual amount of impervious area constructed on the property.

Dredging of accumulated sediment adjacent to Pier 8 near the south quay wall may be required to accommodate proposed ferryboats and to repair the southern bulkhead. This dredging would re-establish bottom contours within the harbor created by previous dredging events.

Because the property was artificially created by dredging and filling, these changes to the site's topography and bathymetry would not alter any natural conditions and, thus, would not be considered significant environmental impacts.

Indirect Impacts

Construction of a breakwater and piers for the proposed marinas would probably increase sedimentation rates and decrease depths in localized areas of the harbor. However, given the depth of the harbor relative to the drafts of vessels proposed to use the harbor, it is unlikely that this modest effect would increase the frequency of dredging needed to maintain navigable water depths. As during the period of Navy use, the southernmost end of the harbor, which has a tendency to accumulate sediment, may require periodic dredging to maintain adequate depths, dependent upon actual vessel use of this area of the harbor.

Future maintenance dredging of Key West Harbor and/or the ship channel may be conducted to allow continued vessel use of all of the City's port facilities, including the Mole Pier and Truman Harbor. This dredging would not have a significant effect on bathymetric contours.

Cumulative Impacts

The topography and bathymetry of the Truman Waterfront site was significantly modified by extensive dredging and filling during construction of Truman Harbor in the 1940's. Future dredging of Key West Harbor and/or the navigation channel would probably be limited to maintenance dredging and would not significantly change the historical bathymetry of the harbor or channel. Therefore, the proposed action, in combination with other past and potential future maintenance dredging of the harbor, would not have a cumulative effect on the site's contours, since each action is designed to restore the bathymetric contours to that which existed following the previous dredging.

4.2 Geology and Soils

The proposed action would not impact the geology and soils of the Truman Waterfront property.

4.3 Hydrology and Water Quality

4.3.1 Hydrology

Construction of a breakwater and piers for the proposed marinas would alter the hydrological circulation of Truman Harbor, primarily by decreasing wave action and currents in the areas of the marinas. These changes would not affect the hydrology of Key West Harbor or other open waters, and, therefore, the hydrological impact of the proposed action would not be considered significant.

4.3.2 Water Quality

Direct Impacts

Reuse of the Truman Waterfront property would have both minor beneficial and adverse direct effects on water quality. Direct impacts to marine water quality could occur from the following aspects associated with redevelopment of the property:

- Stormwater runoff from residential, commercial, and light industrial areas;
- Construction of the port facilities and marinas;
- Petroleum spills from vessels and port/marina operations; and
- Illegal sewage disposal by boats moored in the marinas.

Stormwater Runoff

Redevelopment of the site would have a beneficial impact on water quality by providing for better stormwater treatment than currently available on the property. As discussed in Section 4.13, stormwater conveyances and treatment systems would be installed to provide on-site retention or detention of stormwater and stop the historical discharge of untreated stormwater directly into Key West Harbor or Truman Harbor. The proposed Reuse Plan would also result in an increase in green space and potentially decrease the amount of impervious surface. This would allow more infiltration of rainfall and thereby decrease the amount of stormwater runoff requiring treatment.

Off-street parking areas would be constructed of porous paving material to minimize runoff. The use of synthetic pesticides and fertilizers in green areas would be restricted to minimize contamination of stormwater runoff. Integrated Pest Management would be implemented in public buildings and grounds as an effective alternative to widespread pesticide use.

Construction of Harbor Facilities

Dredging, the construction of piers, bulkheads, and a breakwater, and other sediment-disturbing activities associated with construction of the marinas, mega-yacht docks, and the ferry terminal would generate turbidity and could release and/or disperse pollutants from the sediments into the water column.

Dredging of accumulated sediment adjacent to Pier 8 near the south quay wall of Truman Harbor may be required, depending on the size of ferries to be accommodated. Because dredging and other sediment-disturbing activities would be conducted within a semi-enclosed basin where currents are minimal, the extent of turbidity could be controlled by turbidity screens and other measures. Therefore, the impact on water quality from dredging and marine construction in Truman Harbor would be localized and short-term.

Although fine sediments typically accumulate heavy metals and organic compounds, the tidal flushing of Key West Harbor and regular dredging of Truman Harbor likely have minimized the potential for long-term accumulation of contaminated sediments. Limited recent sampling of sediments in the vicinity of Truman Harbor confirm the general absence of sediment contamination (Sandy Walters Consultants 1999). Therefore, sediment-disturbing activities associated with development of harbor facilities are not likely to cause exceedances of water quality standards for dissolved pollutants, but could cause violations of the state turbidity standard.

Construction and Operation of Marinas

Plans for the marinas would be extensively studied through the regulatory processes embodied in the City of Key West Comprehensive Plan and Land Development Regulations, the FDEP's Environmental Resource Permit, and the USACE's Department of the Army permit. Construction of the proposed ferry and mega-yacht docks and marinas would require submerged land leases for areas within Truman Harbor, where regulations for Class III waters require that the project must only be "not contrary to the public interest".

To comply with Key West Comprehensive Plan Policy 5-1.2.1(2)5.h., the marinas must provide treatment of stormwater runoff from upland areas to ensure that state water quality standards are met at the point of discharge to waters of the state. The City would seek assistance from FDEP and SFWMD in developing stormwater treatment systems that protect surface water quality to the maximum extent possible.

The marinas would also be designed in accordance with applicable strategies in the FKNMS Management Plan to reduce pollution from marina operations and ensure compliance with water quality standards. This includes establishing paved and curbed containment areas for boat maintenance activities, such as hull scraping, repainting, mechanical repairs, fueling, and lubrication; properly locating and constructing fueling facilities to minimize spillage; and providing facilities to dispose of wastewater. Furthermore, boat maintenance activities at the new marinas would be located as far as possible from the harbor to reduce surface water contamination by toxic substances commonly used for boat maintenance (Key West Comprehensive Plan Policy 5-1.2.1[2]5.i.).

Petroleum Spills from Vessels and Fueling Operations

Accidental petroleum and hazardous material spills from port-related activities or the light industrial area could cause short-term acute or long-term chronic impacts to water quality. However, these potential impacts would be mitigated by preparation and implementation of spill contingency plans. As recommended by the FKNMS Management Plan, the contingency plan would investigate the feasibility of locating a spill response crew and equipment in the Keys to reduce response time and minimize the environmental impact of a major spill. The City would coordinate with FDEP and the U.S. Coast Guard to post spill notification signs in the marinas and adjacent to the Truman Annex Harbor. This public information outreach would result in aggressive pollution response when a spill or release occurs or threatens to occur (Miles 1998).

Illegal Sewage Disposal from Boats

The increased use of Truman Harbor by boats with sewage-holding facilities would increase the potential for water quality contamination from illegal disposal of sewage. However, all marinas with 10 or more boat slips, as defined by the State of Florida, are required to install pump-out facilities to encourage proper sewage disposal practices. Therefore, adverse impacts to water quality from illegal sewage disposal in Truman Harbor would be minor.

NOAA and FDEP recommended that the City establish a mobile sewage pump-out facility to service live-aboard vessels moored around Key West. If implemented as part of the Truman Waterfront redevelopment, this service would have a major beneficial effect on surface water quality by reducing the cumulative amount of sewage discharged into the waters surrounding Key West (Causey 1998, Hall 1998).

Indirect Impacts

The proposed Reuse Plan would provide or create port and harbor facilities that would increase the number of vessels currently mooring and operating in the vicinity of Key West Harbor. These vessels would include cruise ships, ferryboats, mega-yachts, and commercial and recreational boats. Therefore, the proposed action would indirectly result in adverse impacts to water quality due to the presence and operation of these additional vessels. The primary impacts to water quality would be long-term, intermittent increases in turbidity generated by propeller wash of vessels suspending fine bottom sediments, primarily from deep-draft vessels using the Outer Mole Pier and Truman Harbor.

The primary source of turbidity generated by vessels would be from cruise ships and other large vessels that would use the Mole Pier and Truman Harbor. Turbidity would be generated from propeller wash suspending fine bottom sediments during docking maneuvers in Key West Harbor as well as along the Key West Channel during transits to and from the Gulf Stream. Waters in Key West Harbor are OFW, a state designation that allows no appreciable water quality impacts. The waters within Truman Harbor are not OFW; therefore, only Class III water quality standards apply. As documented by FDEP, the levels of turbidity generated by cruise ships and large military vessels in Key West Harbor violate the water quality anti-degradation standards of OFW, as well as Class III standards. FDEP is currently pursuing an overall turbidity management plan, rather than enforcement actions, for turbidity exceedances of the Class III standard caused by these vessels.

Therefore, the increase in the number of port calls by large vessels caused by implementation of the Reuse Plan would result in short-term elevations of turbidity and increased violations of the state water quality standard in Key West Harbor and the ship channel. However, the impact of the incremental increase in turbidity on regional water quality and marine resources (e.g. seagrass and

coral reef communities) due to the increased vessel operation associated with reuse of the Truman Waterfront is uncertain. This is due to insufficient information to conclusively determine the long-term ecological effects of vessel-generated turbidity in the Florida Keys, and opposing scientific opinions on the effects based on existing information. Therefore, in accordance with the Council on Environmental Quality (CEQ) regulations (40 CFR 1502.22), the following subsections summarize existing credible scientific evidence that is relevant and evaluate the potential impacts based on a theoretical empirical approach used by other coastal experts.

Existing Scientific Evidence

In response to concerns about impacts of boat traffic raised during the base reuse planning community meetings in late 1997, research was conducted by NOAA, FDEP, Florida International University, and the University of Miami Rosenstiel School of Marine and Atmospheric Science on the potential impacts of boat-generated turbidity in the Keys. This research did not reveal any conclusive data (City of Key West 1999). The research found that strong currents in the vicinity of Key West Channel suspend fine, white sediment that is predominant in the area and quickly flush these suspended sediments from the vicinity. Bathymetric data confirm that sediments have not accumulated appreciably in the Channel nor has dredging of the navigational channel been required in the past 20 years.

The effect of turbidity generated by cruise ships and other large vessels in Key West was investigated in 1999 by Sandra Walters Consultants, under contract to the Key West Bar Pilots Association, Inc. The report included a literature search, expert opinions from regional coastal scientists, review of existing water quality data for Key West Harbor, a reconnaissance-level assessment of bottom communities in Key West Harbor, and analytical testing of sediment from locations near the docks used by the cruise ships. The report concludes that there is no significant impact on water quality or sensitive marine resources (e.g. corals, seagrasses) caused by vessel-generated turbidity (Sandra Walter Consultants 1999).

There is also circumstantial evidence that elevated turbidity caused by ship traffic in Key West Harbor has not caused any long-term impact to the health of nearby seagrass beds or corals (Little 1998, Crusoe 1998). Historically, Key West Harbor and Truman Harbor were heavily trafficked by Navy and other vessels, and Truman Annex supported intensive industrial operations with direct discharges to the harbor. During World War II, more than 14,000 ships came through Key West Harbor, and the Naval Station's industrial department handled an estimated 7,160 ship repair jobs, drydocking more than 1,700 vessels (Mickler 1945). All of these activities arguably had the

potential to cause significant water quality impacts, yet many large, healthy coral heads, over 100 years in age occur in proximity to Key West Harbor (Little 1998).

Despite these preliminary conclusions on the effect of vessel-generated turbidity in Key West Harbor based on this anecdotal and reconnaissance-level information, there is an acknowledged need for additional data to conclusively determine the magnitude and extent of impact. The USACE is planning to evaluate the effects of turbidity generated by vessels as part of a planned USACE study of the need to perform maintenance dredging of the Key West ship channel and harbor. The City of Key West and the FKNMS will participate in the planning and implementation of this study. The study is expected to take several years and results will not be available in time for inclusion in this EA (Scarborough 2000).

The proposed action would indirectly cause long-term, adverse effects on water quality from increased vessel-generated turbidity. However, no significant impacts to water quality would occur from increases in vessel-generated turbidity, because federal and state regulatory permits and approvals must be granted before the cruise ship berth, ferry terminal and marinas that would support such vessel traffic could be constructed and operated (e.g. sovereign submerged lands lease, state environmental resources permits). These approvals would not be granted until the City or other applicants could demonstrate that the proposed project(s) are "clearly in the public interest" (in OFW in Key West Harbor [i.e. on the Outer Mole]) and "not contrary to the public interest" (in Class III waters inside Truman Harbor). Impacts to water quality would be a primary issue in this review, and the determination would likely take into account information on the effects of turbidity from the proposed USACE study of Key West Harbor (assuming that the study is completed prior to permit decisions).

In the near term, FDEP and the City of Key West are developing a turbidity management plan that would minimize vessel-generated turbidity or otherwise mitigate its effects on the marine environment. Implementation of this plan would be integrated with future redevelopment of Truman Harbor and Mole Pier, thereby preventing significant impacts of vessel-generated turbidity associated with implementation of the Truman Waterfront Reuse Plan.

Cumulative Impacts

Cumulative impacts of water quality degradation on coral reefs and seagrass beds have been extensively documented (EPA 1992, NOAA 1996). The City of Key West Comprehensive Plan and the Florida Keys National Marine Sanctuary Management Plan are aimed at controlling cumulative impacts to these resources.

Implementation of the Reuse Plan would contribute to cumulative impacts of turbidity on important marine resources, but whether the contribution exceeds a significance threshold would be determined by the planned USACE study of Key West Harbor (discussed above). Future regulatory approvals for the sovereign submerged land lease (needed for operation of the Mole Pier as a cruise ship berth) and construction and operation of the proposed marinas would likely be contingent on the findings of the USACE or other studies.

4.4 Air Quality

Direct Impacts

No significant, adverse, short-term or long-term air quality impact would result from the proposed action. Air emissions during proposed construction would result from the operation of vehicles and machinery and the generation of fugitive dust. The effects of these activities would be short-term and minor.

No industrial development that would be a source of air pollution is anticipated as part of the proposed reuse. Most air emissions would occur from additional mobile sources (vehicles and vessels).

Exhaust and crankcase emissions from motor vehicle use include nitrogen oxides, sulfur dioxide, particulate matter, carbon monoxide, and VOCs. Once released, nitrogen oxides and VOCs react, in the presence of sunlight, to produce ground level ozone, which is a regulated air pollutant. Due to the relatively small increase in the number of vehicles, the increase in air pollutant loads would be negligible and unlikely to affect the current attainment status.

The cruise ships, ferryboats, and other motor vessels would also generate exhaust emissions, although less frequently than motor vehicles. The increase in vessel traffic anticipated as a result of the additional proposed harbor facilities would not significantly affect existing air quality.

Indirect Impacts

The proposed action would not have indirect effects on air quality.

Cumulative Impacts

The City of Key West, through implementation of objectives and policies in its Comprehensive Plan, is implementing plans to reduce vehicle use within the City. Although the proposed action would increase vehicle use on the Truman Waterfront property in comparison to its current use, the overall amount of vehicle use in the City is not expected to increase or decrease

significantly. Therefore, the cumulative effect of mobile sources (the primary source associated with the proposed action) on air quality would not be significant.

4.5 Environmental Contamination

Direct Impacts

Implementation of the proposed action would not likely result in any potential for significant, adverse environmental contamination. The proposed action would convert the historically industrial nature of past activity at the site to mixed-use and residential land uses with areas of green space and parks. Potential for environmental contamination exists at the proposed marina sites and at the Mole Pier from ship support services. These areas may store and use petroleum products such as fuels and lubricants. However, these sites would be developed and operated under all applicable environmental laws and regulations; therefore, no significant, adverse impact is expected from the proposed action.

Site preparation and construction of the proposed action would require conformance with all current land use restrictions at the Truman Waterfront. The *Decision Document for Ten Base Realignment and Closure (BRAC) Sites, NAS Key West, Florida, May 2000,* (U.S. Navy 2000) identifies six sites within the Truman Waterfront property that have had environmental contamination.

Contamination at two of these sites (Truman Annex DRMO area between buildings 261 and 284 and Truman Annex buildings 102 and 104) has been sufficiently remediated and no further action is required. PCB-contaminated soils at the Truman Annex Building 103 site and arsenic-contaminated soils at the Truman Annex Building 223 site will be removed prior to conveyance of the property and replaced with clean fill; subsequent to backfilling, no further action will be required at these sites. Therefore, environmental contamination at these four sites will be cleaned up and will not affect or be affected by development.

The Navy determined, in conjunction with EPA and FDEP, that land use restrictions prohibiting residential development will be required at two of the sites where environmental contamination may still exist at levels potentially unsafe for residential use. These sites are the Truman Annex DRMO Waste Storage Area and the Truman Annex Former Location of Building 136. Any development of these sites would require conformance with all applicable laws and regulations governing the disposal of any existing environmental contamination prior to redevelopment (U.S. Navy 2000).

Indirect Impacts

The proposed action would not have indirect effects on environmental contamination.

Cumulative Impacts

The proposed action would not have any cumulative effects on environmental contamination.

4.6 Terrestrial Resources

Direct Impacts

The proposed action would not impact terrestrial vegetation or wildlife of the area.

Indirect Impacts

Landscaping of parks, greenways, residential parcels, and other areas of the Truman Waterfront property with invasive exotic vegetation would provide a seed source that could cause spread of exotic plant species to other areas. In particular, the USFWS is concerned that waterborne seeds of exotic species planted at Truman Waterfront could spread these species to nearby islands within the Key West National Wildlife Refuge and threaten the ecological integrity of these islands (Steiglitz 1998b).

Cumulative Impacts

The proposed action, in combination with past and future actions, is not expected to have cumulative impacts on terrestrial resources of the area.

Mitigative Measures

Landscaping of the property should be limited to native plant species to prevent the spread of exotic species, which disturb natural communities. Planting of invasive exotic plant species, which are defined by the Florida Exotics Pest Plant Council, should be prohibited during redevelopment of the property. Furthermore, planting of native plants would increase the use of the property by native wildlife. Australian pine trees and other exotic species should be removed during redevelopment to prevent their spread.

4.7 Marine Resources

Direct Impacts

The direct impact of the proposed Reuse Plan on marine resources would be negligible. The installation of pilings and breakwaters as part of construction of the ferry terminal and marinas would cause a minor loss of benthic habitat in Truman Harbor. This habitat, which was originally created by dredging, contains relatively unproductive soft bottom communities that are not limited in

distribution in the area. The pilings and breakwaters would provide hard substrate for sessile marine organisms, such as sponges, tunicates, and corals, resulting in a minor beneficial impact to the marine environment.

Indirect Impacts

The proposed action would likely result in increased boat traffic in and adjacent to Key West National Wildlife Refuge, which lies only 1,500 feet (457 meters) west of the Mole Pier. The USFWS is concerned that boats using the proposed marinas in Truman Harbor could cause significant increases in Refuge visitation and public use, resulting in increased wildlife disturbance, loss of wilderness character, and degradation of wildlife habitat (Stieglitz 1998b). Great White Heron National Wildlife Refuge could also be subject to increased visitation from boats moored in Truman Annex Harbor. Although more distant than Key West National Wildlife Refuge (Great White Heron National Wildlife Refuge's closest boundary is more than 3 miles (4.8 km) north of the Truman Annex Harbor), Great White Heron National Wildlife Refuge is more protected from prevailing winds by the main keys and shallow waters than is Key West National Wildlife Refuge. Therefore, boaters tend to visit Great White Heron National Wildlife Refuge on days when winds create moderate to high wave conditions in boat channels to and within Key West National Wildlife Refuge (Stieglitz 1998c).

Increased visitation of sensitive marine resources in the vicinity of Key West by motorized private and commercial boats moored in Truman Harbor could also result in increased disturbance to bird rookeries and direct impacts to seagrass beds and coral reefs (primarily from anchoring and propeller scarring). Construction of the two marinas would undoubtedly increase boat traffic in the area, which would inevitably lead to an increase in vessel groundings and adverse effects on shallow marine habitats (Kruczynski 1998).

Cumulative Impacts

The increase in boat traffic associated with implementation of the proposed Reuse Plan would contribute to cumulative adverse impacts on seagrass and coral reef ecosystems. The primary impacts would include increased scarring of seagrass beds, reduced productivity of seagrasses due to turbidity/sedimentation, and reduced productivity and functioning of the coral reef ecosystem from increased nutrients and turbidity. These impacts would result, not only from the increase in the number of boat trips, but also from increases in the average vessel size and draft and operation by greater numbers of less experienced boat operators. These cumulative impacts have been extensively documented and studied in the Florida Keys, particularly since the designation of the Florida Keys

National Marine Sanctuary in 1990, and are discussed comprehensively in the Final Management Plan/Environmental Impact Statement for the Florida Keys National Marine Sanctuary (NOAA 1996).

Seagrass scarring by motorized boats operating in shallow waters has had a significant cumulative effect on benthic communities in the Florida Keys, affecting more than 30,000 acres (12,000 ha) of seagrasses. Moderately and severely scarred seagrass beds have been identified at 50 locations surrounding Key West (i.e. Marguesas Keys to Snipe Key), including two sites adjacent to Key West Channel within 1.0 mile (1.6 km) of Truman Harbor (Sargent *et al.* 1995). Seagrass scarring is generally caused by inexperienced or careless boaters, as well as by boaters who intentionally leave marked channels to take shortcuts through shallow seagrass beds. Scarring is also caused by live-aboard boats anchored over shallow seagrass beds. Live-aboard boats were identified as a contributing cause of seagrass scarring at both sites in Key West Harbor. The problem has worsened due to an increasing residential population; the increasing popularity of boating, fishing, diving, and other water sports; and increasing tourism. Sargent *et al.* (1995) recommended a combination of management options (new or improved navigation markers, education, better enforcement, and restricted areas) to reduce future occurrences of scarring.

The degree to which the proposed action would contribute to these cumulative impacts to seagrasses and coral reefs is dependent on how much the proposed development would increase the cumulative number of boats and boat trips, as well as the types of boats (shallow vs. deep draft) and boaters (experienced vs. inexperienced) over the baseline conditions. Even if the additional marina space does not increase the total number of boats operating in the Key West area, the proposed marinas would likely shift the mooring locations of approximately 180 commercial and recreational boats to the west end of Key West and promote additional boat trips into Key West National Wildlife Refuge, where pristine marine resources are more prevalent than in other areas.

The proposed NOAA environmental education center, in combination with other existing facilities, publications, and programs that promote environmental conservation and protection (e.g. nature stores, glass-bottom boat tours, school programs), would result in a cumulative increase in residents' and visitors' awareness of detrimental effects of their actions and user stewardship of the marine environment. This increase in environmental awareness and change in behavior would have cumulative long-term benefits on marine resource conservation.

4.8 Threatened and Endangered Species

Direct Impacts

Based on available information, the USFWS concluded that the proposed action is not likely to affect federally-listed threatened and endangered species. Furthermore, no designated critical habitat is present in the vicinity of the project site or would be affected (Slack 1998).

Demolition of buildings 102, 103, and 104 would result in the loss of nesting habitat for the least tern and roseate tern. These structures are not designated as critical habitat, and as long as demolition was conducted during non-nesting periods, no permits or approvals would be required by the USFWS or Florida Game and Freshwater Fish Commission (FGFWFC; now Florida Fish and Wildlife Conservation Commission; Frank 1998, Cairns 1998). Buildings 112 and 113, which are also used by terns for nesting, would not be demolished. These two buildings, as well as five buildings on the portion of NAS Key West Truman Annex being retained by the Navy, would presumably provide sufficient nesting habitat for terns displaced by the demolition of buildings 102, 103, and 104.

The proposed action would not directly affect the West Indian manatee, sea turtles, or osprey.

Indirect Impacts

As discussed for water quality and marine resources, indirect impacts to threatened and endangered species could result from increased boat traffic generated by the proposed redevelopment of Truman Waterfront. Increased boat traffic could cause higher incidences of collisions with manatees and sea turtles. In addition, increased visitation by boaters to relatively isolated islands with sandy beaches and mangroves could lead to increased disturbance of osprey and sea turtle nesting habitats.

Cumulative Impacts

The direct and indirect effects of the proposed action, in combination with past, present, and reasonably foreseeable actions, would not result in any significant cumulative impact to threatened or endangered species.

The loss of least tern nesting habitat would not cause a significant cumulative impact on the least tern population. The accidental death of 25 least terns in 1998 at Truman Annex has not resulted in any decline in the average number of terns nesting each year since the 1998 incident. NAS Key West has modified their best management procedures to prevent the same type of accident from

reoccurring (requiring the use of fast drying mastic to prevent entrapment of terns landing on roofs that are being re-shingled).

It is anticipated that through the planning and permitting process for the proposed marinas, the concerns of the USFWS would be addressed to mitigate the potential adverse impact of boats from the Truman Waterfront marinas on nesting birds and sea turtles on wilderness islands in Key West National Wildlife Refuge (e.g. prohibiting boat rentals, use of educational signs and brochures). Thus, the proposed action would not have a significant cumulative effect on sea turtles or ospreys.

