

FINAL

*Environmental Assessment of
Construction and Operation of an Armed Forces Reserve Center
Pursuant to Base Realignment and Closure
at Ceiba, Puerto Rico*



Prepared for

United States Army Reserve

Prepared by

US Army Corps of Engineers, Mobile District

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ENVIRONMENTAL ASSESSMENT ORGANIZATION

This Environmental Assessment addresses the proposed action to construct and operate an Armed Forces Reserve Center pursuant to the BRAC Commission recommendations for the U.S. Army Reserve, 1st Mission Support Command at Ceiba, Puerto Rico. It has been developed in accordance with the National Environmental Policy Act and implementing regulations issued by the Council on Environmental Quality (Title 40 of the *Code of Federal Regulations* [CFR] Parts 1500–1508) and the Army (32 CFR Part 651). Its purpose is to inform decisionmakers and the public of the likely environmental and socioeconomic consequences of the proposed action and alternatives.

An ***EXECUTIVE SUMMARY*** briefly describes the proposed action, environmental and socioeconomic consequences, and mitigation measures.

CONTENTS

- SECTION 1.0:*** ***PURPOSE, NEED, AND SCOPE*** summarizes the purpose of and need for the proposed action and describes the scope of the environmental impact analysis process.
- SECTION 2.0:*** ***PROPOSED ACTION*** describes the proposed action to construct and operate an Armed Forces Reserve Center pursuant to BRAC Commission recommendations at Ceiba, Puerto Rico.
- SECTION 3.0:*** ***ALTERNATIVES*** examines alternative sites and alternatives to implementing the proposed action.
- SECTION 4.0:*** ***AFFECTED ENVIRONMENT AND CONSEQUENCES*** describes the existing environmental and socioeconomic setting at Ceiba and identifies potential effects of