Mitigation Measures

FGFWFC recommended that recreational pavilions or other new or rehabilitated structures on the Truman Waterfront property be designed with rooftops to serve as suitable nesting habitat for least and roseate terns (Frank 1998).

4.9 Cultural Resources

Direct Impacts

In their report, Brockington and Associates, Inc., (1997) concluded that intact subsurface archeological deposits may be present within the Fort Taylor coverface area. Because the full extent and significance of these archeological deposits are not known, they recommended that Phase II testing be conducted prior to any subsurface activities in this area.

According to the proposed redevelopment plan, Fort Zachary Taylor would be restored and the existing state park enhanced to become a major site amenity and destination. The historical entrance to the Fort would be restored by demolishing two adjacent excessed Navy buildings (buildings 795 and 284) and relocating the ranger station to the northeast corner of the Fort (see Figure 2-1). A museum and administration office would be created near the new entrance by modifying Building 261. A portion of the coverface site east of the Fort would be designated an archeological preserve. The remainder of the coverface area would be subject to potential disturbance from construction of the proposed ranger station and parking lot; however, Phase II archeological investigations would be required and approval granted by the Florida State Historic Preservation Office (SHPO) prior to any subsurface disturbances.

Therefore, the proposed action would benefit the site's cultural resources by restoring and preserving them. Furthermore, by developing them as site attractions, the public would be educated about the military history of Key West.

Indirect Impacts

The proposed action would have negligible indirect impacts on cultural resources.

Cumulative Impacts

The proposed action would have negligible cumulative impacts on cultural resources.

4.10 Socioeconomics

4.10.1 Population and Demographics

Direct Impacts

A minor increase in both the temporary and permanent workforce population would occur as a result of the proposed action. This is due to limited in-migration of people that are anticipated to fill the service/tourist-related jobs that would be created. However, the overall population and demographics of the City of Key West are not anticipated to change substantially as a result of implementation of the Base Reuse Plan.

Indirect Impacts

The proposed action would have negligible indirect effects on the population and demographics of Key West.

Cumulative Impacts

The Navy's future use of the adjacent JTFF property (NAS Key West Truman Annex), south of the Truman Waterfront, includes completion of a multi-million dollar renovation of JTTF's existing facilities and plans to expand the JTTF mission areas on the site, including renovation of buildings and construction of additional facilities. This expansion would potentially result in an increase in permanent personnel stationed at Truman Annex. Also, additional Naval vessel port calls expected in Truman Harbor in the near future would cause an increase in temporary personnel accessing the JTTF compound through the Truman Waterfront. Due to increased ship usage of the Truman Waterfront and the associated Truman Annex property by Navy personnel, the Navy estimates that the peak daily number for current and future personnel utilizing their retained facilities could potentially reach over 4,000 (as compared to the current population of approximately 2,500). However, no substantial changes to the City's permanent population or demographics are anticipated as a result of the Navy's increased use of the adjacent property, and thus, no cumulative effect on population would occur.

4.10.2 Economy, Employment, and Income

Direct Impacts

Implementation of the Base Reuse Plan would have a positive and long-term impact on the economy, employment, and income of the region. No significant, adverse impacts are anticipated.

As a result of the combined direct, indirect, and induced economic impact from implementation of the Base Reuse Plan, it is estimated that approximately 1,500 jobs would be created, having combined earnings of $20 million. The majority of this job creation (1,153 jobs) would be related to the projected increase in passenger visitation at the Mole Pier for berthing of cruise ships (see Table 4-1), with the remaining jobs generated by increased non-cruise-ship-related activities, such as service and tourist jobs.

Table 4-1

ESTIMATED EMPLOYMENT AND EARNINGS RESULTING FROM INCREASED CRUISE SHIP PASSENGER VISITS TO KEY WEST

Key West Fiscal Year[1]	Passenger Visits[2]	Direct, Indirect and Induced Employment[3]	Total Annual Earnings[4]	Average Annual Earnings per Employee
95-96 (baseline[5])	393,345	747	$13,000,000	$17,400
96-97	564,370	1,072	$18,600,000	$17,400
97-98	625,775	1,189	$20,700,000	$17,400
98-99	633,428	1,204	$20,900,000	$17,400
99-00	693,560	1,318	$22,900,000	$17,400
00-01	693,560	1,318	$22,900,000	$17,400
00-02	1,000,000	1,900	$33,000,000	$17,400
Net difference of baseline year 95-96 and full implementation year 01-02	**606,655**	**1,153**	**$20,000,000**	**$17,400**

Sources: Cruise Ship Passenger Visitation Data: Hamlin, 1998, Archer, 2000. Employment/Earnings calculation factors: Key West Base Reuse Plan, page 107, October 1997.

Notes:
[1]City of Key West Fiscal Year, October-September.
[2]Cruise ship passenger disembarkations in Key West; 95-96 through 98-99; 99-00 estimated; 00-01 through 01-02 projected.
[3]Estimated employment calculated as 190 jobs per 100,000 passengers.
[4]Estimated earnings calculated as $17,391 per job.
[5]Base year. Rate of passenger visitation to Key West prior to City receiving license from Navy to receive cruise ships at Outer Mole.

Indirect Impacts

An adverse indirect impact that could occur as a result of increased employment though implementation of the Base Reuse Plan is the increased demand for additional affordable housing in Key West (see Section 4.10.3). It is anticipated that the unemployed segment of Key West/Monroe County could not be relied on to support the estimated labor requirements as stated in the Base Reuse Plan. Given the estimates within the Base Reuse Plan, many of the jobs created would be of relatively low wage (estimated $ 17,400 in annual earnings). If the jobs that would be created required workers to reside in Key West or in areas nearby, there is concern as to the housing that would be required. Generally, market rate housing would not meet the projected demand and additional affordable housing would be required. Creation of additional low wage jobs that must be filled by increasing the area's labor force cannot be accomplished without increasing the burden to the current projected affordable housing deficit.

Taxes and Revenues

No adverse impacts to the region's taxes and revenues are anticipated as a result of the Reuse Plan. Implementation of the Base Reuse Plan would result in increased revenues from cruise ship passenger disembarkation fees, property taxes, and sales taxes. This would generally result in enhancements to the fiscal health of the City of Key West and overall quality of services provided to the public.

Recreation

The proposed action would have a beneficial effect on recreation in Key West. As of 1997, Key West had 392 acres (157 ha) of parks and open space land or land otherwise suitable for recreational purposes. Based on the 1996 estimated population of 27,009, the City has approximately 14.5 acres (5.8 ha) of recreational space per 1,000 population (City of Key West 1997b). Because implementation of the Reuse Plan would create an additional 30 acres (12 ha) of open space, while increasing the population by a maximum of approximately 173 residents (69 dwelling units x 2.5 persons per dwelling), the concurrency requirement for recreational space would be satisfied.

4.10.3 Housing

Direct Impacts

Implementation of the Truman Waterfront Reuse Plan would potentially have an adverse or beneficial impact on the overall affordable housing situation in Key West. The actual impact would depend on a number of factors, including: (1) whether the City or a private developer owns and/or

develops the residential property; (2) the timing and number of jobs to be created; and (3) the timing of construction of the proposed housing units to be built on the Truman Waterfront property.

Under the Reuse Plan, up to 69 housing units would be created and all of these units would be designated as affordable if the City owns the proposed residential portion of the property in fee. However, if a developer controls the property targeted for housing, only one-third of the units (23) would be developed as affordable and the rest would be market rate.

Based on the number of low-paying jobs expected to be filled by new Key West residents (see sections 3.10.2 and 4.10.2), the additional demand for local affordable housing created by the proposed action would exceed the number of affordable housing units proposed under the Reuse Plan. However, the creation of these jobs would be dependent upon the timing of development of the proposed facilities and revenue-generating land uses.

Because of the limitation on building permits imposed by ROGO, the availability of building permits would likely determine when the proposed housing units could be constructed. Delays in construction of the proposed housing units in the near term would create an increased demand for affordable housing; however, as building permits become available, development of the proposed houses would reduce the shortage of affordable housing.

The shortage of affordable housing in Key West has been prevalent since the 1980's and is likely to persist into the future regardless of implementation of the Truman Waterfront Reuse Plan. The City's expensive housing market and limited housing supply pose serious problems for residents seeking affordable housing.

4.10.4 Environmental Justice

Pursuant to Executive Order Number 12898, of February 8, 1994, it is the Navy's policy to identify and address disproportionately high and averse human health and environmental effects of actions on minority and low-income populations.

The Truman Waterfront property is located adjacent to Key West's historic black community, Bahama Village. Bahama Village can be considered an environmental justice-sensitive community as it is predominantly (i.e. >50 %) comprised of minority and low-income populations.

Through this EA, the Navy analyzed the proposed Truman Waterfront Reuse Plan on the Bahama Village community for environmental justice impacts. Through this analysis, it was determined that implementation of the Truman Waterfront Reuse Plan may potentially result in both short- and long-term economic and social benefits to the Bahama Village community, as well as some potential adverse impacts associated with traffic congestion and gentrification. The Navy has

determined, however, that the overall benefits of the proposed plan to the Bahama Village community outweigh the minor adverse impacts.

Implementation of the Truman Waterfront Reuse Plan generally would encourage both economic development and quality of life opportunities for Bahama Village residents. Most notably, through the community's re-connection to the long cut-off Truman Waterfront property, access to prime waterfront and recreational land would be re-established. An overall theme stated in the plan is to remove the perceived boundary between the Bahama Village and the Truman Waterfront property and create a continuous transition between uses and neighborhoods.

The plan also stresses the potential spillover economic benefits to existing businesses and residents in Bahama Village that may be realized through implementation of the plan's programmed land uses on the waterfront. Through increased commercial/retail and tourist activities associated with the expanded use of the waterfront property, the plan asserts that jobs would be created in the community to meet the economic demand at the site and existing businesses would benefit as more citizens and tourists from surrounding areas are directed through Bahama Village. Additionally, other potential benefits to the Bahama Village community that may be realized as a result of the Reuse Plan include the establishment of a multi-use center providing social services (e.g. job training, community meeting and education programs, day care, church worship services) and economic development enterprises for Bahama Village and other Key West residents.

The Reuse Plan also seeks to meet a portion of Key West's demand for affordable housing by programming 69 housing units along the eastern edge of the property adjacent to Bahama Village.

In addition to the potential benefits of implementation of the Reuse Plan, a potential adverse impact that could occur on the Bahama Village community would be from increased traffic. The existing compact streets that characterize Bahama Village do not have the physical capacity to accept even moderate increases in traffic. With the waterfront opened up for more public access and activity, there would be a potential for increased traffic on the streets of Bahama Village that lead to the waterfront. Therefore, continued use of Southard Street for two-way access to the Truman Waterfront property would be key to alleviating the potential traffic impacts in Bahama Village. The 1998 Bahama Village Redevelopment Plan clearly stipulates that although all public and private transportation supporting the cruise ships would be directed along Petronia and Angela streets in Bahama Village, Southard Street should continue to give access to and from the Truman Waterfront property. Additionally, if Bahama Village is to capture the potential economic benefits that result from increased traffic through the commercial sectors of the community, adequate parking in the vicinity of the commercial areas would need to be provided.

In addition to traffic impacts that could occur in the Bahama Village community, there is also the potential for the Reuse Plan to cause housing gentrification and displacement of long-term businesses and residents. It has been observed in Bahama Village that as focused urban renewal and redevelopment efforts occur, market pressures have caused real estate prices to escalate beyond what residents of the neighborhood can typically afford (City of Key West 1997a). In some cases this may result in displacement of long-term Bahama Village residents and businesses. Implementation of the Reuse Plan, while benefiting some residents and businesses, may potentially result in similar gentrification and displacement impacts. As redevelopment of the Truman Waterfront property occurs, there is the indirect potential for real estate values to increase beyond the means of the average neighborhood residents.

In response to both the gentrification and urban decline issues, however, the Bahama Village Community Conch Trust is seeking to strike the balance between combating deteriorating urban conditions, ensuring that residents have access to quality, affordable housing, and preserving the historic, cultural, and spiritual nature of the community.

4.11 Land Use and Aesthetics

The potential land use effects of the Concept Base Reuse Plan were evaluated according to whether: (1) existing development constraints at the station would impede plan implementation; (2) the plan would result in on-site land use conflicts; (3) the plan would result in land use conflicts with existing or future land uses adjacent to the site; and (4) the plan could be implemented within the framework of regulatory constraints.

4.11.1 Development Constraint Analysis

On-site development constraints would not be a significant, adverse impediment to the proposed land use activity locations for the site. Potential constraints and issues considered in the evaluation include infrastructure and utilities, threatened or endangered species, and hazardous waste.

It has been determined by the Navy, in conjunction with EPA and FDEP, that land use restrictions prohibiting residential development will be required at two sites where environmental contamination may still exist at levels potentially unsafe for residential use. These sites are the Truman Annex DRMO Waste Storage Area and the Truman Annex Former Location of Building 136. Any development of these sites would require conformance with all applicable laws and regulations governing the disposal of any existing contaminated material prior to redevelopment (U.S. Navy 2000).

4.11.2 Land Use Consistency

No significant, adverse short-term or long-term internal or external land use conflicts would result from implementation of the Reuse Plan.

Internal Land Use Consistency

Although a contiguous parcel, the proposed pattern of land uses under the plan basically splits the site into two land use components: a waterfront development and a commercial village/park mixed use development (see Figure 2-1). The primary waterfront activities would include cruise ship berthing, a ferry terminal, professional and public marinas, open and recreational space, and non-cargo port-related activities. The commercial village/park development emphasizes the extension of Bahama Village into the Truman Waterfront property through the development of low intensity commercial retail, single-family and multiple-family dwellings, and community support structures.

Generally, proposed land uses along the waterfront would be compatible. Maritime land uses, characterized by large transport vessels and support infrastructure, would be confined to Pier 8 and the Mole Pier. These activities would be separated from recreational and educational activities along the south and east quay wall by non-cargo port-related land use activities. Potential land use activities for the non-cargo port area include light and medium industrial marine uses such as boat and skiff manufacture, customizing of boats, repair, dry dock, boat storage, rigging, chandlery, and other activities (City of Key West 1997a). Although the plan allows for a range of activities in the non-cargo area, development of the area at a light to moderate intensity would ensure compatibility with the recreational and educational centers to the east and the park area to the south.

The low intensity land use activities proposed for the commercial village/park development would be internally compatible and generally compatible with the waterfront development.

External Land Use Consistency

The Truman Waterfront Reuse Plan would be compatible with land uses adjacent to the Truman Waterfront. Non-intrusive recreational and open space lands would be adjacent to the Truman Annex planned unit development. The extension of the diverse character of Bahama Village into the boundaries of the site would present no external land use conflicts. The land uses and patterns of development proposed would be consistent with the Bahama Village character. At build-out, Bahama Village would extend along the northern boundary of the Navy's Truman Annex property. Although property uses would be different, no significant land use conflicts would be expected due to similar intensities of use.

The restoration of the entrance of Fort Zachary Taylor and the preservation of adjacent archeological sites would enhance land use compatibility between the Fort and site. The demolition of the buildings 795 and 284 would minimize the negative impact these structures currently have on the historic character of Fort Zachary Taylor.

4.11.3 Regulations and Plans

The Florida DCA has determined that the Chapter 288 Military Base Reuse Plan (Chapter 288 Plan; a refined version of the Base Reuse Plan) to be in compliance with Chapter 288, FS, Defense Conversion and Transition Act, and Chapter 380, FS, Development of Regional Impact. Through compliance with these statutes, the Chapter 288 Plan has been determined to be consistent the Florida Coastal Management Program; Chapter 380 FS, Area of Critical State Concern; and Chapter 163 Part II, Local Government Comprehensive Planning and Land Development. As such, the Chapter 288 Plan has provided the guidance for updating the City of Key West Comprehensive Plan and land development regulations. Therefore, implementation of the Chapter 288 Plan would not be constrained by any state or local regulatory requirements.

Bahama Village

Implementation of the proposed action would not be expected to result in a significant conflict with future planning for Bahama Village. The 1998 Bahama Village Redevelopment Plan recognizes through its goals, objectives, and policies, the long-term importance to the community of the Truman Waterfront site. The Bahama Village Redevelopment Plan was developed in consideration of the Base Reuse Plan and recommends and encourages actions that would integrate Bahama Village physically and economically into the Truman Waterfront site.

The Bahama Village Redevelopment Plan, as well as the Chapter 288 Plan, recognizes the importance of Southard Street to provide two-way access to the land use activities proposed for the Truman Waterfront property. However, unlike the Bahama Village Redevelopment Plan, the Chapter 288 plan does not recognize the directional distribution of roadway within Bahama Village to provide access to the land use activities of the Truman Waterfront Property. Nor does the Chapter 288 Plan recognize the Bahama Village Redevelopment Plan's expectation that all public and private transportation supporting the cruise ships docking at the Mole Pier would use Petronia and Angela streets through Bahama Village.

4.11.4 Aesthetics

Redevelopment of property, as proposed by the Reuse Plan, would generally enhance the aesthetic features of the site and provide a beneficial aesthetic impact to adjacent residential areas. The abandoned character of the site would be replaced by a system of recreational and open spaces connected by greenway belts, providing a measure of cohesion. The lack of conformity between the location and purpose of existing streets, building locations, and grassy areas would be replaced as building locations, street patterns, and opens space are designed so that each element services a specific need in the redevelopment of the site.

The proposed demolition of buildings 795 and 284 would help restore the aesthetic integrity of Fort Zachary Taylor; however, this aesthetic enhancement is limited by the continued presence of Building 261, which would remain to be modified to house a museum, artifact storage and an office. Even if the exterior of the tin fabricated building would be modified, the proximity of the building to the wall of the Fort would continue to be intrusive.

Cumulative Impacts

No significant, adverse cumulative impact would occur to land use from implementation of the Truman Waterfront Reuse Plan. The area surrounding the site is essentially built-out, and with no land use conflicts anticipated as a result of plan implementation, no future land use conflicts are foreseeable.

Other land use activities and plans in Key West, such as residential development along north and south Roosevelt streets, disposal and reuse of other Navy properties, and the Bahama Village Redevelopment Plan would not result in such a limited category of development that the combined actions would be detrimental to serving the City's land use needs.

Mitigation Measures

Because no significant, adverse land use conflicts would occur under implementation of the Reuse Plan, no mitigation measures would be necessary. However, the LRA should develop a strategy for plan implementation that is consistent with the Base Reuse Plan as amended to the Key West Comprehensive Plan and approved in accordance with Chapter 288. Once the property is transferred to the receiving entity(s) as adopted, land use deviation from the original plan would be subject to Chapter 163 and review under the requirements of the ACSC. The required review process for a plan deviation would impede the redevelopment process.

4.12 Transportation

4.12.1 Traffic Generation

Trip generation rates were determined using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 6th Edition (1998). Trip ends (i.e., vehicular trips entering or exiting the site) were estimated for maximum and minimum build-out scenarios in order to capture the probable range of vehicular trips that would occur at the site as a result of the proposed action.

Determination of the number of net new trip ends that would be generated from redevelopment of the Truman Waterfront property requires three steps:

Step 1. The first step is to calculate the gross number of trip ends for the activities expected to occur under the proposed action using trip generation rates or equations provided in the ITE Manual. Using the ITE Manual, the expected maximum number of gross trips ends would be 15,176 daily and 1,391 during the PM peak-hour (Table 4-2; Chapter 288 Plan). The minimum number of trip ends would be 9,355 daily and 767 during the PM peak-hour (Table 4-3; Kimball 2000).

Step 2. The second step is to avoid the double-counting of trips ends by taking into consideration trip ends being generated by current land use activities (e.g. NOAA building) at the site. To avoid double-counting, gross trip ends calculated above were reduced by a factor equal to the number of existing trips. Based on this reduction, the maximum number of new trip ends would be 11,902 daily and 1,093 during the PM peak-hour. The minimum number of trip ends would be 6,082 daily and 469 during the PM peak-hour trip ends.

Step 3. The third step is to apply trip end reduction factors. The ITE Manual notes that trip ends should be adjusted to reflect alternative modes of transportation. Because modes of transportation other than the automobile represent a large percentage of travel in Key West (see Section 3.12.3), reduction factors of 40 % for tourist and 16 % for residential-based trips were applied to the daily trips and PM peak-hour trips calculated using the ITE manual. After application of the trip reduction factors, the maximum number trip ends would be 8,143 daily and 789 during the PM peak-hour. The minimum amount of trips would be 4,187 daily and 324 during the PM peak-hour trip ends.

The ITE Manual provides entering and exiting percentage factors for traffic by land use activities. Daily trip ends are split with 50 % of the trips entering and 50 % exiting the site in a 24-hour period. Therefore, it is expected that between 2,093 and 4,071 vehicular trips would enter the site during an average 24-hour period and the same number of trips would exit the site. During the PM peak-hour, the percentage of entering and exiting trips is dependent upon the type of land use activity generating the trips. It is expected that under the maximum development scenario 242 trips would enter the site and 547 trips would exit the site during the PM peak-hour. Under the minimum development scenario, it is expected that 122 trip would enter and 202 trips would exit the site.

Table 4-2

MAXIMUM NUMBER OF DAILY AND PM PEAK-HOUR TRIP ENDS
BASED ON PROPOSED REDEVELOPMENT OF THE TRUMAN WATERFRONT PROPERTY

Zoning/ Future Land Use	Land Use	ITE Code	Size	Gross Daily Trips	Gross PM Peak -Hour Trips	New Trips Ends		Percent Other Mode	Net Trip Ends	
						Daily	PM Peak-Hour		Daily	PM Peak-Hour
HNC-2	Dwelling Units	220	24	278	31	278	31	16	233	27
	Office	710	29,079 ft^2	514	112	514	112	16	432	94
	Retail	814	58,158 ft^2	2,365	151	2365	151	40	1,419	90
	Social/Economic Services	730	25,000 ft^2	1,723	157	1723	157	40	1,034	94
HCL	Dwelling Units	220	13	212	26	212	26	16	178	22
	Retail	814	20,950 ft^2	852	54	852	54	40	511	33
	Office	710	15,712 ft^2	320	97	320	97	16	269	81
HPS	Dwelling Units	220	32	326	36	326	36	16	274	30
	Park	412	24.8 ac	57	1	57	1	40	34	1
	NOAA/Education Center	730	25,000 ft^2	1,723	157	(a)	(a)	40	(a)	(a)
	National Park Service	418	5.7 ac	31	2	31	2	40	18	1
	Marina	420	150 Slips	694	29	694	29	16	583	24
HRCC-4	Industrial/Office	110	66,382 ft^2	394	65	394	65	16	331	55
	Office	710	66,382 ft^2	969	154	969	154	16	814	129
	Retail	814	66,382 ft^2	2,700	172	2,700	172	40	1,620	103
	Ferry Terminal	730	20,000 ft^2	1,379	125	(a)	(a)	40	(a)	(a)
	Cruise Ship Berth	010	1 berth	172	16	(a)	(a)	40	(a)	(a)
	Professional Marina	420	30 slips	468	6	468	6	16	393	5
			Totals	15,176	1,391	11,902	1093		8,143	789

Source: Chapter 288 Plan (City of Key West 1999).

Notes: Land use size numbers are from the Key West Chapter 288 Military Base Reuse Plan.
Trip ends calculated using ITE Trip Generation Manual, 6th Edition (see text).

Key: (a) – New trips would not be generated from this land use activity, because the activity is existing.
ac = Acres
ft^2 = Square feet
ITE = Institute of Transportation Engineers

Table 4-3

MINIMUM NUMBER OF DAILY AND PM PEAK-HOUR TRIP ENDS
TRUMAN WATERFRONT PROPERTY

Zoning/Future Land Use	Land Use	ITE Code	Size	Gross Daily Trips	Gross PM Peak - Hour Trips	New Trips Ends		Percent Other Mode	Net Trip Ends	
						Daily	PM Peak-Hour		Daily	PM Peak-Hour
HNC-2	Dwelling Units	220	10	194	24	194	24	16	163	20
	Office	710	0	0	0	0	0	16	0	0
	Retail	814	14,000 ft^2	569	36	569	36	40	342	22
	Social/Economic Services	730	25,000 ft^2	1,723	157	1,723	157	40	1,034	94
HCL	Dwelling Units	220	13	212	26	212	26	16	178	22
	Retail	814	20,950 ft^2	852	54	852	54	40	511	33
	Office	710	0	0	0	0	0	16	0	0
HPS	Dwelling Units	220	32	326	36	326	36	16	274	30
	Park	412	24.8 ac	57	1	57	1	40	34	1
	NOAA/Education Center	730	25,000 ft^2	1,723	157	(a)	(a)	40	(a)	(a)
	National Park Service	418	5.7 ac	31	2	31	2	40	18	1
	Marina	420	150 slips	694	29	694	29	16	583	24
HRCC-4	Industrial/Office	110	60,000 ft^2	346	59	346	59	16	291	49
	Office	710	0	0	0	0	0	16	0	0
	Retail	814	15,000 ft^2	610	39	610	39	40	366	23
	Ferry Terminal	730	20,000 ft^2	1,379	125	(a)	(a)	40	(a)	(a)
	Cruise Ship Berth	010	1 berth	172	16	(a)	(a)	40	(a)	(a)
	Professional Marina	420	30 slips	468	6	468	6	16	393	5
			Totals	9,355	767	6,082	469		4,178	324

Source: Chapter 288 Plan, (City of Key West 1999); land use size numbers were provided by The Curtis & Kimball Company (Kimball 2000).
Note: Trip ends calculated using ITE Trip Generation Manual, 6th Edition (see text).
Key: (a) – New trips would not be generated from this land use activity, because the activity is existing.
ac = Acres
ft^2 = Square feet
ITE = Institute of Transportation Engineers

4.12.2 Trip Distribution

Regional Roadways

The Key West Chapter 288 Military Base Reuse Plan establishes trip distribution percentages for roadways based on existing PM peak-hour turning movement counts and existing daily traffic on the streets adjacent to the Truman Waterfront area. The percentages were used to distribute trip ends to roadways in the project impact area. In the Chapter 288 Plan, a contingency factor of 10 % was added to the net number of trips show in Table 4-2 to allow for modifications to the maximum build-out scenario without requiring the need for additional transportation analysis. Consistent with this methodology, a contingency factor of 10 % was applied to the number of trips that would be expected under the minimum build-out scenario. The expected maximum and minimum numbers of new daily and PM peak-hour trips as a result of the proposed action for functionally classified roadways are shown in Table 4-3. Nearly all roadway segments listed in Table 4-4 are already operating at a LOS below what the City adopted as part of their Comprehensive Plan. Implementation of the proposed action would contribute additional traffic to roadways already adversely affected by existing traffic.

Table 4-4

INCREASE IN DAILY AND PM PEAK-HOUR TRIP ENDS FOR FUNCTIONALLY CLASSIFIED ROADWAYS IN KEY WEST

Roadway [d]	Roadway Segment	Maximum Number of New Daily and PM Peak-Hour Trip Ends [b]		Minimum Number of New Daily and PM Peak-Hour Trip Ends [c]	
		PM Peak-Hour	Daily Trips	PM Peak-Hour	Daily Trips
Truman Avenue	Eisenhower to White Street [d]	190	1790	76	918
	White Street to Simonton	246	2327	98	1195
	Simonton to Duval	388	3135	131	1608
	Duval to Whitehead	469	4388	185	2252
Eaton Street	White to Simonton [d]	211	2417	90	1241
	Simonton to Duval [d]	285	3224	121	1654
	Duval to Whitehead [d]	248	2597	102	1332
Palm Street	North Roosevelt to White [d]	113	1342	49	690
Duval Street	Eaton to Southard [d]	37	626	19	321
	Southard to Truman [d]	45	761	23	391
	Truman to United [d]	79	760	31	390

Table 4-4

INCREASE IN DAILY AND PM PEAK-HOUR TRIP ENDS
FOR FUNCTIONALLY CLASSIFIED ROADWAYS IN KEY WEST

Roadway [d]	Roadway Segment	Maximum Number of New Daily and PM Peak-Hour Trip Ends [b]		Minimum Number of New Daily and PM Peak-Hour Trip Ends [c]	
		PM Peak-Hour	Daily Trips	PM Peak-Hour	Daily Trips
Whitehead	Eaton to Southard [d]	340	3583	140	1838
	Southard to Truman [d]	187	1388	69	712

a The distribution percentages of the Chapter 288 Plan (City of Key West 1999) were established for the PM peak-hour. These distribution percentages were also used to distribute daily trips.
b Distribution percentages were applied to the net daily and PM peak-hour trips reported in Table 4-2. Prior to trip distribution, a 10% contingency factor was added to the net trips.
c Distribution percentages were applied to the net daily and PM peak-hour trips reported in Table 4-3. Prior to trip distribution, a 10% contingency factor was added to the net trips.
d Functional roadways already operating below the adopted LOS during the PM peak-hour.

Local Roadways

In the Chapter 288 Plan, it is estimate that 56% of the PM peak-hour trips would enter the site via Southard Street and 44% would enter the site via Petronia Street in Bahama Village. Similarly, it is estimated that 69% of the PM peak-hour trips would exit the site from Southard Street and 31% of the trips would exit through Bahama Village at the southern end of the site. In distributing trips to the roadways in Bahama Village, as well as to Southard Street, this analysis recognizes that 56% and 69% of the entering and exiting trips, respectively, would use Southard Street and that 44% and 31% of the entering and exiting trips, respectively, would use the streets of Bahama Village. Trip distribution to the local roadway was, in part, based on existing traffic use of roadways determined as a result of the June 2000 traffic survey, as well as proposed access points for the Truman Waterfront property (see Section 3.12.2). Table 4-5 shows existing trips and projected trips (existing plus new) to non-functionally classified roadways adjacent to the Truman Waterfront property. As shown in Table 4-5, Southard Street would be expected to experience the greatest increase in traffic volumes. Daily trips would be expected to increase by 106% to 207%, while PM peak-hour trips would be expected to increase by 113% to 281%. Daily traffic on roadways within Bahama Village would be expected to increase anywhere from 41% to 89%. The PM peak-hour traffic would be expected to increase anywhere from 26% to 79%. Figure 4-1 and Figure 4-2 show new daily and PM peak-hour trips, respectively, distributed to local roadway adjacent to the Truman Waterfront property.

Table 4-5

DAILY AND PM PEAK-HOUR TRIP ENDS FOR NON-FUNCTIONALLY CLASSIFIED ROADWAYS ADJACENT TO THE TRUMAN WATERFRONT PROPERTY, KEY WEST

Roadway	Roadway Segment	Existing		Maximum Trips				Minimum Trips			
		Daily Trips[a]	PM Peak-hour	Estimated New Trips[b]		Total Trips (existing plus new)		Estimated New Trips[b]		Total Trips (existing plus new)	
				Daily Trips	PM Peak-hour	Daily Trips (%)	PM Peak-hour (%)	Daily Trips	PM Peak-hour	Daily Trips (%)	PM Peak-hour (%)
Southard Street	Whitehead to Thomas	2702	201	5598	564	8300 (207%)	765 (281%)	2873	228	5575 (106%)	429 (113%)
	Thomas to Front	c	c	5598	564	8,300	765	2873	228	5575	429
Angela Street	Whitehead to Thomas	1171	124	1030	98	2201 (88%)	222 (79%)	529	40	1700 (45%)	164 (32%)
	Thomas to Emma	c	c	1030	98	na	na	529	40	na	na
Petronia Street (westbound)	Whitehead to Thomas	703	74	627	37	1330 (89%)	111 (50%)	321	19	1024 (46%)	93 (26%)
	Thomas to Fort	c	c	1075	64	na	na	551	32	na	na
Olivia Street (eastbound)	Whitehead to Thomas	618	48	493	29	1111 (79%)	77 (60%)	252	24	870 (41%)	72 (50%)
	Thomas to Fort	c	c	671	40	na	na	344	33	na	na
Truman	Whitehead to Thomas	1320	141	1164	99	2484 (88%)	240 (70%)	598	43	1918 (45%)	184 (30%)
	Thomas to Fort	c	c	537	49	na	na	276	20	na	na

Na – not applicable

(%) – percent increase in traffic from existing condition.

a Daily trips were estimated by increase the June 2000 counts by 20%.

b Include entering and exiting trips.

c It is expected that the north-south streets of Bahama Village would also experience an increase in the amount of vehicular traffic. However, it is expected that the volume increases would not as significant as they are for the east-west roads.

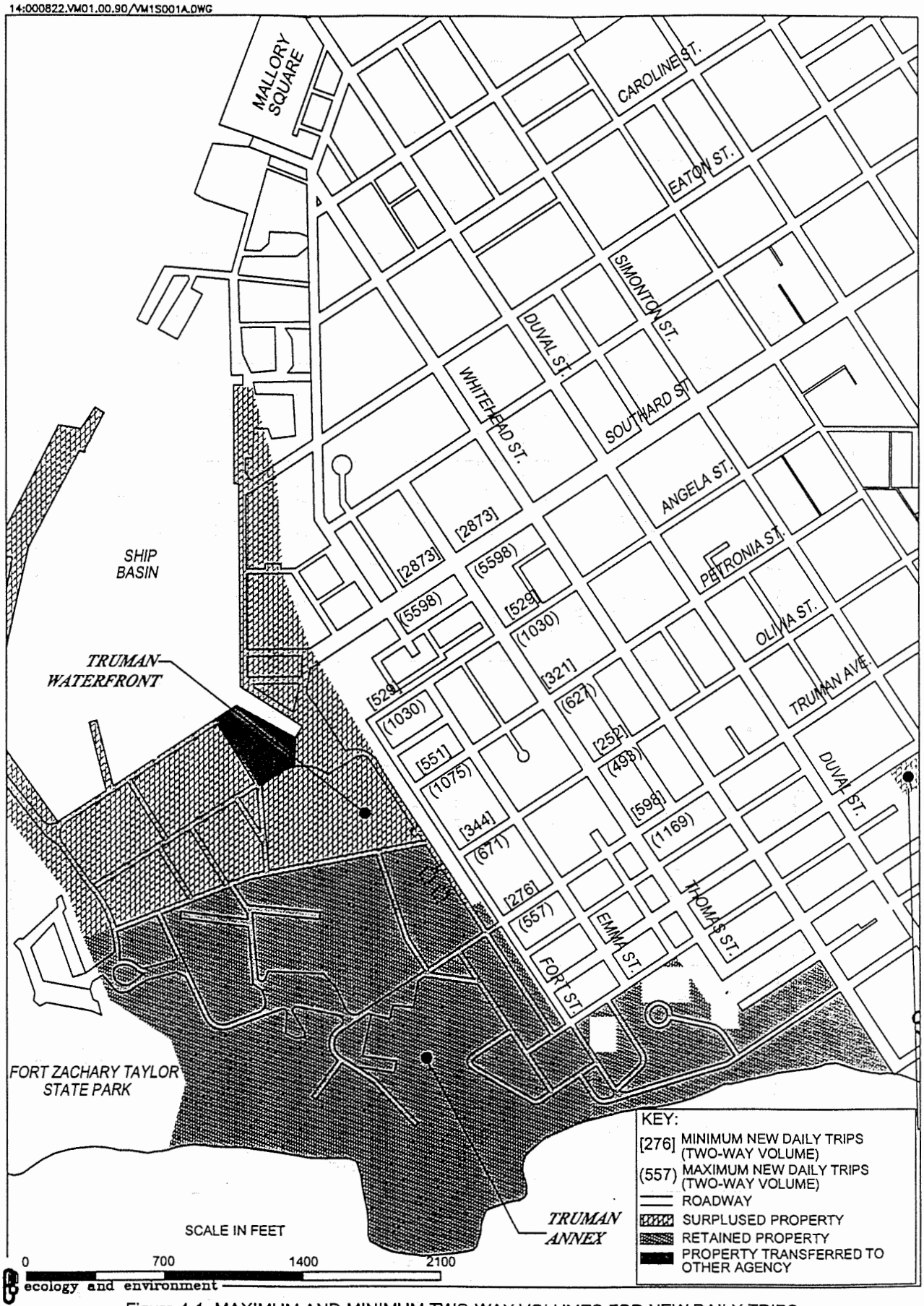

Figure 4-1 MAXIMUM AND MINIMUM TWO-WAY VOLUMES FOR NEW DAILY TRIPS FOR ROADWAY ADJACENT TO THE TRUMAN WATERFRONT PROPERTY NAS KEY WEST, FLORIDA

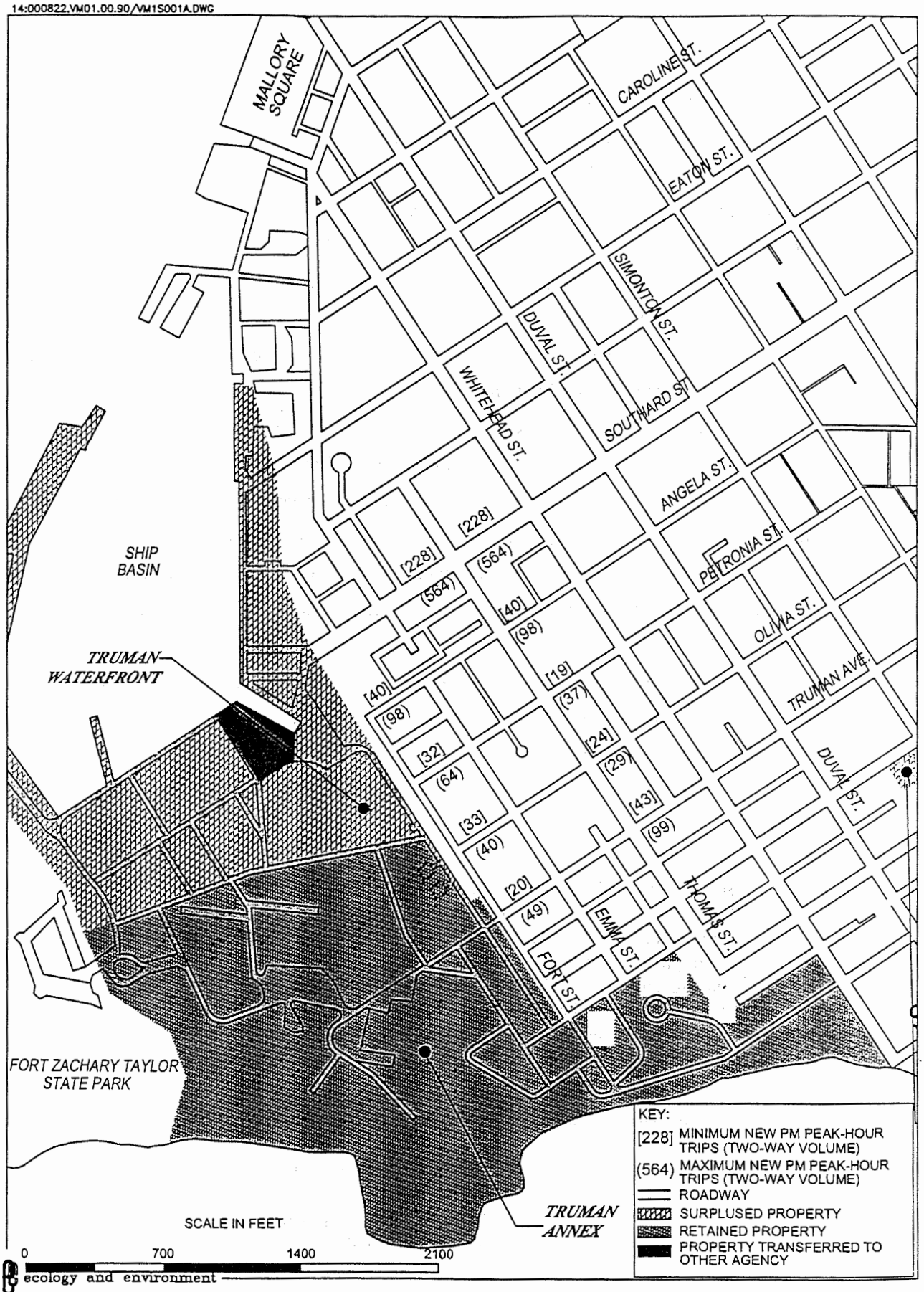

Figure 4-2 MAXIMUM AND MINIMUM NEW TWO-WAY VOLUME FOR PM PEAK-HOUR TRIPS FOR ROADWAY ADJACENT TO THE TRUMAN WATERFRONT PROPERTY NAS KEY WEST, FLORIDA

As noted in Section 3, the survey location from which baseline traffic data were collected was considered to represent an average amount of existing traffic traversing the roadways listed in Table 4-5. It is expected that if traffic counts were collected from a point much closer to the Truman Waterfront property, the baseline numbers of trips would have been noticeably lower. Therefore, it is expected that for the areas closer to the Truman Waterfront property, the percentage increases in traffic by roadway would be higher than those reported in Table 4-5.

Similar to the expected impact to functionally classified roadways of Key West, it is expected that implementation of the proposed action would decrease the operating LOS for the roadways identified in Table 4-5 and increase roadway travel time. However, for these local roadways, LOSs have not been established by the City to help understand and evaluate the overall impact to the operating conditions on the roads. Because there are limited options and opportunities for increasing roadway capacity in Key West (e.g. building new streets, adding additional lanes), and trip distance is relatively short, it is believed that drivers do not have high expectation (not desire) for acceptable operating LOSs (LOS D or higher). Therefore, a determination of significance impact using LOS is not discussed further in this EA. However, a qualitative evaluation, based on quantitative data, was conducted to determine the potential indirect impacts that additional traffic would have on those areas adjacent to the Truman Waterfront property. Adjacent areas are considered those areas adjacent to or in proximity to the streets listed in tables 4-4 and 4-5. The evaluation focused on indirect effects of additional traffic that may potentially impact the residents or the character of the community: air, noise, safety, and aesthetic impacts.

When evaluating the significance of the indirect impacts the following conditions were considered:

- Southard Street is a privately owned roadway (U.S. Navy Quitclaim Deed 1987; the Navy retained rights of ingress and egress) which runs through the Truman Annex planned unit development. The Truman Annex Development is a 46-acre (18.4-ha) development of primarily high-end, single-family, attached homes with some transient housing, and historic sites. Southard Street is approximately 24 feet (7.3 meters) wide and constructed of brick. The Truman Annex has a guardhouse situated in the middle of the Southard Street. The posted speed limit is 15 miles (24 km) per hour (and there are pedestrian crossings.

- Bahama Village is a 22-block area east of the site characterized by dense residential development, including single-family homes, blocks of multi-family homes, and public housing. Bahama Village can be considered an environmental justice sensitive community, as it is predominantly (i.e. >50 %) comprised of minority and low-income populations. In Bahama Village, on-street parking is generally permitted; and where permitted, automobiles often straddle the roadway and sidewalk because of the lack of available space for complete on-street or off-street parking. The roadways of Bahama

Village have various right-of-way and pavement widths. North-south roadways generally have a 50-foot (81-meter) right-of-way width with an average pavement width of 24 to 32 feet (39 to 52 meters). Major east-west roadways generally have a 30-foot (48-meter) right-of-way width with pavement widths of 14 feet (23 meters; see Figure 4-3). Most east-west roads dead-end into Fort Street.

Factors to be considered that would impact the quality of life for residents of Bahama Village and Truman Annex Development:

- On Southard Street, daily trips would be expected to increase by 106% to 207% while PM peak-hour trips would be expected to increase by 113% to 281%. Daily traffic on roadways within Bahama Village would be expected to increase anywhere from 41% to 89%. PM peak-hour traffic would be expected to increase anywhere from 26% to 79%.

- As shown in Table 4-6, on Southard Street, emissions of VOCs would increase by 1.24 to 2.39 tons (1.13 to 2.17 tonnes) per year; nitrogen oxide (NOx) emission would increase by 1.21 to 2.36 tons (1.1 to 2.14 tonnes) per year; and daily traffic noise levels would increase by 3.15 to 4.87 decibels ("A" weighted; dBA).

- As shown in Table 4-6, on the streets of Bahama Village, emissions of VOCs would increase by 0.11 to 0.57 tons (0.1 to 0.52 tonnes) per year; NOx emission would increase by 0.11 to 0.56 tons (0.1 to 0.51 tonnes) per year; and daily traffic noise levels would increase by 1.48 to 2.77 dBA.

- As discussed in Section 3.4.3, other modes of travel are an important component in the movement of people in Bahama Village and along Southard Street. As the number of vehicular trips increase, the potential for conflicts between vehicular traffic and other modes of travel increase. Approximately 1,690 movements by other modes were recorded on Southard Street; on the residential streets of Bahama Village between 500 and 600 movements by other modes were recorded within a 12-hour period.

Although additional traffic through the streets of Bahama Village and on Southard Street may be considered by some residents as a source of interest, the aesthetic contribution of additional traffic would be expected to be largely negative.

The 1995 Bahama Village Redevelopment Plan includes four goals for the neighborhood:

1. Maintain Bahama Village as a residential community for the existing residents;

2. Improve the quality of life for Bahama Village residents;

3. Improve the economic well being of the existing residents; and

4. Preserve and build on the unique physical features of the Bahama Village community and thus insure the survival of the diversity of community features including view; landmarks; open space; residential character; and commercial space with land uses that promote the health, safety, and welfare of the community.

Facing East on Truman Avenue from West of Whitehead Street

Facing East on Petronia Street at Intersection with Fort Street

SOURCE: Ecology and Environment, Inc. 2000

Figure 4-3 CURRENT ROADWAY CONDITIONS, BAHAMA VILLAGE, KEY WEST, FLORIDA

Table 4-6

EMISSION AND TRAFFIC NOISE INCREASES FOR MAXIMUM AND MINIMUM DAILY TRIP ENDS ALONG NON-FUNCTIONALLY CLASSIFIED ROADWAYS, KEY WEST

Roadway	Estimated POV Annual Vehicular Miles and Emission Levels (tons/year)[a]				Traffic Noise [b, c] dBA	
	Maximum		Minimum		Maximum	Minimum
	VOCs	NO_x	VOCs	NO_x		
Southard Street	2.39	2.36	1.24	1.21	4.87	3.15
Angela Street	0.45	0.44	0.23	0.22	2.74	1.62
Petronia Street	0.27	0.26	0.14	0.13	2.77	1.63
Olivia Street	0.27	0.26	0.11	0.11	2.55	1.48
Truman Avenue	0.57	0.56	0.26	0.25	2.75	1.62

Key:

dBA = decibels (A-weighted)
NO_x = nitrogren oxides
POV = privately owned vehicle
VOC = volatile organic compound

a Assumes a one-mile trip over the local roadway and 365 trip days per year. Emission standards used were: 1.076 grams/mile of VOCs and 1.048 grams/mile of NOx. Sources: United States Environmental Protection Agency (EPA), 1985, *Compilation of Air Pollutant Emission Factors*, Volume II: Mobile Sources including Supplement A issued January 1991 and EPA, 1995, AP-42 *Compilation of Air Pollution Emission Factors,* Volume II: Mobile sources, Appendix H, Table 1.1.1B *Exhaust Emission Rates for Low Altitude Light Duty Gasoline Powered Vehicles at Various mileage Levels (Adjusted for Industry Average Fuel. Rates Include Tampering).*

b The increase in traffic noise was determined using the following formula: Factor of Increased Traffic = {(Projected Increase) + (Existing Traffic Volume)}/Existing Traffic. Volume Increase in Noise Level (dBA) = 10 Log (Factor in Increased Traffic).

c When examining the results of dBA increases, it is helpful to employ the following:

- Sound heard by the human ear is measured in units of decibels in the "A" weighted scale, expressed dBA.
- Decibels are logarithmic units and therefore cannot be added by ordinary arithmetic means
- Doubling the sound energy (or source) results in a 3-dBA increase of noise levels. (Example: The difference between 10 vehicles and an addition of 10 similar vehicles results in a 3-dBA increase in noise levels.)
- Based upon the logarithmic scale, a doubling of the actual noise level is represented by an increase of 10 dBA.
- In reality, a 3-dBA difference in noise levels is only moderately detectable by the human ear.

As noted in Section 4.10.3, the proposed action is expected to provide economic opportunities for the residents of Bahama Village, while improving upon some of the unique physical features of the Village. In this respect, the proposed action would help attain certain goals established by the Bahama Village Redevelopment Plan. However, implementation of the Truman Waterfront Reuse Plan would also have other impacts that are contrary to other goals of the Bahama Village

Redevelopment Plan. Essentially, the benefits of the Reuse Plan would come at a cost in loss of community character and indirect impacts expected from the increase in traffic. The significance of the cost verses the benefits of the proposed action for the residents of Bahama Village is subjective, and is based on each individual's perception and value for a certain quality of life and community character.

Other Modes of Travel

No significant, adverse impact to other modes of travel would be expected as a result of the proposed action. It is expected that other modes of travel (e.g. mass transit, walk, bicycle, moped) would increase as the roadways become more congested and additional pedestrian and bicycle/skating paths are constructed. As all modes of travel increase, there is a greater potential for conflict.

Cumulative Impacts

The cumulative effects of the proposed action would contribute to an adverse impact to the operating conditions to the functionally classified roadways in Key West. As discussed in Section 3.12.2 and 4.12.2, most of the functionally classified roadways in the City of Key West impacted by the proposed action are already operating at LOSs below those adopted as part of the City's Comprehensive Plan. The poor operating condition of the roadways can be attributed to past development in Key West. Although implementation of the proposed action would contribute additional traffic to already adversely affected roadways, the cumulative impact would not be expected to be significant. In addition, full-utilization by the Navy of facilities at NAS Key West Truman Annex, when combined with past and present actions, would not be expected to result in a significant, adverse impact to the functionally classified roadways in Key West.

The cumulative effect of the proposed action would contribute to a direct adverse impact to the operating conditions on impacted local roadways adjacent to the Truman Waterfront property. In addition, traffic generated by the proposed action is expected to contribute to an adverse, indirect impact to the character of the communities adjacent to the impacted local roadways. As discussed in Section 4.12.2, the significance of the indirect impact is subjective and based on each individual's perception and value for a certain quality of life and community character. Reasonably foreseeable future actions in the vicinity of the proposed action site would not contribute to a significant, adverse cumulative impact to the operating conditions on the local roadways or the character of the community.

The proposed action would not contribute to a significant, adverse cumulative impact to other modes of travel.

Mitigation Measures

It is not anticipated that the proposed action would require the implementation of mitigation measures.

4.13 Public Utilities

Although implementation of the Base Reuse Plan is expected to occur over a 10- to 15-year period, the impacts to infrastructure and utilities service were evaluated under present conditions for the following reasons. First, the 10- to 15-year timeframe is only a projection and activities may occur sooner. Secondly, there are no foreseeable infrastructure capacity building improvements that would have a significant impact on this evaluation. Finally, it is believed that evaluating the impacts to existing conditions may identify future infrastructure needs.

The proposed action would not result in significant adverse impacts on existing infrastructure systems. The additional demands on utilities generated by the proposed redevelopment would be within the existing or planned capacities of all of these systems. The effects of the proposed redevelopment on each utility system is discussed in the following subsections.

Potable Water

Implementation of the proposed action would increase water consumption on the property and necessitate the extension of potable water lines to the newly constructed buildings. Implementation would not have a significant, adverse, short-term or long-term impact on FKAA's potable water system (Watson 1998).

Based on the potable water LOS standard for residential and non-residential land uses presented in Section 3-9.8 of the City's LDRs, water use for the land use components of the plan was calculated. Based on a projected occupancy of 162 people (69 units X 2.34 persons/unit) at the Truman Waterfront site, and a 93-gallon/capita/day (gcd; 352 liters/capita/day [lcd]) LOS standard, water use by residents would be approximately 15,066 gpd (57,025 lpd).

The LOS standard in the City's LDRs for non-residential land uses is 650 gal/acre/day (984 liter/hectare/day). It was estimated that approximately 32 acres (12.8 ha) of land would be used for non-residential activities; therefore, approximately 20,800 gpd (78,728 lpd) of potable water would be used for non-residential-related activities.

Based on the proposed residential and non-residential land uses, total water consumption would be approximately 35,866 gpd (137,146 lpd) or 0.036 mgd (0.137 mld). Although capacity for average and maximum daily withdrawal rates based on the FKAA's existing consumptive use permit is currently being exceeded (see Table 3-9), FKAA expects to have approval soon from the SFWMD

to increase the permitted average and maximum daily well field withdrawal to 21.4 mgd (81 mld)and 26.0 mgd (98.4 mld), respectively. Additionally, FKAA is planning an approximately 5-year capacity expansion program to upgrade water treatment plant capacity to 30 mgd (113.6 mld). This will be accomplished through a series of system upgrades. It is anticipated that these future capacity increases would create the capacity to support the phased development of Truman Waterfront and meet concurrency requirements.

Sanitary Sewer

Implementation of the proposed action would increase the demand for sewage conveyance and disposal and necessitate the extension of sanitary sewer lines to the newly constructed buildings; however, this action would not have a significant, adverse, short-term or long-term impact on the City's wastewater conveyance and treatment system (Fernandez 1998).

Based on the sanitary sewer LOS standard for residential and non-residential land uses presented in Section 3-9.8 of the City's LDRs, wastewater generated by the land use components of the plan was calculated. Based on a projected occupancy of 162 people and a 100 gcd (378.5 lcd) LOS standard, wastewater generated by residents would be 16,200 gpd (61,317 lpd).

The LOS standard for non-residential land uses in the City's LDRs is 660 gal/acre/day (999 liters/hectares/day). It was estimated that approximately 32 acres (12.8 ha) of land would be used for non-residential land uses; therefore, approximately 21,120 gpd (79,939 lpd) of wastewater would be generated from non-residential land use activities.

Based on residential and non-residential land uses, total wastewater generated would be approximately 0.037 mgd (0.140 mld). Minimum available capacity upon completion of system rehabilitation would be 1.03 mgd (3.90 mld). Therefore, in the long-term, no adverse impact to the system would occur.

In the short-term, redevelopment of the Truman Waterfront site would increase wastewater flow to the treatment plant, which is already in excess of the limit permitted by FDEP. However, the physical capacity of the treatment plant would not be exceeded. The City's current effort to rehabilitate the wastewater conveyance system and eliminate inflow problems would be expected to result in a wastewater flow to the treatment plant within the limit permitted by FDEP.

The Truman Waterfront property is within Sanitary Sewer District "A," and conveyance of wastewater to the treatment plant would be through lift station A. Lift station "A" has sufficient capacity to handle wastewater generated under the Reuse Plan as this lift station previously conveyed all wastewater on the island to the wastewater treatment plant (Fernandez 1998). Wet well salinity readings at the District "A" lift station have historically been the highest in Key West. However,

since sanitary sewer rehabilitation efforts began in the District, salt water as a percentage of flow through the lift station has decreased from 53 % in January 1997 to 36 % through February 1998 (Fernandez 1998).

Because wastewater effluent from the treatment plant is currently at or near the State Advance Wastewater Treatment standards (Fernandez 1998), and most wastewater to be generated at the site would be from non-industrial sources (e.g. retail and domestic use), degradation of wastewater effluent from the wastewater treatment plant would not be expected.

Stormwater

No significant, adverse, short-term or long-term impact to stormwater management systems would be expected from implementation of the Reuse Plan, provided that new stormwater facilities at the site are designed and constructed to meet the requirements of Article IX (Concurrency) and Article XII (Surface Water Management) of the City's LDRs and the Environmental Resource Permit requirements as implemented by the SFWMD pursuant to Chapter 373 Part IV, FS.

Implementation of the Reuse Plan would result in new impervious surfaces and introduce potentially hazardous materials for transport as stormwater runoff. Therefore, proper treatment and containment of stormwater runoff would be essential for the protection of the surrounding OFW and the Key West National Marine Sanctuary. Potential stormwater runoff hotspots would include toxic and hazardous by-products from unspecified port-related and light industrial activities proposed for the south quay wall, the unspecified location of fueling facilities required for marina and ferry terminal activities, and general urban runoff from parking lots and commercial centers.

Potential off-site impacts would be primarily related to reconfiguration of the on-site system and the related impact to the Truman Annex planned unit development. Stormwater from certain portions of the planned unit development is conveyed through and discharged at outfalls in the Truman Harbor. According to the Reuse Plan, the harbor outfalls would be removed.

Solid Waste

Implementation of the Reuse Plan would not have a significant, adverse, short-term or long-term impact on the City's WTEF, the landfill in Okeechobee that receives the City's ash, or the City's recycling contractors (Fernandez 1998). There are two LOS standards for residential and non-residential uses presented in Section 3-9.8 of the City's LDRs for solid waste: total waste generations and WTEF facility capacity. Based on a projected residential occupancy of 162 people at Truman Waterfront and a total residential waste LOS of 2.66 pound (lb)/capita/day (1.21 kilogram [kg]/capita/day), 431 lb/day (166 kg/day) of waste would be generated (including recyclable

materials). Using the WTEF LOS standard of 2.05 lb/capita/day (0.93kg/capita/day), residential waste would be 332 lb/day (128 kg/day).

The Reuse Plan is expected to create ___ total direct, indirect and induced jobs in the Key West area. The LOS standard is 6.37 lb (2.90 kg)/capita/day for total solid waste per employee and 4.90 lb (2.22 kg)/capita/day for WTEF. Therefore, total non-residential solid waste generated would be approximately ___ lb (___ kg) per day while WTEF solid waste capacity would be ___ lb (___ kg) per day.

Total solid waste generated would be ___ tons (___ tonnes) per day while WTEF waste would be ___ tons (___ tonnes) per day. With an available capacity at the WTEF of 43 tons (39 tonnes) per day, there is sufficient capacity at the WTEF to dispose of the ___ tons (___ tonnes) per day of generated waste.

Fuel

Implementation of the Reuse Plan would not have a significant, adverse, short-term or long-term impact on fuel source in Key West. Although the Reuse Plan allocates areas for a cruise ship berth, ferry terminal operations, and professional and public marinas, the plan does not address re-fueling methods or specify the location of fueling facilities, which are essential to ferry operations and marinas (O'Neil 1998). The City of Key West does not presently permit refueling of cruise ships in Key West, nor is it expected that cruise ships would be permitted refueling rights in the future (Hamlin 1998).

It is expected that the Navy would continue to use berthing facilities at the property, and fuel trucks would be dispatched from NAS Key West, Boca Chica to refuel military vessels at Mole Pier.

Electricity

Implementation of the proposed action would not have a significant, adverse, short-term or long-term impact on the electric power distribution system in Key West. CES provides electricity to the site and has more than adequate capacity to provide electrical service to the site (Key West 1997a). An electrical easement(s) across the waterfront property may have to be maintained to provide electrical service to the NAS Key West Truman Annex. The easement issue is pending (Hill 1998).

Telecommunication

Implementation of the Reuse Plan would not have a significant, adverse, short-term or long-term impact on the telecommunication distribution system in Key West. A telecommunication easement(s) across the waterfront property may have to be maintained to provide service to the US Naval Truman Annex. The easement issue is pending (Hill 1998).

Fire Suppressant System

Implementation of the Reuse Plan would not be expected to have a significant, adverse, short-term or long-term impact on the existing fire suppressant system. A new fire suppressant system would be designed according to City standards (City of Key West 1997a)

Cumulative Impacts

Implementation of the Reuse Plan would not result in any short- or long-term significant, cumulative, adverse impacts to infrastructure facilities. Past actions have resulted in a nearly complete build-out of Key West and adverse impacts to the City's stormwater management system and wastewater treatment system. These systems are presently being rehabilitated to meet the demand of past, present, and future actions. Upon completion, these systems should pose no impediment to future development actions, including the proposed redevelopment of the Truman Waterfront. In addition, stormwater management facilities at the Truman Waterfront are proposed to be independent of the City's system and would be governed by the Environmental Resource Permit authority of the SFWMD.

With the projected amount of excess capacity in the water and solid waste systems, and no identified impact to electrical, telecommunication, and fire systems, no cumulative, adverse impact would be expected.

Although fueling facilities are not identified in the Reuse Plan, but would be expected for plan implementation, no cumulative impact to off-site fuel facilities would be expected.

5 Conformance with Federal, State, and Local Plans, Policies and Controls

This section summarizes the major federal, state, and local plans, policies, and controls with which the proposed action must comply. Conformance of the proposed reuse and redevelopment with specific components or requirements of these plans, policies, and controls is discussed in more detail in Section 4. This section provides a general overview of compliance issues and regulatory programs identified by agencies in letters of response contained in Appendix A.

5.1 Federal Laws, Plans, and Programs

The proposed disposal and reuse of the Truman Waterfront property would be consistent with the goals and action plans of the FKNMS. All applicable aspects of the Clean Vessel Act and the FKNMS Management Plan must be implemented in redevelopment of the Truman Waterfront property (see FDEP letter dated May 21, 1998, in Appendix A). Development and operation of proposed port and harbor facilities would be conducted in conformance with applicable strategies identified in the FKNMS Water Quality Action Plan, specifically those regarding domestic wastewater, stormwater, marinas, and hazardous materials (see FKNMS letter dated May 13, 1998, in Appendix A).

All proposed construction that would require dredging and filling activities would require federal authorization under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. The EPA would review those permit applications to assure that the proposed activities conform to the Section 404 (b)(1) guidelines (see EPA letter dated May 1, 1998, in Appendix A).

Marinas involved in boat maintenance activities (including vessel rehabilitation, mechanical repairs, painting, fueling, and lubrication) or equipment cleaning operations are considered industrial activities according to 40 CFR 122.26 and must comply with NPDES Permit Application Regulations for Stormwater Discharges. To obtain an NPDES stormwater permit, applicants must identify Best Managment Practices they intend to use to eliminate pollutants from stormwater runoff generated as a result of their marina activities (see EPA letter dated May 1, 1998, in Appendix A).

Receptacles for oil, noxious liquid substances, and garbage are required by 33 CFR 158 for ports or terminals used by certain oceangoing ships (carrying oil or noxious liquid substances) and by all vessels for the transfer of garbage. Operation of the cruise ship terminal, and potentially the ferry terminal, would require compliance with these federal regulations. A Certificate of Adequacy must be issued by the U.S. Coast Guard and reception facilities must meet U.S. Coast Guard inspection standards at all times for the terminal to be in compliance with the regulations (see U.S. Coast Guard letter dated May 15, 1998, in Appendix A).

Federal laws (Oil Pollution Act, Clean Water Act, and CERCLA) generally require that any person who spills oil or releases hazardous materials into the marine environment or creates the threat of a spill of release to the marine environment, must immediately notify the U.S. Coast Guard and take immediate steps to mitigate, contain, and clean up the spilled or released substance (see U.S. Coast Guard letter dated May 15, 1998, in Appendix A).

If operation of any of the proposed facilities may cause an increased potential for vessel collisions with endangered or threatened species or marine mammals protected under the Marine Mammal Protection Act, consultation with the National Marine Fisheries Service (NMFS) or USFWS may be required under the Endangered Species Act (see NMFS letter signed by Andreas Mager, Jr., dated July 20, 1998, in Appendix A).

5.2 State Statutes and Regulations

The Florida DCA has determined that the Chapter 288 Military Base Reuse Plan (Chapter 288 Plan; a refined version of the Base Reuse Plan) to be in compliance with Chapter 288, FS, Defense Conversion and Transition Act, and Chapter 380, FS, Development of Regional Impact. Through compliance with these statutes, the Chapter 288 Plan has been determined to be consistent the FCMP; Chapter 380 FS, ACSC; and Chapter 163 Part II, Local Government Comprehensive Planning and Land Development.

Waters adjacent to Truman Waterfront are classified as OFW. (Waters within Truman Harbor are not OFW, but are Class III waters.) Any activites in OFWs must be in the public interest and must meet stringent water quality critieria, pursuant to Sections 62-4.242(2) and 62-302.700, FAC. Docking facilities must also comply with additional water quality criteria specified in the SFWMD's *Basis of Review* (see SFWMD letter dated May 8,1998, in Appendix A).

Construction of the marinas would require a State Lands Environmental Resource Permit and granting of sovereign submerged land lease by the State. The submerged land within Truman Harbor is owned by the State and under an existing lease with the Navy. To implement the proposed reuse plan, this lease would have to be transferred or a new lease granted. The permitting process would

incorporate an appropriate title search of submerged land ownership prior to official transfer of the property, or preparation of submerged land lease agreements (see FDEP letter dated May 21, 1998, in Appendix A).

New construction, rehabilitation of existing structures, and street scaping must be appropriately designed to avoid or minimize adverse impacts to any historic properties listed, or which satisfy the criteria of eligibility for listing (36 CFR 60.4), in the NRPH. The SHPO requested that the City consult with the Florida Division of Historical Resources to identify and evaluate any archeological sites and/or pre-1948 structures that may be impacted by the proposed redevelopment activities (see Florida Department of State/Division of Historical Resources letter dated May 15, 1998, in Appendix A).

5.3 Local Plans and Regulations

The Chapter 288 Plan has provided the guidance for updating the City of Key West Comprehensive Plan and LDRs. The City of Key West LDRs, adopted pursuant to Chapter 163, Part II, FS, guide the physical characteristics of site development through procedural requirements, design criteria, application reviews and approvals, and permit issuance. The development review process would include a comprehensive plan, zoning, and concurrency determination; subdivision/site plan approval; and permit approval. Permits may be required from, but are not limited to, the local government and the SFWMD.

In the local development review process, principal reviewers and approval entities include the DCA and Administration Commission, the Planning and Building Departments, Public Utilities Department, Planning Board, and the city and/or county commission, depending on the specific component of an application for development.

No significant conflict with local land use regulatory requirements would be expected from implementation of the proposed action. The land use activities of the proposed action would be consistent with the existing land use classification/zoning for the property.

The proposed redevelopment of Truman Waterfront would be consistent with the goals and policies of the *Strategic Regional Policy Plan for South Florida* (see South Florida Regional Planning Council letter dated April 24, 1998, in Appendix A).

6 Unavoidable Adverse Environmental Effects and Considerations that Offset Adverse Effects

The proposed disposal and reuse of the Truman Waterfront property would cause few unavoidable, adverse impacts, none of which would be significant. Many of the potential environmental impacts associated with reuse of the property ultimately would be avoided, minimized, or compensated through the permitting and approval processes required by the federal, state, and local government agencies. The principal environmental impacts that cannot be completely avoided by the proposed action are summarized below.

Turbidity generated by construction of port facilities and the marinas would result in unavoidable, short-term impacts to water quality. Also, the increase in the number of port calls by large vessels would result in unavoidable, short-term elevations of turbidity and increased violations of the state water quality standard in Key West Harbor and the ship channel. Short-term turbidity would have minor, short-term, adverse effects on adjacent marine communities.

Construction of the two marinas would undoubtedly increase boat traffic in the area, which would inevitably lead to an increase in vessel groundings and adverse effects on shallow marine habitats. These impacts could be minimized by improved channel marking and boater education initiatives, but could not realistically be avoided.

Similarly, the increase in boats using the proposed marinas would lead to increased disturbance of osprey and sea turtle nesting habitats on isolated islands in KWNWR in the vicinity of Key West. Although boater education and enforcement activities could reduce these incidences, these impacts could not be avoided.

Temporary disturbances to nearby residents from high noise levels during construction of facilities and buildings would be offset by the increased recreational activities and enhanced social and economic opportunities offered by the new facilities and infrastructure improvements. Other unavoidable adverse effects that would occur from construction of facilities include soil erosion and fugitive dust emissions. These effects would be short term, would be restricted to the immediate area, and would be partially mitigated through the permitting process requiring measures such as noise attenuation, soil erosion control, and fugitive dust control.

Implementation of the proposed action would create additional traffic that would decrease the operating LOS for local roadways and increase travel times on some streets, particularly those closest to the Truman Waterfront. Traffic generated by the proposed reuse of Truman Waterfront would also cause unavoidable, adverse impacts on the quality of life for some residents, especially those living in Bahama Village. These impacts would include localized degradation of air quality, noise, safety, and aesthetics. However, individuals who experience these adverse impacts may believe that they are offset by the increased economic, social, and recreational opportunities afforded by the redevelopment.

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

The proposed action would enhance the long-term productivity of the property, which has been largely vacant and unproductive for years. Redevelopment of this land would result in socioeconomic improvements to the community through productive use of valuable waterfront property.

The proposed reuse would also lead to long-term improvements in the community's aesthetic and recreational resources through development of parks and green space and construction of recreational facilities. Construction of the various commercial, residential, port-related, and recreational facilities would all be considered short-term uses of the environment. This short-term use of the environment would increase opportunities for recreation and aesthetic enjoyment of the view of Key West Harbor and the celebrated Key West sunsets, enhancing the appreciation of the environment and the quality of life for generations of Key West residents and visitors.

Waterborne transportation, water sports (e.g. fishing, diving), and recreational boating that would be provided by the reuse of the property would represent short-term uses of the environment. These uses would contribute to cumulative, long-term, adverse impacts to marine biological productivity through water quality degradation, physical destruction (i.e. propeller scarring or groundings on seagrass beds or coral reefs), and disturbance of wildlife nesting areas. However, ongoing monitoring of these types of cumulative impacts under the auspices of the FKNMS would enable sanctuary managers and regulators to determine when these impacts reach potential levels of significance and when actions would be required to prevent catastrophic effects on biological resources. This management mechanism prevents permanent long-term impacts to biological productivity by controlling these short-term uses of the environment.

8 Irreversible and Irretrievable Commitments of Resources

The proposed disposal of the Truman Waterfront property by conveyance from the Navy to the City of Key West would commit land resources currently owned by the Navy, which would not be easily retrieved for future Navy use. Land in Key West, particularly waterfront land, is a very valuable resource. Commitments of this land in other areas of Key West has led to loss of the fishing fleet on the Key West waterfront and loss of public access to other areas. The City's proposed reuse of the Truman Waterfront land would maximize its benefit to the community and its residents and visitors without irreversibly committing it to limited uses that benefit few individuals.

Reuse of the property would involve incremental commitments of man-made and natural resources by the City of Key West and private developers as phases of the redevelopment were undertaken. Construction of infrastructure, buildings, and recreational and port facilities would commit man-made resources and financial capital.

Implementation of the proposed action would not result in irreversible and/or irretrievable commitments of natural resources. The property contains very limited natural resources (i.e. habitat for least terns and ospreys), none of which would be committed by reuse of the property. Impacts to unique and sensitive marine resources near the property would be indirectly committed through development of the proposed port facilities and marinas. However, these impacts would be reversible through the cessation of the impact-causing actions (primarily restrictions on vessel usage).

9 References

Archer, R., February 16, 2000, personal communication, Director, Port of Key West, City of Key West, Florida, meeting with Doug Heatwole, Ecology and Environment, Inc., Pensacola, Florida

Barbera, P, May 13, 1998, personal communication, Florida Department of Environmental Protection, Marathon, Florida, telephone conversation with Doug Heatwole, Ecology and Environment, Inc., Pensacola, Florida.

Blount, Richard, April 2, 1998, personal communication, Engineer, Monroe County, telephone conversation with David Helter, Ecology and Environment, Inc., Tallahassee, Florida.

Brockington and Associates, Inc., 1998, *Historic and Archaeological Resources Protection Plan, Naval Air Station Key West, Florida*, prepared for the United States Army Corps of Engineers, Mobile District.

_____, 1997, *Archaeological Survey of Key West Naval Air Station, Monroe County, Florida*, prepared for the United States Army Corps of Engineers, Mobile District.

Cairns, Kalani, June 1, 1998, personal communication, U.S. Fish and Wildlife Service, Vero Beach, Florida, telephone conversation with Doug Heatwole, Ecology and Environment, Inc., Pensacola, Florida.

Cantral, Ralph, June 12, 1998, personal communication, Executive Director, Department of Community Affairs, Tallahassee, Florida, correspondence with Douglas Heatwole, Ecology and Environment, Inc., Pensacola, Florida.

Cates, Jill, July 1998, personal communication, Florida Keys Aqueduct Authority, telephone conversation with David Helter, Ecology and Environment, Inc., Tallahassee, Florida.

Causey, Billy, May 13, 1998, personal communication, Florida Keys National Marine Sanctuary, Marathon, Florida, correspondence with Dougas Heatwole, Ecology and Environment, Inc., Pensacola, Florida.

Childress, Roosevelt, October 1998, personal communication, Chief of Surface Water Permit Section, EPA Region IV, telephone conversation with David Helter, Ecology and Environment, Inc., Tallahassee, Florida.

CE Maguire, Inc., 1981, *Marine Facilities Analyses, Truman Annex, Key West, Florida*, prepared for the Key West Redevelopment Agency.

City of Key West, 1999, *Key West Chapter 288 Military Base Reuse Plan*, prepared for the City of Key West by Bermello, Ajamil & Partners, Inc.

_____, 1998, *Bahama Village Redevelopment Plan Update,* prepared for the City of Key West by The Craig Company, Key West, Florida.

_____, 1997a, *Key West Base Reuse Plan*, prepared for the City of Key West by Bermello, Ajamil & Partners, Inc.

_____, 1997b, *City of Key West Comprehensive Plan Evaluation and Appraisal Report,* prepared for the City of Key West by Robert K. Swarthout, Inc.

_____, 1997c, *City of Key West, Florida, Land Development Regulations,* prepared for City of Key West by Solin and Associates, Inc..

_____, 1996, *Truman Annex Diversion Study Origin and Destination Survey,* prepared for the City of Key West by Kisinger Campo and Associates and Tindale-Oliver and Associates.

_____, 1995, *Bahama Village Redevelopment Plan,* prepared for the City of Key West by Thaddeus Cohen, Architect and Sienna Leon, Architect.

_____, 1993, *City of Key West Comprehensive Plan,* prepared for the City of Key West by Solin and Associates, Inc.

Crusoe, Ed, May 29, 1998, personal communication, Captain, Key West Bar Pilots Association, Key West, Florida, telephone conversation with Doug Heatwole, Ecology and Environment, Inc., Pensacola, Florida. Daniels 1998, 2-12

Daniels, Cecile R., March 4, 1998, personal communication, Assistant Manager, Lower Keys Region, Florida Keys National Marine Sanctuary (NOAA), Key West, Florida, meeting with Doug Heatwole, Ecology and Environment, Inc., Pensacola, Florida.

Davis, Richard, March 3, 1998, personal communication, Facilities Planning Branch Director, Public Works Department, NAS Key West, Florida, meeting with Doug Heatwole, Ecology and Environment, Inc., Pensacola, Florida.

Elwood, Jimmy, May 1998, personal communication, Plan Reviewer, City of Key West, meeting with David Helter and Jone Guerin, Ecology and Environment, Inc., Tallahassee, Florida.

English, D.B., W. Kriesel, V.R. Leeworthy, and P.C. Wiley, November 1996, *Economic Contribution of Recreating Visitors to the Florida Keys*, prepared for Strategic Environmental Assessment Division, Office of Ocean Resources Conservation and Assessment, National Ocean Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

Fernandez, E. David, March 5, 1998, personal communication, Utilities Director, Key West, Florida, meeting with David Helter, Ecology and Environment, Inc., Tallahassee, Florida.

Fernandez, E. David, April 17, 1998, personal communication, Utilities Director, Key West, Florida, telephone conversation with David Helter, Ecology and Environment, Inc., Tallahassee, Florida.

Florida Department of Revenue 1996.

Florida Department of Labor and Employment Security (FDLES), 1998, Florida Price Level Index, Monroe County.

Florida Keys Aqueduct Authority (FKAA) 1996.

Florida Natural Areas Inventory (FNAI) and The Nature Conservancy (TNC), 1994, *Ecological Survey of the U.S. Navy Property in the Lower Florida Keys, Monroe County, Florida.*

Flowers, Roland, May 1998, personal communication, City Engineer, Key West, Florida, meeting with David Helter and Jone Guerin, Ecology and Environmental Inc., Tallahassee, Florida, and Darrell Molzan, Naval Facilities Engineering Command, Southern Division.

Frank, P., May 6, 1998, personal communication, Florida Game and Freshwater Fish Commission, Marathon, Florida, meeting with Doug Heatwole, Ecology and Environment, Inc., Pensacola, Florida.

Golden, James J., May 8, 1998, personal communication, Regulation Department, South Florida Water Management District, West Palm Beach, Florida, correspondence with Cherie Trainor, Florida State Clearing House, Tallahassee, Florida.

Hall, Robert, May 21, 1998, personal communication, Office of Intergovernmental Programs, Florida Department of Environmental Protection, Tallahassee, Florida, correspondence with Cherie Trainor, Florida State Clearing House, Tallahassee, Florida.

Hamlin, Charles S., March 6, 1998, personal communication, Port of Key West, City of Key West, Florida, meeting with Gerry Gallagher, Ecology and Environment, Inc., Tallahassee, Florida.

Hamlin, Charles S., March 18, 1998, personal communication, Port of Key West, City of Key West, Florida, telephone conversation with Gerry Gallagher, Ecology and Environment, Inc., Tallahassee, Florida.

Humphrey, S.R., 1992, *Rare and Endangered Biota of Florida: Volume 1, Mammals,* Gainesville, Florida, 392 pp.

Institute of Transportation Engineers, 1998, *Trip Generation Manual 6th Edition,* Institute of Transportation Engineers, Washington, D.C.

Key West Chamber of Commerce undated, material provided by the Key West Chamber of Commerce.

Kimball (Murley), A., March 2000, personnel communication and information provided by, The Curtis & Kimball Company, telephone conversation with Darrell Molzan, Naval Facilities Engineering Command, Southern Division, Charleston, South Carolina, and David Helter, Ecology and Environment, Inc., Tallahassee, Florida.

Kruczynski, Bill, March 5, 1998, personal communication, Water Protection Program Director, Florida Keys National Marine Sanctuary, Environmental Protection Agency, Marathon, Florida, meeting with Doug Heatwole, Ecology and Environment, Inc., Pensacola, Florida.

Kruczynski, William, May 1, 1998, personal communication, Water Protection Program Director, Florida Keys National Marine Sanctuary, Environmental Protection Agency, Marathon,

Florida, correspondence with Doug Heatwole, Ecology and Environment, Inc., Pensacola, Florida.

Leeworthy, and Bowker, 1997.

Little, E., March 4, 1998, personal communication, Fisheries Statistician, National Marine Fisheries Service, Key West, Florida, meeting with Doug Heatwole, Ecology and Environment, Inc., Pensacola, Florida.

Mager, Andreas, Jr., July 20, 1998, personal communication, National Marine Fisheries Service, St. Petersburg, Florida, correspondence with Dougas Heatwole, Ecology and Environment, Inc., Pensacola, Florida.

Mickler, 1945, *Key West in World War II: A History of the Naval Station and Naval Operating Base*, unpublished manuscript, available at City of Key West Library.

Miles, R. M., May 15, 1998, personal communication, Commanding Officer, U.S. Coast Guard, Miami, Florida, correspondence with Douglas Heatwole, Ecology and Environment, Inc., Pensacola, Florida.

National Oceanic and Atmospheric Administration (NOAA), 1996, *Florida National Marine Sanctuary, Final Management Plan/Environmental Impact Statement.*

Oravetz, Charles A., July 20, 1998, personal communication, National Marine Fisheries Service, St. Petersburg, Florida, correspondence with Douglas Heatwole, Ecology and Environment, Inc., Pensacola, Florida.

Percy, George, May 15, 1998, personal communication, Division of Historical Resources, Florida Department of State, Tallahassee, Florida, correspondence with Cherie Trainor, Florida State Clearinghouse, Tallahassee, Florida.

Pfeiffer, G. Steven, June 9, 1998, personal communication, Department of Community Affairs, Tallahasse, Florida, correspondence with Cherie Trainor, Florida State Clearing House, Tallahassee, Florida.

Quirolo, DeeVon, May 4, 1998, personal communication, Acting NASKW Restoration Advisory Board community member for Reef Relief, Key West, Florida, correspondence with Douglas Heatwole, Ecology and Environment, Inc., Pensacola, Florida.

Riherd, Senior Chief, March 24, 1998, personal communication, Port Services Director, NAS Key West, Florida, telephone conversation with Doug Heatwole, Ecology and Environment, Inc., Pensacola, Florida.

Rios, G., March 5, 1998, personal communication, Chemist, Florida Department of Environmental Protection, Marathon, Florida, meeting with Doug Heatwole, Ecology and Environment, Inc., Pensacola, Florida.

Ruzich, R., March 3, 1998, personal communication, Engineering Branch Manager, NAS Key West, Florida, meeting with David Helter, Ecology and Environment, Inc., Tallahassee, Florida.

Ruzich, R., April 2, 1998, personal communication, Engineering Branch Manager, NAS Key West, Florida, telephone conversation with David Helter, Ecology and Environment, Inc., Tallahassee, Florida.

Sandra Walters Consultants, 1999, Summary of Research on Impacts of Ships and Turbidity in Key West Harbor.

Sargent, F., T.J. Leary, D.W. Crewz, and C.R. Kruer, 1995, *Scarring of Florida's Seagrasses: Assessment and Management Options*, FMRI Technical Report TR-1, Florida Department of Environmental Protection, St. Petersburg, Florida.

Scarborough, J., February, 2000, personal communication, Project Manager, Proposed Key West Harbor Study, U.S. Army Corps of Engineers, Jacksonville District, Jacksonville, Florida, telephone conversation with Doug Heatwole, Ecology and Environment, Inc., Pensacola, Florida.

Schuetz, A., March 3, 1998, personal communication, Public Works Department, NAS Key West, Florida, meeting with Doug Heatwole, Ecology and Environment, Inc., Pensacola, Florida.

Shimberg Center for Affordable Housing (Shimberg Center), University of Florida, 1998, *Housing Needs Assessment, Key West Florida.*

Shortal, P., March 11, 1998, personal communication, Florida Department of Transportation, District VI, telephone conversation with David Helter, Ecology and Environment, Inc., Tallahassee, Florida.

_____, April 2, 1998, personal communication, Florida Department of Transportation, District VI, telephone conversation with David Helter, Ecology and Environment, Inc., Tallahassee, Florida.

Silva, Eric, April 24, 1998, personal communication, Regional Planner, South Florida Regional Planning Council, Hollywood, Florida, correspondence with Cherie Trainor, Florida State Clearinghouse, Tallahassee, Florida.

Slack, James, May 21, 1998, personal communication, U. S. Fish and Wildlife Service, Vero Beach, Florida, correspondence with Douglas Heatwole, Ecology and Environment, Inc., Pensacola, Florida.

Steiglitz, B., March 5, 1998a, personal communication, Refuge Manager, U.S. Fish and Wildlife Service, meeting with Doug Heatwole, Ecology and Environment, Inc., Pensacola, Florida.

_____, May 5, 1998b, personal communication, National Key Deer Refuge, U.S. Fish and Wildlife Service, Big Pine Key, Florida, correspondence with Doug Heatwole, Ecology and Environment, Inc., Pensacola, Florida.

_____, May 26, 1998c, personal communication, Refuge Manager, U.S. Fish and Wildlife Service, telephone conversation with Doug Heatwole, Ecology and Environment, Inc., Pensacola, Florida.

Tucker, Wendy, February 16, 1998, personal communication, Administrator of Development Review, Key West Planning Department, Key West, Florida, meeting with Michael Kane and David Helter, Ecology and Environment, Inc., Tallahassee, Florida.

United States Air Force (USAF), 1998, *Draft Theater Missile Defense Extended Test Range, Supplemental Environmental Impact Statement, Eglin Gulf Test Range.*

United States Bureau of the Census, 1990, 1990 U.S. Census Data.

United States Bureau of the Census, 1980, 1980 U.S. Census Data.

United States Department of Commerce, 1996, *Linking the Economy and Environment of the Florida Keys/Florida Bay,* National Oceanic and Atmospheric Administration.

United States Environmental Protection Agency (EPA), 1992, *Water Quality Protection Program for the Florida Keys National Marine Sanctuary, Phase I Report*, prepared for EPA by Continental Shelf Associates, Inc., and Battelle Ocean Sciences.

United States Fish and Wildlife Service (USFWS) and State of Florida Department of Natural Resource (FDNR), 1992, *Management Agreement for Backcountry Portions of Key West National Wildlife Refuge, Great White Heron National Wildlife Refuge, and National Key Deer Refuge, Monroe County, Florida.*

United States Navy (Navy), May 2000, *Decision Document for Ten Base Realignment and Closure (BRAC) Sites, Naval Air Station Key West, Florida,* Naval Facilities Engineering Command, Southern Division, Charleston, South Carolina.

_____, 1998, *Site Inspection Report for Poinciana Housing BRAC Parcel for Naval Air Station Key West, Florida,* prepared for Naval Facilities Engineering Command, Southern Division, Charleston, South Carolina, by Brown & Root Environmental.

_____, 1996, *Fish and Wildlife Section of the Natural Resources Plan for Naval Air Station Key West, Florida,* U.S. Naval Air Station, Key West, Florida.

_____1993, *Environmental Assessment, Construction of a Solar Electro-Optical Network Facility, Key West Naval Complex, Monroe County, Florida*, Naval Facilities Engineering Command, Southern Division, Charleston, South Carolina.

_____, 1992, *Environmental Assessment, Junior Enlisted Family Housing, Naval Air Station Key West, Florida,* Naval Facilities Engineering Command, Southern Division, Charleston, South Carolina.

_____, 1986, *Draft Environmental Impact Statement, United States Navy Gulf Coast Strategic Homeporting, Appendix VIII, Key West, Florida*, Naval Facilities Engineering Command, Southern Division, Charleston, South Carolina.

_____1983, *Environmental Assessment at the Former Naval Station, Truman Annex/Naval Air Station, Key West, Florida*, Naval Facilities Engineering Command, Southern Division, Charleston, South Carolina.

Walters, S., 1999, *Summary of Research on Impacts of Ships and Turbidity in Key West Harbor*, prepared for Key West Bar Pilots Association, Inc., by Sandra Walters Consultants, Key West, Florida.

Watson, Steve, April 17, 1998, personal communication, Engineering Technician, Florida Keys Aqueduct Authority, Key West, Florida, telephone contact with David Helter, Ecology and Environment, Inc., Tallahassee, Florida.

Woolrich, Allan, March 5, 1998, personal communication, Department of Community Affairs, Marathon, Florida, meeting with David Helter, Ecology and Environment, Inc., Tallahassee, Florida.

10 List of Preparers

Name	Degree	Years Experience	Project Responsibility
Gerard Gallagher, III	B.S., Geography	19	Project coordinator, quality control/quality assurance, recreation
Doug Heatwole	M.S., Marine Science	19	Project management; executive summary; proposed action and alternatives; purpose and need; topography, geology, soils; water quality; air quality; cultural resources, terrestrial resources, wetland and aquatic resources, threatened and endangered species
David Helter, AICP	M.S., Urban and Regional Planning	9	Land use, aesthetics, environmental justice, infrastructure, transportation, noise
Michael Kane	M.S. Urban Planning	7	Socioeconomics, environmental justice
Jan Brandt	M.S. Environmental Planning	7	Environmental contamination
Christina Vaggi	B.A., English	1	Editing

A Correspondence

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United States Department of the Interior
FISH AND WILDLIFE SERVICE
P.O. BOX 2676
VERO BEACH, FLORIDA 32961-2676

May 21, 1998

Douglas W. Heatwole, Project Manager
Ecology and Environment, Inc.
316 South Baylen Street
Pensacola, FL 32501

FWS Log No.: 4-1-98-I-444
Project: Environmental Assessment for the disposal of U.S. Navy property
County: Monroe

Dear Mr. Heatwole:

Thank you for your letter regarding the proposed disposal and reuse of the Truman Waterfront property located at Key West Naval Air Station, Monroe County, Florida. According to your letter, your firm is preparing an Environmental Assessment of the proposed action (*i.e.*, disposal and reuse of the property). The U.S. Fish and Wildlife Service (FWS) has reviewed your information and submits this letter in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (ESA) and with the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 *et seq.*). We have assigned FWS Log Number 4-1-98-I-444 to this consultation.

The information contained within your letter indicates that the property in question is a 44.9-acre tract consisting of a pier with breakwater and wharf, several buildings, and associated operational infrastructure. The proposed redevelopment plan for reusing the property includes a combination of commercial activities, residential housing opportunities, preserving onsite historic features, and providing recreational and educational amenities. In your letter, you specifically requested a listing of threatened and endangered species on Key West as well as locational information on federally-listed species that could be potentially affected by the proposed action.

The FWS has reviewed your information as well as information available to us on the presence of threatened or endangered species and designated critical habitat in the vicinity of the project site. Based on this review, we find no evidence of federally-listed species either on or near the project site. Thus, the FWS concludes that the proposed action is not likely to affect threatened and endangered species. There is no designated critical habitat present in the vicinity of the project site; therefore, none shall be affected. The above determinations have not been verified by a site inspection.

Although this does not constitute a Biological Opinion described under section 7 of the ESA, it does fulfill the requirements of the ESA, and no further action is required. If changes are made to the proposed action or if additional information involving potential effects on listed species becomes available, reinitiation of consultation may be necessary. Since our findings do not include state-listed species, the Florida Game and Fresh Water Fish Commission should be contacted to identify those species potentially present in the vicinity.

We are providing you with a list of species that we would be considering during our review of the final Environmental Assessment of the proposed action. This list represents species that the FWS is required to protect and conserve under other authorities, such as the Fish and Wildlife Coordination Act (16 U.S.C. 661 *et seq.*) and the Migratory Bird Treaty Act (16 U.S.C. 701 *et seq.*). We are providing this list as technical assistance only.

Thank you for the opportunity to provide these comments on threatened and endangered species and their designated critical habitats. If you have any questions regarding these comments, please contact Kalani Cairns of our office at (561) 562-3909.

Sincerely,

For James J. Slack
Project Leader
South Florida Field Office

cc:
GFC, Marathon, FL

ORDER GAVIIFORMES
FAMILY GAVIIDAE
Gavia stellata, Red-throated Loon
Gavia immer, Common Loon
Gavia pacifica, Pacific Loon

ORDER PODICIPEDIFORMES
FAMILY PODICIPEDIDAE
Tachybaptus dominicus, Least Grebe
Podilymbus podiceps, Pied-billed Grebe
Podiceps auritus, Horned Grebe
Podiceps nigricollis, Eared Grebe

ORDER PROCELLARIIFORMES
FAMILY PROCELLARIIDAE
Calonectris diomedea, Cory's Shearwater
Puffinus gravis, Greater Shearwater
Puffinus griseus, Sooty Shearwater
Puffinus puffinus, Manx Shearwater
Puffinus lherminieri, Audubon's Shearwater

FAMILY HYDROBATIDAE
Oceanites oceanicus, Wilson's Storm-Petrel
Oceanodroma leucorhoa, Leach's Storm-Petrel
Oceanodroma castro, Band-rumped Storm-Petrel

ORDER PELECANIFORMES
FAMLY PHAETHONTIDAE
Phaethon lepturus, White-tailed Tropicbird
Phaethon aethereus, Red-billed Tropicbird

FAMILY SULIDAE
Sula dactylatra, Masked Booby
Sula leucogaster, Brown Booby
Sula sula, Red-footed Booby
Sula bassanus, Northern Gannet

FAMILY PELECANIDAE
Pelecanus erythrorhynchos, American White Pelican
Pelecanus occidentalis, Brown Pelican

FAMILY PHALACROCORACIDAE
Phalacrocorax carbo, Great Cormorant
Phalacrocorax auritus, Double-crested Cormorant

FAMILY ANHINGIDAE
Anhinga anhinga, Anhinga

FAMILY FREGATIDAE
Fregata magnificens, Magnificent Frigatebird

ORDER CICONIIFORMES
FAMILY ARDEIDAE
Botaurus lentiginosus, American Bittern
Ixobrychus exilis, Least Bittern
Ardea herodias, Great Blue Heron
Casmerodius albus, Great Egret
Egretta thula, Snowy Egret
Egretta caerulea, Little Blue Heron
Egretta tricolor, Tricolored Heron
Egretta rufescens, Reddish Egret
Bubulcus ibis, Cattle Egret
Butorides striatus, Green-backed Heron
Nycticorax nycticorax, Black-crowned Night Heron
Nycticorax violaceus, Yellow-crowned Night Heron

FAMILY THRESKIORNITHIDAE
Eudocimus albus, White Ibis
Eudocimus ruber, Scarlet Ibis
Plegadis falcinellus, Glossy Ibis
Plegadis chihi, White-faced Ibis
Ajaia ajaja, Roseate Spoonbill

FAMILY CICONIIDAE
Mycteria americana, Wood Stork

ORDER PHOENICOPTERIFORMES
FAMILY PHOENICOPTERIDAE
Phoenicopterus ruber, Greater Flamingo

ORDER ANSERIFORMES
FAMILY ANATIDAE
Dendrocygna bicolor, Fulvous Whistling-Duck
Dendrocygna autumnalis, Black-bellied Whistling-Duck
Anser albifrons, Greater White-fronted Goose
Chen caerulescens, Snow Goose
Branta bernicla, Brant
Branta canadensis, Canada Goose
Aix sponsa, Wood Duck
Anas crecca, Green-winged Teal
Anas rubripes, American Black Duck
Anas fulvigula, Mottled Duck
Anas platyrhynchos, Mallard
Anas bahamensis, White-cheeked Pintail
Anas acuta, Northern Pintail
Anas discors, Blue-winged Teal
Anas cyanoptera, Cinnamon Teal
Anas clypeata, Northern Shoveler
Anas strepera, Gadwall
Anas penelope, Eurasian Wigeon
Anas americana, American Wigeon
Aythya valisineria, Canvasback
Aythya americana, Redhead
Aythya collaris, Ring-necked Duck
Aythta marila, Greater Scaup
Aythya affinis, Lesser Scaup
Somateria mollissima, Common Eider
Somateria spectabilis, King Eider
Histrionicus histrionicus, Harlequin Duck
Clangula hyemalis, Oldsquaw
Melanitta nigra, Black Scoter
Melanitta perspicillata, Surf Scoter
Melanitta fusca, White-winged Scoter
Bucephala clangula, Common Goldeneye

Bucephala albeola, Bufflehead
Lophodytes cucullatus, Hooded Merganser
Mergus merganser, Common Merganser
Mergus serrator, Red-breasted Merganser
Oxyura jamaicensis, Ruddy Duck
Oxyura dominica, Masked Duck

ORDER FALCONIFORMES
FAMILY CATHARTIDAE
Coragyps atratus, Black Vulture
Cathartes aura, Turkey Vulture

FAMILY ACCIPITRIDAE
Pandion haliaetus, Osprey
Elanoides forficatus, American Swallow-tailed Kite
Elanus caeruleus, Black-shouldered Kite
Rhostrhamus sociabilis, Snail Kite
Ictinia mississippiensis, Mississippi Kite
Haliaeetus leucocephalus, Bald Eagle
Circus cyaneus, Northern Harrier
Accipiter striatus, Sharp-shinned Hawk
Accipiter cooperii, Cooper's Hawk
Buteo lineatus, Red-shouldered Hawk
Buteo platypterus, Broad-winged Hawk
Buteo brachyurus, Short-tailed Hawk
Buteo swainsoni, Swainson's Hawk
Buteo jamaicensis, Red-tailed Hawk

FAMILY FALCONIDAE
Polyborus plancus, Crested Caracara
Falco sparverius, American Kestrel
Falco columbarius, Merlin
Falco peregrinus, Peregrine Falcon

ORDER GRUIFORMES
FAMILY RALLIDAE
Coturnicops noveboracensis, Yellow Rail
Laterallus jamaicensis, Black Rail
Rallus longirostris, Clapper Rail
Rallus elegans, King Rail
Rallus limicola, Virginia Rail
Porzana carolina, Sora
Porphyrula martinica, Purple Gallinule
Gallinula chloropus, Common Moorhen
Fulica americana, American Coot

FAMILY ARAMIDAE
Aramus guarauna, Limpkin

FAMILY GRUIDAE
Grus canadensis, Sandhill Crane

ORDER CHARADRIIFORMES
FAMILY CHARADRIIDAE
Pluvialis squatarola, Black-bellied Plover
Pluvialis dominica, Lesser Golden-Plover
Charadrius alexandrinus, Snowy Plover
Charadrius wilsonia, Wilson's Plover
Charadrius semipalmatus, Semipalmated Plover
Charadrius melodus, Piping Plover
Charadrius vociferus, Killdeer
Charadrius montanus, Mountain Plover

FAMILY HAEMATOPODIDAE
Haematopus palliatus, American Oystercatcher

FAMILY RECURVIROSTRIDAE
Himantopus mexicanus, Black-necked Stilt
Recurvirostra americana, American Avocet

FAMILY SCOLOPACIIDAE
Tringa melanoleuca, Greater Yellowlegs
Tringa flavipes, Lesser Yellowlegs
Tringa solitaria, Solitary Sandpiper
Catoptrophorus semipalmatus, Willet
Actitus macularia, Spotted Sandpiper
Bartramia longicauda, Upland Sandpiper
Numenius phaeopus, Whimbrel
Numenius americanus, Long-billed Curlew
Limosa limosa, Black-tailed Godwit
Limosa haemastica, Hudsonian Godwit
Limosa fedoa, Marbled Godwit
Arenaria interpres, Ruddy Turnstone
Aphriza virgata, Surfbird
Calidris canutus, Red Knot
Calidris alba, Sanderling
Calidris pusilla, Semipalmated Sandpiper
Calidris mauri, Western Sandpiper
Calidris minutilla, Least Sandpiper
Calidris fuscicollis, White-rumped Sandpiper
Calidris bairdii, Baird's Sandpiper
Calidris melanotos, Pectoral Sandpiper
Calidris acuminata, Sharp-tailed Sandpiper
Calidris maritima, Purple Sandpiper
Calidris alpina, Dunlin
Calidris ferruginea, Curlew Sandpiper
Calidris himantopus, Stilt Sandpiper
Tryngites subruficollis, Buff-breasted Sandpiper
Philomachus pugnax, Ruff
Limnodromus griseus, Short-billed Dowitcher
Limnodromus scolopaceus, Long-billed Dowitcher
Gallinago gallinago, Common Snipe
Scolopax minor, American Woodcock
Phalaropus tricolor, Wilson's Phalarope
Phalaropus lobatus, Red-necked Phalarope
Phalaropus fulicaria, Red Phalarope

FAMILY LARIDAE
Stercorarius pomarinus, Pomarine Jaeger
Stercorarius parasiticus, Parasitic Jaeger
Stercorarius longicaudus, Long-tailed Jaeger
Larus atricilla, Laughing Gull
Larus pipixcan, Franklin's Gull
Larus minutus, Little Gull
Larus ridibundus, Common Black-headed Gull
Larus philadelphia, Bonaparte's Gull
Larus delawarensis, Ring-billed Gull
Larus argentatus, Herring Gull

Larus thayeri, Thayer's Gull
Larus fuscus, Lesser Black-backed Gull
Larus hyperboreus, Glaucous Gull
Larus marinus, Great Black-backed Gull
Rissa tridactyla, Black-legged Kittiwake
Xema sabini, Sabine's Gull
Sterna nilotica, Gull-billed Tern
Sterna caspia, Caspian Tern
Sterna maxima, Royal Tern
Sterna sandvicensis, Sandwich Tern
Sterna dougallii, Roseate Tern
Sterna hirundo, Common Tern
Sterna paradisaea, Arctic Tern
Sterna forsteri, Forster's Tern
Sterna antillarum, Least Tern
Sterna anaethetus, Bridled Tern
Sterna fuscata, Sooty Tern
Chlidonias niger, Black Tern
Anous stolidus, Brown Noddy
Anous minutus, Black Noddy
Rynchops niger, Black Skimmer

FAMILY ALCIDAE
Alle alle, Dovekie
Alca torda, Razorbill

ORDER COLUMBIFORMES
FAMILY COLUMBIDAE
Columba squamosa, Scaly-naped Pigeon
Columba leucocephala, White-crowned Pigeon
Columba fasciata, Band-tailed Pigeon
Zenaida asiatica, White-winged Dove
Zenaida aurita, Zenaida Dove
Zenaida macroura, Mourning Dove
Columbina passerina, Common Ground-Dove
Geotrygon chrysia, Key West Quail-Dove
Geotrygon montana, Ruddy Quail-Dove

ORDER CUCULIFORMES
FAMILY CUCULIDAE
Coccyzus erythropthalmus, Black-billed Cuckoo
Coccyzus americanus, Yellow-billed Cuckoo
Coccyzus minor, Mangrove Cuckoo
Crotophaga ani, Smooth-billed Ani
Crotophaga sulcirostris, Groove-billed Ani

ORDER STRIGIFORMES
FAMILY TYTONIDAE
Tyto alba, Common Barn-Owl

FAMILY STRIGIDAE
Otus asio, Eastern Screech-Owl
Bubo virginianus, Great Horned Owl
Athene cunicularia, Burrowing Owl
Strix varia, Barred Owl
Asio otus, Long-eared Owl
Asio flammeus, Short-eared Owl
Aegolius acadicus, Northern Saw-whet Owl

ORDER CAPRIMULGIFORMES
FAMILY CAPRIMULGIDAE
Chordeiles acutipennis, Lesser Nighthawk
Chordeiles minor, Common Nighthawk
Chordeiles gundlacchii, Antillean Nighthawk
Caprimulgus carolinensis, Chuck-will's-widow
Caprimulgus vociferus, Whip-poor-will

ORDER APODIFORMES
FAMILY APODIDAE
Chaetura pelagica, Chimney Swift
Tachornis phoenicobia, Antillean Palm Swift

FAMILY TROCHILIDAE
Amazilia yucatenensis, Buff-bellied Hummingbird
Calliphlox evelynae, Bahama Woodstar
Archilochus colubris, Ruby-throated Hummingbird
Archilochus alexandri, Black-chinned Hummingbird
Selasphorus rufus, Rufous Hummingbird

ORDER CORACIIFORMES
FAMILY ALCEDINIDAE
Ceryle alcyon, Belted Kingfisher

ORDER PICIFORMES
FAMILY PICIDAE
Melanerpes erythrocephalus, Red-headed Woodpecker
Melanerpes carolinus, Red-bellied Woodpecker
Sphyrapicus varius, Yellow-bellied Sapsucker
Picoides pubescens, Downy woodpecker
Picoides villosus, Hairy woodpecker
Picoides borealis, Red-cockaded woodpecker
Colaptes auratus, Northern Flicker
Dryocopus pileatus, Pileated Woodpecker
Campephilus principalis, Ivory-billed Woodpecker

ORDER PASSERIFORMES
FAMILY TYRANNIDAE
Contopus borealis, Olive-sided flycatcher
Contopus virens, Eastern Wood-Pewee
Empidonax flaviventris, Yellow-bellied Flycatcher
Empidonax virescens, Acadian Flycatcher
Empidonax alnorum, Alder Flycatcher
Empidonax traillii, Willow Flycatcher
Empidonax minimus, Least Flycatcher
Sayornis nigricans, Black Phoebe
Sayornis phoebe, Eastern Phoebe
Sayornis saya, Say's Phoebe
Pyrocephalus rubinus, Vermilion Flycatcher
Myiarchus cinerascens, Ash-throated Flycatcher
Myiarchus crinitus, Great Crested Flycatcher
Myiarchus tyrannulus, Brown-crested Flycatcher
Tyrannus vociferans, Cassin's Kingbird
Tyrannus verticalis, Western Kingbird
Tyrannus tyrannus, Eastern Kingbird

Tyrannus dominicensis, Gray Kingbird
Tyrannus caudifasciatus, Loggerhead Kingbird
Tyrannus forficatus, Scissor-tailed Flycatcher
Tyrannus savana, Fork-tailed Flycatcher

FAMILY ALAUDIDAE
Eremophila alpestris, Horned Lark

FAMILY HIRUNDINIDAE
Progne subis, Purple Martin
Tachycineta bicolor, Tree Swallow
Tachycineta cyaneoviridis, Bahama Swallow
Stelgidopteryx serripennis, Northern Rough-winged Swallow
Riparia riparia, Bank Swallow
Hirundo pyrrhonota, Cliff Swallow
Hirundo fulva, Cave Swallow
Hirundo rustica, Barn Swallow

FAMILY CORVIDAE
Cyanocitta cristata, Blue Jay
Aphelocoma coerulescens, Scrub Jay
Corvus brachyrhynchos, American Crow
Corvus ossifragus, Fish Crow

FAMILY PARIDAE
Parus carolinensis, Carolina Chickadee
Parus bicolor, Tufted Titmouse

FAMILY SITTIDAE
Sitta canadensis, Red-breasted Nuthatch
Sitta pusilla, Brown-headed Nuthatch

FAMILY CERTHIIDAE
Certhia americana, Brown Creeper

FAMILY TROGLODYTIDAE
Thryothorus ludovicianus, Carolina Wren
Troglodytes aedon, House Wren
Troglodytes troglodytes, Winter Wren
Cistothorus platensis, Sedge Wren
Cistothorus palustris, Marsh Wren

FAMILY MUSCICAPIDAE
SUBFAMILY SYLVIINAE
Regulus satrapa, Golden-crowned Kinglet
Regulus calendula, Ruby-crowned Kinglet
Polioptila caerulea, Blue-gray Gnatcatcher

SUBFAMILY TURDINAE
Oenanthe oenanthe, Northern Wheatear
Sialis sialis, Eastern Bluebird
Catharus fuscescens, Veery
Catharus minimus, Gray-cheeked Thrush
Catharus ustulatus, Swainson's Thrush
Catharus guttatus, Hermit Thrush
Hylocichla mustelina, Wood Thrush
Turdus migratorius, American Robin
Ixoreus naevius, Varied Thrush

FAMILY MIMIDAE
Dumetella carolinensis, Gray Catbird
Mimus polyglottos, Northern Mockingbird
Toxostoma rufum, Brown Thrasher

FAMILY MOTACILLIDAE
Anthus spragueii, Sprague's Pipit

FAMILY BOMBYCILLIDAE
Bombycilla cedrorum, Cedar Waxwing

FAMILY LANIIDAE
Lanius ludovicianus, Loggerhead Shrike

FAMILY VIREONIDAE
Vireo griseus, White-eyed Vireo
Vireo bellii, Bells' Vireo
Vireo solitarius, Solitary Vireo
Vireo flavifrons, Yellow-throated Vireo
Vireo gilvus, Warbling Vireo
Vireo philadelphicus, Philadelphia Vireo
Vireo olivaceus, Red-eyed Vireo
Vireo altiloquus, Black-whiskered Vireo

FAMILY EMBERIZIDAE
SUBFAMILY PARULINAE
Vermivora bachmanii, Bachman's Warbler
Vermivora pinus, Blue-winged Warbler
Vermivora chrysoptera, Golden-winged Warbler
Vermivora peregrina, Tennessee Warbler
Vermivora celata, Orange-crowned Warbler
Vermivora ruficapilla, Nashville Warbler
Parula americana, Northern Parula
Dendroica petechia, Yellow Warbler
Dendroica pensylvanica, Chestnut-sided Warbler
Dendroica magnolia, Magnolia Warbler
Dendroica tigrina, Cape May Warbler
Dendroica caerulescens, Black-throated Blue Warbler
Dendroica coronata, Yellow-rumped Warbler
Dendroica nigrescens, Black-throated Gray Warbler
Dendroica townsendi, Townsend's Warbler
Dendroica virens, Black-throated Green Warbler
Dendroica fusca, Blackburnian Warbler
Dendroica dominica, Yellow-throated Warbler
Dendroica pinus, Pine Warbler
Dendroica kirtlandii, Kirtland's Warbler
Dendroica discolor, Prairie Warbler
Dendroica palmarum, Palm Warbler
Dendroica castanea, Bay-breasted Warbler
Dendroica striata, Blackpoll Warbler
Dendroica cerulea, Cerulean Warbler
Mniotilta varia, Black-and-White Warbler
Setophaga ruticilla, American Redstart
Protonotaria citrea, Prothonotary Warbler
Helmitheros vermivorus, Worm-eating Warbler
Limnothlypis swainsonii, Swainson's Warbler
Seiurus aurocapillus, Ovenbird
Seiurus noveboracensis, Northern Waterthrush
Seiurus motacilla, Louisiana Waterthrush
Oporornis formosus, Kentucky Warbler
Oporornis agilis, Connecticut Warbler
Oporornis philadelphia, Mourning Warbler

Geothlypis trichas, Common Yellowthroat
Wilsonia citrina, Hooded Warbler
Wilsonia pusilla, Wilson's Warbler
Wilsonia canadensis, Canada Warbler
Icteria virens, Yellow-breasted Chat

SUBFAMILY THRAUPINAE
Spindalis zena, Stripe-headed Tanager
Piranga rubra, Summer Tanager
Piranga olivacea, Scarlet Tanager
Piranga ludoviciana, Western Tanager

SUBFAMILY CARDINALINAE
Cardinalis cardinals, Northern Cardinal
Pheucticus ludovicianus, Rose-breasted Grosbeak
Pheucticus melanocephalus, Black-headed Grosbeak
Guiraca caerulea, Blue Grosbeak
Passerina amoena, Lazuli Bunting
Passerina cyanea, Indigo Bunting
Passerina ciris, Painted Bunting
Spiza americana, Dickcissel

SUBFAMILY EMBERIZINAE
Pipilo erythrophthalmus, Rufous-sided Towhee
Tiaris bicolor, Black-faced Grassquit
Aimophila aestivalis, Bachman's Sparrow
Spizella passerina, Chipping Sparrow
Spizella pallida, Clay-colored Sparrow
Spizella pusilla, Field Sparrow
Pooecetes gramineus, Vesper Sparrow
Chondestes grammacus, Lark Sparrow
Calamospiza melanocorys, Lark Bunting
Passerculus sandwichensis, Savannah Sparrow
Ammodramus savannarum, Grasshopper Sparrow
Ammodramus henslowii, Henslow's Sparrow
Ammodramus leconteii, Le Conte's Sparrow
Ammodramus caudacutus, Sharp-tailed Sparrow
Ammodramus maritimus, Seaside Sparrow
Melospiza melodia, Song Sparrow
Melospiza lincolnii, Lincoln's Sparrow
Melospiza georgiana, Swamp Sparrow
Zonotrichia albicollis, White-throated Sparrow
Zonotrichia leucophrys, White-crowned Sparrow
Zonotrichia querula, Harris' Sparrow
Junco hyemalis, Dark-eyed Junco
Calcarius lapponicus, Lapland Longspur

SUBFAMILY ICTERINAE
Dolichonyx oryzivorus, Bobolink
Agelaius phoeniceus, Red-winged Blackbird
Sturnella magna, Eastern Meadowlark
Sturnella neglecta, Western Meadowlark
Xanthocephalus xanthocephalus, Yellow-headed Blackbird
Euphagus carolinus, Rusty Blackbird
Euphagus cyanocephalus, Brewer's Blackbird
Quiscalus major, Boat-tailed Grackle
Quiscalus quiscula, Common Grackle
Molothrus bonariensis, Shiny Cowbird
Molothrus aeneus, Bronzed Cowbird
Molothrus ater, Brown-headed Cowbird
Icterus spurius, Orchard Oriole
Icterus galbula, Northern Oriole

FAMILY FRINGILLIDAE
SUBFAMILY CARDUELINAE
Carpodacus purpureus, Purple Finch
Carduelis pinus, Pine Siskin
Carduelis tristis, American Goldfinch

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United States Department of the Interior

FISH AND WILDLIFE SERVICE

National Key Deer Refuge
P. O. Box 430510
Big Pine Key, FL 33043-0510
(305) 872-2239
FAX 305-872-3675
EMAIL: barry_stieglitz@FWS.GOV

TAKE PRIDE IN AMERICA

May 5, 1998

Douglas W. Heatwole
Project Manager
Ecology and Environment, Inc.
316 South Baylen St.
Pensacola, FL 32501

Re: Environmental Assessment for the Disposal and Reuse of the Truman Waterfront Property, Naval Air Station Key West, FL

Dear Mr. Heatwole:

Thank you for your correspondence of April 10 on the above subject. U.S. Fish and Wildlife Service staff have been involved with the LRA BRAC planning process thus far, and as a cooperating agency in the Environmental Education Center we are familiar with the proposed plan.

Primary concerns of the Refuge for the redevelopment of this property have to deal specifically with two issues:

1) the increase in user traffic adjacent to and possibly through the Key West National Wildlife Refuge. The Refuge was established as a "preserve and breeding ground for native birds" (Executive Order 923 dd. August 8, 1908), and in 1975 all the islands were designated "Wilderness" with Public Law 93-632. Significant increases in Refuge visitation and public use could result in increased wildlife disturbance, loss of wilderness character, and in extreme cases - degradation of habitat and

2) landscaping of the property. Any landscaping in the property redevelopment should use only native species - not invasive exotic plants (as defined by Florida Exotics Pest Plant Council). Waterborne seeds of exotic species could easily spread to Refuge islands and threaten their ecological integrity. Using native plant species will increase the usefulness of this area by native fauna and increase its attractiveness to the local community.

Finally, additional concerns that should be addressed in the EA include water quality degradation resulting from increased boater and cruise ship traffic.

Please feel free to contact me for further information.

Sincerely,

Robert Fischer

for Barry W. Stieglitz
Project Leader

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
9721 Executive Center Drive N.
St. Petersburg, Florida 33702

July 20, 1998

Douglas W. Heatwole
Ecology and Environment, Inc.
316 South Baylen Street
Pensacola, Florida 32501

Dear Mr. Heatwole:

This responds to your June 18, 1998, letter regarding the Naval Engineering Command's proposal to prepare an environmental assessment (EA) for the disposal and reuse of the Truman Waterfront Property at the Naval Air Station (NAS), Key West, Florida.

Project plans are not developed enough yet for us to provide detailed information or issues for discussion in the EA. We also defer to the Florida Department of Environmental Protection and the Army Corps of Engineers regarding applicable environmental laws. They would be able to more precisely identify laws that are applicable to the disposal and reuse of the NAS. Because an existing developed facility will be converted, habitat concerns under purview of the National Marine Fisheries Service (NMFS) should not be extensive. Our interests could best be accommodated in the EA by descriptions of the wetlands and deepwater habitats found at the site, and how these areas and the fishery resources that use them will be impacted by the various alternatives under consideration. Depending on the extent of environmental impact anticipated with the various alternatives, on- and off-site mitigation proposals should be presented for review and discussion. We believe this would be a better context to discuss impact and mitigation scenarios rather than to generically identify issues, options, or monitoring plans that turn out to be irrelevant.

The EA also should detail anticipated effects associated with operation of any new facilities. Any predicted increase in vessel usage should be identified. Water quality issues such as point and non-point source pollution, pollution abatement plans, oil spill response plans, and control of marine debris and trash also should be addressed. If your analysis reveals that reuse scenarios involve changes in the number and size of vessels using the project site, then the affects of this change also should be discussed. Potential increases in groundings and their impacts on submerged habitats such as seagrasses and coral reefs, that may be close to the facility, should be addressed. Further, the potential for increased collisions with endangered or threatened species of whales or sea turtles, or marine mammals protected under the Marine Mammal Protection Act, should be identified. If there is a potential for collision with endangered or threatened species, then consultation may ultimately be required under the Endangered Species Act. We recommend that, at some point, our Protected Resources Division be contacted at the letterhead address or at (727) 570-5312 to obtain a list of protected resources that may be found in the project area.

We appreciate the opportunity to provide these initial thoughts and look forward to future consultations with you and the Navy as more specific plans are developed. If you need additional information, please contact Mr. Mark Thompson at (850) 234-5061.

Sincerely,

Andreas Mager, Jr.
Assistant Regional Administrator
Habitat Conservation Division

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
9721 Executive Center Drive North
St. Petersburg, FL 33702

JUL 20 1998 F/SER3:JBM

Mr. Douglas W. Heatwole
Project Manager
Ecology and Environment, Inc.
316 South Baylen Street
Pensacola, Florida 32501

Dear Mr. Heatwole:

This is in response to your letter of May 18, 1998 concerning the proposed redevelopment of property that has been declared surplus by the U.S. Navy, located in Key West, Florida. You are preparing an environmental assessment (EA) to analyze the impacts for the disposal and reuse of 44.9 acres of the Truman Waterfront property. Since the proposed development incorporates many land-use activities, vessel traffic may be a concern. Endangered sea turtles or marine mammals are not likely to be found in the immediate area of the project, however; but the possibility does exist. Please refer to the enclosed list of *Endangered and Threatened Species and Critical Habitats Under the Jurisdiction of the National Marine Fisheries Service* in preparing your EA. Once we have had an opportunity to review the EA, we will consider impacts to Federally-listed endangered or threatened species under Section 7 of the Endangered Species Act of 1973, as amended. We look forward to the opportunity to consult on this project.

If you have any questions, please contact Colleen Coogan at 727-570-5312.

Sincerely yours,

Charles A. Oravetz

Charles A. Oravetz
Division Chief, Protected Resources

Enclosure

Endangered and Threatened Species and Critical Habitats Under the Jurisdiction of the National Marine Fisheries Service

Florida - Atlantic Coast

Listed Species	Scientific Name	Status	Date Listed
Marine Mammals			
finback whale	*Balaenoptera physalus*	Endangered	12/02/70
humpback whale	*Megaptera novaeangliae*	Endangered	12/02/70
right whale	*Eubalaena glacialis*	Endangered	12/02/70
sei whale	*Balaenoptera borealis*	Endangered	12/02/70
sperm whale	*Physeter macrocephalus*	Endangered	12/02/70
blue whale	*Balaenoptera musculus*	Endangered	12/02/70
Turtles			
green sea turtle	*Chelonia mydas*	Endangered[1]	07/28/78
hawksbill sea turtle	*Eretmochelys imbricata*	Endangered	06/02/70
Kemp's ridley sea turtle (Atlantic)	*Lepidochelys kempii*	Endangered	12/02/70
leatherback sea turtle	*Dermochelys coriacea*	Endangered	06/02/70
loggerhead sea turtle	*Caretta caretta*	Threatened	07/28/78
Fish			
shortnose sturgeon	*Acipenser brevirostrum*	Endangered	03/11/67

Species Proposed for Listing

Seagrass			
Johnson's seagrass	*Halophila johnsonii*	Threatened	

Proposed Critical Habitat

None

Designated Critical Habitat

Right whale: Between 31°15'N (approximately the mouth of the Altamaha River, Georgia) and 30°15'N (approximately Jacksonville, Florida) from the coast out to 15 nautical miles offshore; the coastal waters between 30°15'N and 28°00'N (approximately Sebastian Inlet, Florida) from the coast out to 5 nautical miles.

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[1] Green turtles are listed as threatened, except for breeding populations of green turtles in Florida and on the Pacific Coast of Mexico, which are listed as endangered.

Endangered and Threatened Species and Critical Habitats Under the Jurisdiction of the National Marine Fisheries Service

Florida - Atlantic Coast

Listed Species	Scientific Name	Status	Date Listed
Marine Mammals			
finback whale	*Balaenoptera physalus*	Endangered	12/02/70
humpback whale	*Megaptera novaeangliae*	Endangered	12/02/70
right whale	*Eubalaena glacialis*	Endangered	12/02/70
sei whale	*Balaenoptera borealis*	Endangered	12/02/70
sperm whale	*Physeter macrocephalus*	Endangered	12/02/70
blue whale	*Balaenoptera musculus*	Endangered	12/02/70
Turtles			
green sea turtle	*Chelonia mydas*	Endangered[1]	07/28/78
hawksbill sea turtle	*Eretmochelys imbricata*	Endangered	06/02/70
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leatherback sea turtle	*Dermochelys coriacea*	Endangered	06/02/70
loggerhead sea turtle	*Caretta caretta*	Threatened	07/28/78
Fish			
shortnose sturgeon	*Acipenser brevirostrum*	Endangered	03/11/67

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[1] Green turtles are listed as threatened, except for breeding populations of green turtles in Florida and on the Pacific Coast of Mexico, which are listed as endangered.

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U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Florida Keys National Marine Sanctuary
P.O. Box 500368
Marathon, FL 33050
Phone: 305) 743-2437
Fax: (305) 743-2357

May 13, 1998

Douglas Heatwole
Ecology and Environment, Inc.
316 South Baylen Street
Pensacola, FL 32501

Re: Comments for Environmental Assessment for the Disposal and Reuse of the Truman Waterfront Property, Naval Air Station Key West, Florida

Dear Mr. Heatwole:

I have reviewed the proposed redevelopment plan for the Truman Annex Property and the activities therein that are proposed. Most of the activities proposed are upland activities. The activities therein that will need Sanctuary approval include construction of a second cruise ship berth and marina siting.

The boundary of the Florida Keys National Marine Sanctuary (FKNMS) consists of all submerged land and waters from the mean high water mark out to the designated boundary past the reef line to the south (Atlantic) and the published boundary line to the north (Gulf of Mexico). The Sanctuary does not include any uplands within its jurisdiction. There are existing state and federal regulations that address upland issues.

The Final Reuse Plan proposed berthing for cruise ships along the outer Mole Pier. As cruise ships are currently berthing along the outer mole, the primary cruise ship berth is not in question. However, the addition of a secondary cruise ship berth may have significant impacts. The area proposed for the secondary cruise ship berth is not of adequate depth and would require dredging. This would require further review by FKNMS.

An additional environmental impact from the cruise ship activity would be the additional sediment plumes produced during docking and disembarking activities. Sanctuary Managers have received numerous complaints about the volume and intensity of suspended sediments in the water column during docking and maneuvering of cruise ships. In response to these complaints, we have observed these impacts first-hand. An increase in cruise ship activity would have to include proposals to lessen this impact to coral reef inhabitants.

Many of the existing federal and state regulations either partially or entirely address some regulatory components of the various management strategies within the FKNMS Final Management Plan. We would advise in preparation of the final EA, the FKNMS Final Management Plan and regulations be addressed.

The LRA proposed marina uses for the Truman Annex Waterfront property. The Florida Keys National Marine Sanctuary Water Quality Protection Plan describes a suite of activities and includes corrective actions. These corrective actions are proposed to deal with water quality issues that could arise from an activity. The following comments provided are strategies reflected under the

Florida Keys National Marine Sanctuary Water Quality Protection Plan that would apply to the proposed use activity discussed within the final reuse plan.

Domestic Wastewater Strategies

This section defines strategies for reducing pollution from land-based sources of domestic wastewater. Within the final reuse plan, the LRA called for the development of housing, retail operations and neighborhoods. The strategy for the City of Key West calls for the evaluation of disposal and reuse options and upgrading effluent disposal. With the added impacts on the Key West facility, evaluation of the existing facility is critical.

Stormwater Strategies

This section of the management plan addresses reducing the amount of pollution from stormwater runoff within the Florida Keys. Stormwater runoff currently accounts for 40% of the nutrients that enter our nearshore waters, so this issue must be taken into account. Within the final reuse plan, the LRA called for a large scale development of housing, and port related activities. This included warehousing and marine industrial activities. This section within the management plan advocates identifying stormwater runoff hot spots and alter their layout to reduce impacts. This could involve using grass parking areas, pollution control structures, and detention/retention facilities to control pollutants with the stormwater.

Marina and Live-Aboard Strategies

The final use plan proposed two separate marinas, one on the west quay wall and another along the east quay wall. One can speculate that the marinas could also contain "live-aboard" activity. Within the Marina and Live-Aboard Section within the final management plan, seven strategies were developed. Within these seven strategies, five involved reducing pollution by restricting discharges and educating the public.

- Strategy one requires all marinas, 10 or more slips as defined by the State of Florida, install pump-out facilities. This activity would increase the number and accessibility of pump-out facilities in the Florida Keys and thus increase usage.

- Strategy two involves marina siting and design.

- Strategy three reduces pollution from marina operations by establishing containment areas for boat maintenance operations. This activity would establish paved and curbed containment areas for boat maintenance activities such as hull scraping, repainting, mechanical repairs, fueling and lubrication. The LRA must identify the Best Management Practices they intend to use. These activities are considered industrial and therefore all marinas involved in these activities must apply for a National Pollutant Discharge Elimination System stormwater permit.

- Strategy four develops opportunities for instruction and training to heighten the environmental awareness of how human activities adversely affect water quality in the Keys.

- Strategy six establishes a mobile pump-out service through the local government, or a franchise with a private contractor, which would serve to pump out live-aboard vessels moored outside of marina facilities.

Hazardous Materials Strategies

The final management plan defines an area for "light industrial marine maintenance". One can deduce that through marine maintenance activities, there could be the possibility of pollution from spills of hazardous materials. The Hazardous Materials Strategies describes methods to reduce the impacts from spills of hazardous materials in and near the Keys. Strategy one of this plan calls for the improvement of response and containment techniques. This strategy also calls for the revision of the contingency plan for the Sanctuary that includes crew and equipment staged in the Keys.

Utilizing the above sections, consisting of a well designed marina in-conjunction with pollutant reducing methods, should decrease the overall environmental impacts from the proposed activities. Further, as there is not a mobile pump-out facility in or around Key West, establishing one would be an asset to this plan. Historically, there are several live-aboard areas. To name a few; Rat Island, Cow Key Channel, Boca Chica and Christmas Tree Island. These areas are ideal for the operation of a mobile station. The addition of the mobile pump-out facility to the LRA final reuse plan would directly reduce the amount of sewage discharged into the environment.

Thank you for giving me the opportunity to suggest items to be included in the environmental assessment that you are preparing on the Truman Waterfront Property at the Naval Air Station – Key West. Feel free to contact me to discuss these issues or others related to the proposal. I can be reached at 305.743.2437x26.

Sincerely,

Billy D. Causey
Superintendent

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U.S. Department of Transportation

United States Coast Guard

Commanding Officer
U.S. Coast Guard
Marine Safety Office

P.O. Box 01-6940
Miami, FL33101-6940
Phone: (305)535-8705

16000
15 May 98

Ecology And Environment, Inc.
Attn: Douglas W. Heatwole
316 South Baylen St.
Pensacola, FL 32501

Gentlemen:

This is in response to your letter of April 3, 1998 requesting Coast Guard Marine Safety Office input into the Environmental Assessment (EA) for the reuse/redevelopment of Truman Annex in Key West, Florida.

This office welcomes the economic redevelopment of this property, particularly for maritime use, and offers the following input, as appropriate, for the EA.

1. Coast Guard enforced laws and regulations and permitting and regulatory requirements:

a. 33 CFR 128, entitled SECURITY OF PASSENGER TERMINALS, and implementing instructions from Coast Guard Headquarters, requires entities which operate passenger vessel terminals and cruise ship landings to provide for the safety and security of persons and property in the terminal or landing area and on board each passenger vessel moored at the facility, to take measures that prevent the unlawful introduction of weapons or explosives onto the moored passenger vessel, and to prevent the unauthorized entry of persons onto passenger vessels and secure areas of the facility. This regulation requires that the operator provide to the Coast Guard Marine Safety Office a detailed written security plan, subject to Coast Guard review for adequacy, that contains measures to accomplish the above. It must be submitted at least 60 days prior to using the facility for passenger loading or landing. There are no permit requirements.

b. 33 CFR 158, entitled RECEPTION FACILITIES FOR OIL, NOXIOUS LIQUID SUBSTANCES, AND GARBAGE, applies generally to all ports and terminals that are used by certain oceangoing ships carrying residues or mixtures containing oil, by oceangoing ships for the transfer of noxious liquid substances as indentified in the regulations, and by all vessels for the transfer of garbage. An application for a Coast Guard issued Certificate of Adequacy must be submitted to the Marine Safety Office. The certificate must be issued and current and the reception facilities must meet Coast Guard inpection standards at all times in order for the port or terminal to be in compliance with these regulations. There are no other permit requirements.

c. 33 CFR 154, entitled FACILITIES TRANSFERRING OIL OR HAZARDOUS MATERIAL IN BULK, requires that any facility that intends to transfer, in bulk, oil or certain regulated hazardous materials to or from any vessel that has a combined bulk capacity of 10,500 gallons or more, must submit to the Marine Safety Office a letter of intent to operate as such at least 60 days prior to the start-up of operations. Along with the letter of intent, generally the operator must also submit two copies each of a detailed operations manual and a detailed oil spill reponse plan that meets the requirements stated in the regulation for Coast Guard review. Notice of favorable review by the Coast Guard serves as the facility's permit to operate. Failure to operate within the provisions of the reviewed operations manual will result in suspension of the permit by the Coast Guard.

d. 33 CFR 126, entitled HANDLING OF CLASS 1 EXPLOSIVES OR OTHER DANGEROUS CARGOES WITHIN OR CONTIGUOUS TO WATERFRONT FACILITIES, requires that any waterfront facility that handles, stores, stows, or transfers to or from any vessel certain explosives or other regulated dangerous cargoes or hazardous materials must meet the permit requirements of the regulation. Failure to maintain the facility in a condition that meets the requirements of the regulation will result in the suspension or revocation of the permit. In addition no hot work (welding or cutting by torch) may be conducted at such a facility without adequate advance notification to the Marine Safety Office and the express consent of that office.

e. 33 U.S.C.A. 2701-2761, entitled OIL POLLUTION ACT OF 1990 ("OPA90"), 33 U.S.C.A. 1251-1387, entitled FEDERAL WATER POLLUTION CONTOL ACT ("FWPCA"), and 42 U.S.C.A. 9601-9675, entitled COMPREHENSIVE ENVIRONMENTAL REPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 ("CERCLA") generally require that any person who spills oil or releases hazardous materials into the marine environment or creates the threat of a spill or release to the marine environment, must make immediate notification to the Coast Guard and take immediate steps to mitigate, contain and clean up the spilled or released substance. Failure on the part of the responsible party ("RP") to take prompt response action will result in the Coast Guard assuming response actions ("federalizing the project"). In all cases, the RP must reimburse the U.S. Government for its federalized efforts and in certain cases the RP will be liable for payment of THREE TIMES THE COST of the clean up. OPA90 gives citizens the ability to be reimbursed for their clean up efforts in the absence of an RP. In most cases, the RP will be required to pay a monetary penalty. Willful or intentional acts may result in criminal charges that could result in both monetary penalty and prison.

f. Title 46 of the Code of Federal Regulations contains numerous requirements for the Coast Guard conducted safety inspection of both U.S. and foreign flag commercial vessels during U.S. port visits.

2. We do not find at this time any conflict between the proposed reuse of this property and the Federal laws and regulations enforced by the Marine Safety Office.

3. There is a potential for adverse environmental impacts in the area due to the planned use of the waters by both commercial and non-commercial waterborne craft. These impacts will come from marine fuel and oil spills as well as the dumping of sewage, garbage and plastics into area waters.

4. Recommended measures to mitigate, monitor and otherwise prevent adverse environmental impacts primarily include pollution prevention efforts in the form of public information outreach and aggressive pollution response when a spill or release occurs or threatens to occur. The Coast Guard and the Florida Department of Environmental Protection have recently engaged in the posting of spill notification signs throughout the south Florida area's marinas and small boat harbors. These signs are available through the local Coast Guard Auxiliary.

Perhaps unrelated to EA but a major concern nonetheless is the adequacy of port mooring infrastructure for the size vessels that will use the Truman Annex property. Our harbor safety patrols periodically discover large vessels moored to insufficiently sized or wasted mooring fixtures. The existing fixtures at Truman Annex should be examined by qualified port engineers to ensure they will safely hold in the event of a surging moored vessel.

If we can be of any further assistance please contact Commander Miles at (305)535-8766.

Sincerely,

R. M. MILES
Commander, U. S. Coast Guard
By direction of the
Captain of the Port

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
FLORIDA KEYS NATIONAL MARINE SANCTUARY
P.O. BOX 500368
5550 OVERSEAS HIGHWAY - MAIN HOUSE (SHIPPING ADDRESS)
MARATHON, FLORIDA 33050

May 1, 1998

Douglas W. Heatwole
Ecology and Environment, Inc.
316 South Baylen Street
Pensacola, FL 32501

MAY 05 1998

Dear ~~Mr. Heatwole~~ Doug:

Thank you for meeting with me on March 10, 1998 to discuss the preparation of an Environmental Assessment for the "Disposal and Reuse of Truman Waterfront Property, Naval Air Station Key West, Florida." I am writing to reiterate the concerns that I expressed to you at our meeting to assure that they are addressed in the Environmental Assessment.

The redevelopment plan incorporates the following land-use activities:

- Recreation and open space areas and multi-modal greenways
- Berth(s) for cruise ships
- Professional marina (west) and public marina (east)
- Ferry terminal
- Mixed use development
- Preservation of Ft. Zachary Taylor
- Interagency visitor/education center
- Port-related industrial, warehouse, service or repair

All proposed construction that require dredging or filling activities will require federal authorization under Section 10 Rivers and Harbor Act and Section 404 Clean Water Act. The U.S. Environmental Protection Agency will review those permit applications to assure that proposed activities conform to the Section 404(b)(1) Guidelines. Activities will be evaluated based upon project purpose, water dependency, practicable alternatives, significance of the resource, and minimization of impacts. Cumulative and secondary impacts will be considered in that analysis.

We have several specific concerns over water quality and damage to biological resources that must be addressed. Cruise ships are deep-drafted, ocean-going vessels. Although the depths at the proposed berthing facility may be adequate for docking one cruise ship, turbidity plumes from ships utilizing that dock will result in degraded water quality. Turbidity plumes generated at that location have the potential to detrimentally impact nearby seagrass and hard bottom biological resources. Construction of second berth for cruise ships at this location will require dredging and will exacerbate this concern.

Construction of two marina facilities at this location will undoubtedly increase the boat traffic in the area. Key West is surrounded by shallow waters and increased boat traffic will undoubtedly

increase the number of vessel groundings. Damage to biological resources by increased vessel groundings must be evaluated.

Disposal of wastewater from vessels docked at the marina facilities must also be addressed. We recommend that use of sewage pumpout facilities be mandated for use by all vessels using the marinas. This action will require active education and enforcement efforts.

Stormwater from the development must be collected and treated before it is discharged into surface waters. Fueling facilities must be properly located and constructed to minimize spillage. Also, we are particularly concerned over runoff from the unspecified service or repair establishments proposed for the south waterfront. Boat scraping, painting, and repair facilities generate toxic and hazardous wastes which must be collected and properly disposed.

Please call me at (305) 743-0537 if you have any questions about our concerns with the proposed project.

Sincerely yours,

Bill

William L. Kruczynski, Ph.D.
Program Scientist
Water Quality Protection Program

STATE OF FLORIDA

DEPARTMENT OF COMMUNITY AFFAIRS

"Helping Floridians create safe, vibrant, sustainable communities"

LAWTON CHILES
Governor

JAMES F. MURLEY
Secretary

June 12, 1998

RECEIVED

JUN 16 1998

Pensacola

Mr. Douglas W. Heatwole
Ecology and Environment, Inc.
316 South Baylen Street
Pensacola, Florida 32501

RE: U.S. Air Force - Scoping Document Regarding the Draft Environmental Assessment for the Disposal and Reuse of the Truman Waterfront Property Naval Air Station - Key West, Monroe County, Florida
SAI: FL9804060154C

Dear Mr. Heatwole:

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

The Department of State (DOS) indicates that the nature and/or location of the construction/rehabilitation/street scaping activities proposed by the applicant is such that significant archaeological or historic sites may be adversely affected by these activities. Therefore, DOS recommends that future funding of the referenced activities be conditioned upon the applicant's willingness to fully comply with the conditions stipulated by DOS, as enclosed.

The Department of Environmental Protection (DEP) identified several environmental concerns for consideration in the preparation of the Environmental Assessment for the proposed reuse of the U.S. Navy properties being turned over to the City of Key West. The applicant is advised to consider the impact of all proposed uses on the Florida Keys National Marine Sanctuary (FKNMS) and the requirements of the FKNMS Management Plan. The strategies within the Management Plan should be addressed in any assessment of land uses, and impacts to the sanctuary must be minimized. In addition, the DEP's comments note the regulatory requirements which may relate to the proposed project. Please refer to the enclosed DEP comments.

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Internet address: http://www.state.fl.us/comaff/dca.html

FLORIDA KEYS
Area of Critical State Concern Field Office
2796 Overseas Highway, Suite 212
Marathon, Florida 33050-2227

GREEN SWAMP
Area of Cri[illegible]ld Office
Bartow, Florida 33830-4641

SOUTH FLORIDA RECOVERY OFFICE
P.O. Box 4022
8600 N.W. 36th Street
Miami, Florida 33159-4022

The South Florida Water Management District (SFWMD) offers comments to be addressed in preparation of the draft environmental assessment. Any proposed activity which alters surface water flows will require an Environmental Resource Permit. Any activities proposed in waters classified as an Outstanding Florida Water must be in the public interest and must meet stringent water quality criteria. The SFWMD expresses concerns regarding the extent of existing contamination within and adjacent to the Truman Waterfront Property and regarding re-suspension of pollutants in the marina sediments. The proposed marina facilities may result in adverse impacts to listed species, and the potential cruise ship berth may result in adverse impacts to sea turtles, reefs, sea grasses or other aquatic beds. Impacts to sea grasses and aquatic beds should be avoided and minimized. Any unavoidable impacts will require appropriate mitigation. The draft EA should include a survey of reefs, sea grasses and aquatic beds in the vicinity of the proposed berth. In addition, the applicant must coordinate with the DEP, the Florida Marine Fisheries Commission and/or the U.S. Fish and Wildlife Service regarding manatees, sea turtles, and other listed species issues. Please refer to the enclosed SFWMD comments.

The Department of Community Affairs (Department) notes that the Truman Waterfront Property is currently designated "Military" on the Future Land Use Map included in the current 1994 City of Key West Comprehensive Plan. The proposed reuse of the aforementioned military lands is not addressed in the current City of Key West Comprehensive Plan. The City of Key West and the Department are, at present, addressing the future use of the site in the ongoing Chapter 288, Florida Statutes (F.S.), Base Reuse Planning Process. However, the Base Reuse Planning process is not yet complete, and in order to address the proposed redevelopment, the existing comprehensive plan must be amended. In addition, the Department offers several recommendations which may prevent potential conflicts with the requirements of section 380.05, F.S., Rule 28-36, Florida Administrative Code, and the City of Key West Comprehensive Land Use Plan regarding the reuse and redevelopment of the Truman Waterfront Property. Please refer to the enclosed Department comments.

Based on the information contained in the scoping document and the enclosed comments provided by our reviewing agencies, at this stage the state does not object to continued development of the project. All subsequent environmental documents prepared for this project must be reviewed to determine the project's

consistency with the requirements of the Florida Coastal Management Program. The state's continued concurrence with the project will be based, in part, on the adequate resolution of issues identified during this and subsequent reviews. Comments received from the South Florida Regional Planning Council are also enclosed for your review.

Thank you for the opportunity to review the scoping document. If you have any questions regarding this letter, please contact Ms. Cherie Trainor, Clearinghouse Coordinator, at (850) 922-5438.

Sincerely,

Chris McCoy

for Ralph Cantral, Executive Director
Florida Coastal Management Program

RC/cc

Enclosures

cc: George Percy, Department of State
Robert Hall, Department of Environmental Protection
Jim Golden, South Florida Water Management District
Eric Silva, South Florida Regional Planning Council

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STATE OF FLORIDA

DEPARTMENT OF COMMUNITY AFFAIRS

"Helping Floridians create safe, vibrant, sustainable communities"

LAWTON CHILES
Governor

JAMES F. MURLEY
Secretary

MEMORANDUM

TO: Ms. Cherie Trainor
State Clearinghouse

FROM: G. Steven Pfeiffer
Assistant Secretary

SUBJECT: Ecology and Environment, Inc. - Scoping Document Regarding Draft Environmental Assessment for the Disposal and Reuse of the Truman Waterfront Property, Naval Air Station - Key West, Monroe County, SAI# FL9804060154C

DATE: June 9, 1998

The Department of Community Affairs (Department), pursuant to its role as the State's land planning agency, has reviewed the above-referenced permit application for consistency with its statutory responsibilities under the Florida Coastal Management Program (FCMP), which includes Chapter 163, Part II, and Chapter 380, Florida Statutes (F.S.). The proposed project is located in the City of Key West Area of Critical State Concern (ACSC). Therefore, the project must be consistent with Chapter 380, F.S.; the Principles for Guiding Development of the City of Key West ACSC, as delineated in Rule 28-36.003, Florida Administrative Code (F.A.C.); and Chapter 163, Part II, F.S. The Department has determined that, at this stage, the project, as described in the referenced scoping document, complies with the FCMP.

The applicant is preparing an environmental assessment (EA) for the disposal and reuse of the Truman Waterfront Property. This property contains 44.9 acres of land currently designated "Military" on the Future Land Use Map included in the current 1994 City of Key West Comprehensive Plan. The proposed reuse of the aforementioned military lands is not addressed in the current City of

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Internet address: http://www.state.fl.us/comaff/dca.html

FLORIDA KEYS
Area of Critical State Concern Field Office
2796 Overseas Highway, Suite 212
Marathon, Florida 33050-2227

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Area of A-28 Office
Bartow, Florida 33830-4641

SOUTH FLORIDA RECOVERY OFFICE
P.O. Box 4022
8600 N.W. 36th Street
Miami, Florida 33159-4022

Key West Comprehensive Plan. The City of Key West and the Department are, at present, addressing the future use of the site in the ongoing Chapter 288, F.S., Base Reuse Planning Process. However, the Base Reuse Planning process is not yet complete, and in order to address the proposed redevelopment, the existing comprehensive plan must be amended. The base reuse plans produced after the Environmental Assessment (EA) will not be consistent with the FCMP until those amendments are adopted.

We also raise the following issues and potential conflicts in regard to the comprehensive plan concerning the reuse and redevelopment of the Truman waterfront property, which will need more detailed review before a final consistency determination can be made. In order to prevent potential conflicts with the requirements of section 380.05, F.S., Rule 28-36, F.A.C., and the City of Key West Comprehensive Land Use Plan regarding the reuse and redevelopment of the Truman waterfront property, the following should be considered:

1. Impacts to water quality from the construction and regular use of a second cruise ship mooring facility and two marinas at and along the outer mole. Key West Comprehensive Plan Policies: 5-1.1.1 through 5-1.13.4; 5A-1.1.1 through 5A-5.1.2; 6-1.1.1 through 6-1.12.4.

2. The limited potential for new residential and transient unit construction due to the constraints of the City of Key West Building Permit Allocation System as related to the Monroe County Hurricane Evacuation Model. Key West Comprehensive Plan Policies: 1-2.1.1 through 1-3.12.4; 5-1.3.1 through 5-1.8.7.

3. The impact of new commercial development of waterfront lands on the need for additional affordable housing, which currently is at a deficit in the City of Key West. Key West Comprehensive Plan Policies: 3-1.1.1 through 3-1.8.4.

4. Impacts to City infrastructure and levels of service concurrent with future development including wastewater, stormwater, traffic circulation, parking, and alternative transportation. Key West Comprehensive Plan Policies: 2-1.1.1 through 2-1.8.1; 4-1.1.1 through 4-4.2.2; 7-1.1.1 through 7-1.5.10; 8-1.3.1 through 8-1.3.3; and 9-1.1.1 through 9-1.6.3.

5. The preservation and revitalization of the residential and cultural character of the Bahama Village neighborhood abutting the Truman Waterfront, located in the Key West Historic District. Key West Comprehensive Plan Policies: 1A-1.1.1 through 1A-1.6.1; 7-1.1.1 through 7-1.5.10.

Other issues may arise during the Base Reuse planning process which may impact the consistency of the proposed action(s).

Thank you for the opportunity to comment on this project. If you require additional information, please contact either Alan Woolwich, Division of Community Planning, Marathon Office at (305) 289-2402 or Cindi Brown, Florida Coastal Management Program, at (850) 414-6830, or at the address above.

SGP/cm/cb

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FLORIDA

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

May 21, 1998

RECEIVED
MAY 27 1998
State of Florida Clearinghouse

Ms. Cherie Trainor
Florida State Clearinghouse
Department of Community Affairs
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100

Re: Scoping for the Draft Environmental Assessment, Disposal and Reuse of the Truman Annex Waterfront Property, U.S. Naval Air Station, Key West, Monroe County

SAI: FL9804060154C

Dear Ms. Trainor:

This Department has reviewed the above-described project proposal and based on the information provided, we request that the following environmental concerns be considered in the Environmental Assessment of the project to develop a plan for reuse of the U.S. Navy properties being turned over to the City of Key West.

Florida signed onto the Florida Keys National Marine Sanctuary (FKNMS) Management Plan in January 1997; therefore, strategies within the Management Plan should be addressed in any assessment of land uses which may impact the sanctuary. The following comments relate to the Management Plan strategies, as well as some regulatory comments and recommendations for minimizing adverse environmental impacts related to this proposal.

Domestic Wastewater Strategies

Within the conceptual Truman Annex reuse plan, the Land Redevelopment Authority (LRA) has proposed development of housing, retail operations and neighborhood revitalization. This strategy for the City of Key West will require evaluation of wastewater disposal and reuse options as well as upgrading effluent disposal. With the added impacts on the Key West wastewater treatment plant, evaluation of that existing capacity is critical.

Any new wastewater connections from the reuse sites to the municipal sewer system will most likely require collection system permits from this Department in accordance with Chapter 62-604, F.A.C. Before any new permits can be issued, the wastewater flow which is generated from the new development at these sites will have to be evaluated in order to

provide reasonable assurances that the permitted capacity of the existing municipal collection and treatment facilities can handle the additional wastewater flow. Also, the municipal sewer system is currently in disrepair and subject to high levels of groundwater infiltration. This problem has resulted in violations of the State permit which has required enforcement action by this department. As a result, the City of Key West is operating under a Consent Judgment which requires complete rehabilitation of the municipal sewer collection system within a five year schedule. Any new connections to the municipal sewer system will have to be consistent, and shall not interfere with, the requirements of this Consent Judgment.

Stormwater Strategies

The stormwater management section of the FKNMS Management Plan addresses reducing the amount of pollution from stormwater runoff, by identifying hot spots and altering land use layouts to reduce impacts to surface waters. This could also involve using grassed parking areas, and pollution control structures to include detention and retention facilities to reduce stormwater pollutants. The LRA has proposed a large scale development of housing, and port related activities in its conceptual reuse plan, as well as warehousing and marine industrial activities, all of which have the potential for increasing stormwater discharge pollutants. In order to remedy this potential problem the city should confer with this department's Marathon office, as well as the South Florida Water Management District on stormwater strategies which will avoid direct discharges that may violate water quality standards of the surrounding Outstanding Florida Waters. If stormwater retention systems are inadequate to reduce pollutants, the city may need to consider the use of injection wells or implement a reuse plan for Stormwater runoff.

Marina and Live-Aboard Strategies

The city's conceptual use plan proposed two separate marinas, one on the west quay wall and another along the east quay wall. One can speculate that the marinas could also contain "live-aboard" activity. Within the Marina and Live-Aboard Section of the final FKNMS Management Plan, seven strategies were developed for protecting the environment. These seven strategies involve a variety of pollution reduction approaches, ranging from a restriction of discharges to educating the public on proper methods of contaminant disposal. The following is a discussion of some of those strategies.

All marinas with 10 or more boat slips, as defined by the State of Florida, are required to install pump-out facilities which would increase the number and accessibility of these facilities in the Florida Keys; and, hopefully, encourage proper sewage disposal practices. Other strategies involve optimizing marina siting as well as design and reduction of pollution

from marina operations by establishing containment areas for boat maintenance operations[1]. The LRA needs to identify the Best Management Practices it intends to use in order to meet surface water quality standards where marinas are proposed.

Marina and live-aboard activities may generate pollutants, and it is recommended that all marinas seek assistance from this department in developing the necessary stormwater treatment systems which will utilize the most current technology for protecting surface waters from pollution. Opportunities for instruction and training of residents and tourists to heighten the environmental awareness of how human activities adversely affect water quality in the Keys should also be utilized. Well designed marinas, in-conjunction with pollutant reducing methods, should decrease the overall adverse environmental impacts from the activities being proposed.

A Mobile sewage pump-out service and related utilization requirements should be developed by the local government to serve areas where permanent marina pump-out facilities are not yet available. With local supervision of the quality and cost of this service, it could be operated by (a) private contractor(s) who would provide this service for live-aboard vessels moored outside of marina facilities. Historically, there are several live-aboard areas around Key West that could use this service, including Rat Island, Cow Key Channel, Boca Chica and Christmas Tree Island. These areas are ready for and could support a mobile sewage pump out station operation. The addition of a mobile pump-out facility to the LRA final reuse plan would directly reduce the amount of sewage discharged into the keys environment, and provide a major benefit to the community.

Hazardous Materials Strategies

The proposed conceptual land use plan defines an area for "light industrial marine maintenance." One might expect that marine maintenance activities may result in accidental spills of hazardous materials. Strategies in the Sanctuary Plan describe methods of reducing the impacts from hazardous material spills in and near the Keys. Among others, strategy one calls for the improvement of response and containment techniques with a revision of the contingency plan that includes the location of a crew and equipment in the Keys. These activities need to be coordinated with this department's Waste Management Program through the pollution prevention process. Based upon the information provided, there may be additional permitting requirements that evolve as particulars are developed. For additional assistance on this requirement please contact Mr. Ron Blackburn in this department's South District office, at (941)332-6975.

---

[1] This activity would establish paved and curbed containment areas for boat maintenance activities such as hull scraping, repainting, mechanical repairs, fueling and lubrication.

The Final Conceptual Plan for reuse proposes berthing for cruise ships along the outer Mole Pier. Since cruise ships are currently berthing along the outer mole, the primary cruise ship berth is not in question. However, the addition of a secondary cruise ship berth may have significant impacts. The area proposed for the secondary cruise ship berth is not of adequate depth and would require dredging. The added ship activity could also increase water turbidity, thus decreasing overall water quality of the area. This proposed activity should undergo further review to determine ways in which adverse impacts may be minimized.

Proposals for public and professional marinas would likely involve State Lands Environmental Resource Permitting (SLERP) issues, in conjunction with a determination of submerged land ownership. It should not be assumed that all proprietary issues have been resolved with regard to ownership of submerged lands which have been under the control of the U.S. Navy. The permitting process will need to incorporate an appropriate title search of submerged land ownership prior to an official transfer of the properties, or preparation of submerged land lease agreements.

Implementation of all aspects of the Clean Vessel Act and the Florida Keys National Marine Sanctuary Management Plan should be minimum considerations for the city's reuse of the property, with clarification as needed by the agencies that are charged with regulating land use activities impacting that environment.

Thank you for the opportunity of commenting on this proposal. If you have any questions regarding this letter please give me a call at (850) 487-2231.

Sincerely,

Robert W. Hall
Office of Intergovernmental
Programs

cc: G.P. Schmall
A. M. Hartman
R.J. Helbling
Fritz Wettstein
Gus Rios
Ron Blackburn

FLORIDA DEPARTMENT OF STATE
Office of the Secretary
Office of International Relations
Division of Administrative Services
Division of Corporations
Division of Cultural Affairs

MEMBER OF THE FLORIDA CABINET
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Ringling Museum of Art
Division of Licensing
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FLORIDA DEPARTMENT OF STATE
Sandra B. Mortham
Secretary of State
DIVISION OF HISTORICAL RESOURCES

May 15, 1998

Ms. Cherie Trainor
State Clearinghouse
Department of Community Affairs
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100

In Reply Refer To:
Scott B. Edwards
Historic Sites Specialist
Project File No. 982049

RE: Cultural Resource Assessment Request
SAI# FL9804060154C
Scoping Document Regarding the Draft Environmental Assessment for the Disposal and Reuse of the Truman Waterfront Property
Naval Air Station, Key West, Monroe County, Florida

Dear Ms. Trainor:

In accordance with the provisions of Florida's Coastal Zone Management Act and Chapter 267, *Florida Statutes*, as well as the procedures contained in 36 C.F.R., Part 800 ("Protection of Historic Properties"), we have reviewed the referenced projects for possible impact to historic properties listed, or eligible for listing, in the *National Register of Historic Places*, or otherwise of historical or architectural value.

We note that that there are a number of known historic properties within and adjacent to the project area. It is the opinion of this office that the nature and/or location of the proposed project activities (i.e., any new construction/rehabilitation/street scaping) is such that they could have an adverse effect on historic properties listed, or eligible for listing, in the National Register.

Therefore, it is the recommendation of this agency that future project funding be conditioned upon the applicant agreeing to comply with the following conditions:

- To notify this agency upon receipt of project approval that the applicant intends to comply with efforts to identify, evaluate and appropriately design project activities to avoid or minimize adverse project impacts to any historic properties listed, or which satisfy the criteria of eligibility for listing (36 CFR 60.4), in the National Register of Historic Places. Such notification will include the name and telephone number of the individual designated by the applicant to fulfill these conditions.

- To consult with this agency in the identification and evaluation of any archaeological sites and/or pre-1948 structures which may be impacted by scheduled project activities, or such properties located adjacent to the activity areas.

- To consult with this agency for project activities that involve any new construction or street scaping, including open space improvements.

- To consult with this agency concerning measures to avoid or minimize impacts of any project activities adversely affecting properties listed, or eligible for listing, in the National Register, or otherwise of historical or archaeological value. In cases where project activities adversely impact historic properties, avoidance by way of project modifications is the preferred alternative. If project plans cannot be modified, then measures to minimize or mitigate impacts may be warranted.

Provided the applicant concurs with the condition, the proposed activities will be consistent with the historic preservation laws of Florida's Coastal Management Program.

If you have any questions concerning our comments, please do not hesitate to contact us. Your interest in protecting Florida's historic properties is appreciated.

Sincerely,

Laura A. Kammerer

for George W. Percy, Director
Division of Historical Resources
and
State Historic Preservation Officer

GWP/Ese

xc: Jasmin Raffington, FCMP-DCA

South Florida Water Management District

3301 Gun Club Road, West Palm Beach, Florida 33406 • (561) 686-8800 • FL WATS 1-800-432-2045
TDD (561) 697-2574

GOV 04-12 RF: 98411

May 8, 1998

Ms. Cherie Trainor
Florida State Clearinghouse
Department of Community Affairs
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100

Subject: **Key West Naval Air Station (SAI #9804060154C)**
Proposed Disposal and Reuse of the Truman Waterfront Property
Scoping Document For Environmental Assessment

Dear Ms. Trainor:

In response to your request, the South Florida Water Management District (SFWMD) has reviewed the Scoping Document submitted by Ecology and Environment, Inc. in connection with the preparation of an Environmental Assessment (EA) for the above-referenced project.

Projects reviewed by the SFWMD pursuant to the FCMP are reviewed for consistency with the provisions of Chapter 373, F.S. (Florida Water Resources Act of 1972, as amended), as well as the programs and regulations developed thereunder. Chapter 373, F.S. provides the authority to regulate the withdrawal, diversion, storage, and consumptive uses of water, the construction and operation of stormwater management systems, and work in, on, or over surface waters or wetlands. Chapter 373, F.S. also provides authority to acquire and manage land, to conduct research and investigations into all aspects of water resource management, and to disseminate information relating to the water resources of the state to public and private users.

Based on an analysis of the mandatory enforceable provisions and recommended policies of the core FCMP statutes and implementing rules administered by the SFWMD, insufficient information is available at this time in order for staff to determine whether or not this project is consistent with the achievement of the SFWMD's projects, programs, and objectives.

The following comments should be addressed by the applicant in preparation of the Draft EA.

(1) Any proposed activity which alters surface water flows (e.g., the proposed docking facilities) will require an Environmental Resource Permit.

(2) The waters north and west of the Truman Waterfront are within Florida Bay which is classified as an Outstanding Florida Water (OFW). Consequently, any activities proposed in these waters must be in the public interest and must meet stringent water quality criteria, pursuant to Sections 62-4.242(2) and 62-302.700, F.A.C. In addition, please note that the SFWMD's Basis of Review for ERP applications (BOR) provides additional water quality criteria for docking facilities (Section 4.2.4.3).

(3) District staff has concerns regarding the extent of existing contamination within and adjacent to the Truman Waterfront property. Detailed information should be provided regarding the extent of contamination as well as any remediation activities proposed.

(4) District staff has concerns regarding re-suspension of pollutants in the marina sediments. If any dredging, pier construction, or other activity is proposed which disturbs sediment, analysis of pollutants in the sediment may be required. Carefully controlled dredging procedures may also be required.

(5) The proposed marina facilities may result in adverse impacts to listed species, including manatees and sea turtles. The potential future cruise ship berth may result in adverse impacts to sea turtles, reefs, sea grasses, or other aquatic beds. Impacts to sea grasses and aquatic beds should be avoided and minimized to the extent practicable. Once avoidance and minimization has been addressed, any unavoidable impacts will require appropriate mitigation. The Draft EA should include a survey of reefs, sea grasses, and aquatic beds in the vicinity of the proposed berth. In addition, it will be necessary for the applicant to coordinate with the Department of Environmental Protection's Office of Protected Species Management, the Florida Marine Fisheries Service, and/or the U.S. Fish and Wildlife Service regarding manatees, sea turtles, and other listed species issues.

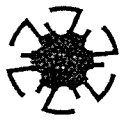
If any of the above requires additional clarification, please give me a call at (561) 682-6862.

Sincerely,

James J. Golden, AICP
Senior Planner
Regulation Department

/jg

South
Florida
Regional
Planning
Council



April 24, 1998

Ms. Cherie Trainor
Florida State Clearinghouse
Department of Community Affairs
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100

RE: SFRPC #98-0420, SAI #FL9804060154C - Response to a request for comments on the scoping document regarding the Draft Environmental Assessment (EA) for the disposal and reuse of the Truman Waterfront Property, Naval Air Station, Ecology and Environment, Inc., Key West, Monroe County.

Dear Ms. Trainor:

We have reviewed the above-referenced environmental assessment and have the following comments:

- Council staff is concerned about the cumulative impacts of this and similar projects. Staff recognizes the location of this project in the Florida Keys National Marine Sanctuary, a natural resource of regional significance as designated in the *Strategic Regional Policy Plan for South Florida.* The Florida Keys ecosystem is sensitive and is subject to significant growth pressures. While this project may have little effect on the system by itself, the cumulative impacts on the water quality and ecological integrity of the region are of concern to Council staff and need to be considered with all projects. In addition, the project must be consistent with the goals and policies of the City of Key West comprehensive plan and its corresponding land development regulations.

- Staff recommends that, if this permit is granted, 1) impacts to the natural systems be minimized to the greatest extent feasible and 2) the permit grantor determine the extent of sensitive marine life and vegetative communities in the vicinity of the project and require protection and or mitigation of disturbed habitat. This will assist in reducing the cumulative impacts to native plants and animals, wetlands and fisheries that the goals and policies of the *Strategic Regional Policy Plan for South Florida* seek to protect.

- The goals and policies of the *Strategic Regional Policy Plan for South Florida,* in particular those indicated below, should be observed when making decisions regarding this project.

Strategic Regional Goal

3.1 Eliminate the inappropriate uses of land by improving the land use designations and utilize land acquisition where necessary so that the quality and connectedness of

3440 Hollywood Boulevard, Suite 140, Hollywood, Florida 33021
Broward (954) 985-4416, Area Codes 305, 407 and 561 (800) 985-4416
SunCom 473-4416, FAX 17, SunCom FAX 473-4417
e-mai A-39 pc.com

Natural Resources of Regional Significance and suitable high quality natural areas is improved.

Regional Policies

3.1.1 Natural Resources of Regional Significance and other suitable natural resources shall be preserved and protected. Mitigation for unavoidable impacts will be provided either on-site or in identified regional habitat mitigation areas with the goal of providing the highest level of resource value and function for the regional system. Endangered faunal species habitat and populations documented on-site shall be preserved on-site. Threatened faunal species and populations and species of special concern documented on-site, as well as critically imperiled, imperiled and rare plants shall be preserved on-site unless it is demonstrated that off-site mitigation will not adversely impact the viability or number of individuals of the species.

3.1.9 Degradation or destruction of Natural Resources of Regional Significance, including listed species and their habitats will occur as a result of a proposed project only if:

a) the activity is necessary to prevent or eliminate a public hazard, and
b) the activity is in the public interest and no other alternative exists, and
c) the activity does not destroy significant natural habitat, or identified natural resource values, and
d) the activity does not destroy habitat for threatened or endangered species, and
e) the activity does not negatively impact listed species that have been documented to use or rely upon the site.

3.1.10 Proposed projects shall include buffer zones between development and existing Natural Resources of Regional Significance and other suitable natural resources. The buffer zones shall provide natural habitat values and functions that compliment Natural Resources of Regional Significance values so that the natural system values of the site are not negatively impacted by adjacent uses. The buffer zones shall be a minimum of 25 feet in width. Alternative widths may be proposed if it is demonstrated that the alternative furthers the viability of the Natural Resource of Regional Significance, effectively separating the development impacts from the natural resource or contributing to reduced fragmentation of identified Natural Resources of Regional Significance.

Strategic Regional Goal

3.4 Improve the protection of upland habitat areas and maximize the interrelationships between the wetland and upland components of the natural system.

Regional Policies

3.4.4 Require the use of ecological studies and site and species specific surveys in projects that may impact natural habitat areas to ensure that rare and state and federally listed plants and wildlife are identified with respect to temporal and spatial distribution.

3.4.5 Identify and protect the habitats of rare and state and federally listed species. For those rare and threatened species that have been scientifically demonstrated by past

or site specific studies to be relocated successfully, without resulting in harm to the relocated or receiving populations, and where *in-situ* preservation is neither possible nor desirable from an ecological perspective, identify suitable receptor sites, guaranteed to be preserved and managed in perpetuity for the protection of the relocated species that will be utilized for the relocation of such rare or listed plants and animals made necessary by unavoidable project impacts. Consistent use of the site by endangered species, or documented endangered species habitat on-site shall be preserved on-site.

3.4.8 Remove invasive exotics from all Natural Resources of Regional Significance and associated buffer areas. Require the continued regular and periodic maintenance of areas that have had invasive exotics removed.

3.4.9 Required maintenance shall insure that re-establishment of the invasive exotic does not occur.

Strategic Regional Goal

3.8 Enhance and preserve natural system values of South Florida's shorelines, estuaries, benthic communities, fisheries, and associated habitats, including but not limited to, Florida Bay, Biscayne Bay and the coral reef tract.

Regional Policies

3.8.1 Enhance and preserve natural shoreline characteristics through requirements resulting from the review of proposed projects and in the implementation of ICE, including but not limited to, mangroves, beaches and dunes through prohibition of structural shoreline stabilization methods except to protect existing navigation channels, maintain reasonable riparian access, or allow an activity in the public interest as determined by applicable state and federal permitting criteria.

3.8.2 Enhance and preserve benthic communities, including but not limited to seagrass and shellfish beds, and coral habitats, by allowing only that dredge and fill activity, artificial shading of habitat areas, or destruction from boats that is the least amount practicable, and by encouraging permanent mooring facilities. Dredge and fill activities may occur on submerged lands in the Florida Keys only as permitted by the Monroe County Land Development Regulations. It must be demonstrated pursuant to the review of the proposed project features that the activities included in the proposed project do not cause permanent, adverse natural system impacts.

3.8.3 As a result of proposed project reviews, include conditions that result in a project that enhances and preserves marine and estuarine water quality by:

a) improving the timing and quality of freshwater inflows;
b) reducing turbidity, nutrient loading and bacterial loading from wastewater facilities and vessels;
c) reducing the number of improperly maintained stormwater systems; and
d) requiring port facilities and marinas to implement hazardous materials spill plans.

3.8.4 Enhance and preserve commercial and sports fisheries through monitoring, research, best management practices for fish harvesting and protection of nursery habitat and include the resulting information in educational programs throughout the region. Identified nursery habitat shall be protected through the inclusion of suitable habitat protective features including, but not limited to:

a) avoidance of project impacts within habitat area;
b) replacement of habitat area impacted by proposed project; or
c) improvement of remaining habitat area within remainder of proposed project area.

3.8.5 Enhance and preserve habitat for endangered and threatened marine species by the preservation of identified endangered species habitat and populations. For threatened species or species of critical concern, on-site preservation will be required unless it is demonstrated that off-site mitigation will not adversely impact the viability or number of individuals of the species.

Thank you for the opportunity to comment. We would appreciate being kept informed on the progress of this project. Please do not hesitate to call if you have any questions or comments.

Sincerely,

Eric Silva
Regional Planner

ES/kj

cc: Ralph Cantral, FCMP
Julio Avael, City of Key West

COUNTY: Monroe

Message:

DATE: 04/06/98
COMMENTS DUE-2 WKS: 04/21/98
CLEARANCE DUE DATE: 05/21/98
SAI#: FL9804060154

STATE AGENCIES	WATER MANAGEMENT DISTRICTS	OPB POLICY UNITS
Agriculture Community Affairs Environmental Protection Game and Fresh Water Fish Comm OTTED State Transportation	South Florida WMD	X Environmental Policy/C & ED Also routed by M To: EOG-OPB- Growth Mgmt General Gov't Paula Allen

RECEIVED
APR 15 1998
State of Florida Clearinghouse

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evalutation and is categorized as one of the following:

— Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.

_X_ Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.

— Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.

— Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

Project Description:

Ecology and Environment, Inc. - Scoping Document Regarding the Draft Environmental Assessment for the Disposal and Reuse of the Truman Waterfront Property, Naval Air Station Key West, Monroe County, Florida.

To: **Florida State Clearinghouse**
Department of Community Affairs
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100
(850) 922-5438 (SC 292-5438)
(904) 414-0479 (FAX)

EO. 12372/NEPA

- ☑ ~~No~~ Comment
- ☐ Comments Attached
- ☐ Not Applicable

Federal Consistency

- ☐ No Comment/Consistent
- ☐ Consistent/Comments Attached
- ☐ Inconsistent/Comments Attached
- ☐ Not Applicable

From:
Division/Bureau: EOG. OPB- Env. Policy
Reviewer: M Tanner
Date: 4/14/98

COUNTY: Monroe

Message:

DATE: 04/06/98
COMMENTS DUE-2 WKS: 04/21/98
CLEARANCE DUE DATE: 05/21/98
SAI#: FL98040601

STATE AGENCIES	WATER MANAGEMENT DISTRICTS	OPB POLICY UNITS
Agriculture Community Affairs Environmental Protection Game and Fresh Water Fish Comm OTTED State Transportation	South Florida WMD	X Environmental Policy/C & ED

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- [ ] Consistent/Comments Attached
- [ ] Inconsistent/Comments Attached
- [ ] Not Applicable

From:

Division/Bureau: EOG/OPB/ENV

Reviewer: Paula Allen

Date: April 20, 1998

COUNTY: Monroe / Eg1

Message:

DATE: 04/06/98
COMMENTS DUE-2 WKS: 04/21/98
CLEARANCE DUE DATE: 05/21/98
SAI#: FL9804060154C

STATE AGENCIES	WATER MANAGEMENT DISTRICTS	OPB POLICY UNITS
Agriculture Community Affairs Environmental Protection X Game and Fresh Water Fish Comm OTTED State Transportation	South Florida WMD	Environmental Policy/C & ED

RECEIVED BY GFC
APR 07 1998
OFFICE OF ENVIRONMENTAL SERVICES

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☐ Not Applicable

Federal Consistency

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☐ Consistent/Comments Attached
☐ Inconsistent/Comments Attached
☐ Not Applicable

From:

Division/Bureau: Office of Environmental Services
Reviewer: Brian Barnett
Date: 4/8/98

COUNTY: Monroe

Message:

DATE: 04/06/98
COMMENTS DUE-2 WKS: 04/21/98
CLEARANCE DUE DATE: 05/21/98
SAI#: FL98040601

STATE AGENCIES	WATER MANAGEMENT DISTRICTS	OPB POLICY UNITS
Agriculture Community Affairs Environmental Protection Game and Fresh Water Fish Comm X OTTED State Transportation	South Florida WMD	Environmental Policy/C & ED

RECEIVED
MAY 06 1998
State of Florida Clearinghouse

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☐ Comments Attached
☐ Not Applicable

Federal Consistency

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☐ Consistent/Comments Attached
☐ Inconsistent/Comments Attached
☐ Not Applicable

From:

Division/Bureau: OTTED

Reviewer: Debra Ann Cocklill

Date: 4-30-98

Reef Relief®

a non-profit membership organization dedicated to
Preserve and Protect Living Coral Reef Ecosystems
through local, regional and global efforts

May 4, 1998

To: Douglas Heatwole, Project Manager

From: DeeVon Quirolo, Project Director

Date: May 4, 1998

Re: Environmental Assessment for the Disposal and Reuse of the Truman Waterfront Property, Naval Air Station, Key West, Fl.

Enclosed please find the comments of our organization, as written and presented to you by board member Robin Orlandi.

Thank You

Reef Relief Environmental Center & Store
201 William Street, P.O. Box 430, Key West, Fl. 33041
(305) 294-3100 fax (305) 293-9515
www.reefrelief reef@bellsouth.net

27 April 1998

Douglas Heatwole, Project Mgr.
Ecology and Environment Inc.
316 South Baylen St.
Pensacola FL 32501

Re: Environmental Assessment for the Disposal and Reuse of the Truman Waterfront Property, Naval Air Station Key West, FL

Dear Mr. Heatwole:

In response to your letter soliciting input regarding significant environmental and social issues that should be addressed in the Environmental Assessment for the reuse of the Truman Annex Waterfront Property, we are submitting the following list of concerns we feel are critical to preserving the ecological health of both marine and land based habitats. As part of the Florida Keys National Marine Sanctuary, the marine habitat surrounding Key West has been designated an "Outstanding Florida Water" and as such is permitted to suffer no degradation in water quality. In any Environmental Assessment this should be kept foremost in mind. We are at a time in the Keys when the immediate future health of our coral reefs and nearshore waters can be sustained only through the best environmental management practices that result in the perpetuation of a clean, clear, unpolluted and nutrient-free water flow. In order for the Truman Waterfront Property's reuse to conform to those requirements, the following issues should be addressed:

Completion of the assessment and cleanup of several CERCLA/SARA sites located at Truman Annex that are currently being addressed through NASKW's Installation Restoration Program. Because of the Truman Properties' extreme proximity to our marine waters, it is imperative that all environmental cleanups and restorations utilize the most conservative standards protective of both human and environmental health. In the event that suitable environmental / ecological standards are not available, every effort should be made to determine, through consultation with scientists and researchers familiar with the unique environmental requirements of the Florida Keys, appropriate threshold exposure levels protective of marine and land based biota specific to this area. The cleanup of these IR and SWMU sites must be to the highest protective standard and not use fallback measures such as controlled access.

Stormwater runoff must be contained and properly treated. Parking lots should be constructed of porous paving material to allow for the absorption of rainwater.

At the marina and cruiseship facilities, bilge, human waste and other potentially harmful discharges must be eliminated. Sanitary pumpout and emergency containment facilities should be provided to encourage vessel compliance; All vessels should be required to provide proof of compliance as a condition of marina access; and enforcement of clean vessel requirements needs to be made a priority. The facilites should be constructed so as to be sufficient to meet the full capacity needs of the marina. Any existing fuel storage, piping lines or other potentially hazardous, prior use infrastructure must be removed and any spillage remediated. Fuel docks need to be spill and runoff proofed and have adequate emergency respose planning.

the impacts of vessel propwash on seagrasses, patch reefs, and other bottom communities should be studied and appropriate measures taken to prevent negative impacts; vessels should be taxed for remediation and mitigation fees.

All vessels should pay an annual per foot or per tonnage fee for coral reef restoration and research programs addressing the impacts of, and for emergency response in the event of,

groundings, leakage or other incidents adversely affecting the health of surrounding marine habitates.

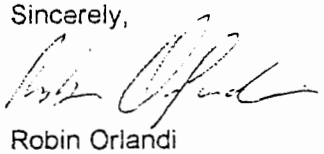
Impacts from increased traffic, sanitation, water and other resource uses need to be quantified and infrastructure funding established to compensate for the demand that the reuse of the Truman Waterfront will generate. Environmentally sound and sustainable practices should be emphasized.

Preservation of sufficient greenspace is absolutely imperative to protect threatened species and provide adequate habitat. The Truman Property should emphasize the importance of the natural environment in the Florida Keys and restrict buildout; the natural history of the area should be incorporated into educational facilited and emphasized in public spaces; the health and efficiency of the greenspaces should be monitored regularly by qualified scientists to assure their productive function for both wildlife and human users.

The use of synthetic pesticides and fertilizers in green areas should be restricted or banned to protect both human and wildlife receptors and to address the problem of contaminated runoff. Integrated Pest Management provides a workable, environmentally sound alternative that should be used on both the grounds and inside buildings.

Please send us copies of the EA and any supporting documents concerning the Truman Waterfront as they are developed. We request that we be placed on any relevant mailing lists.

Sincerely,



Robin Orlandi
Acting NASKW Restoration Advisory Board community member for Reef Relief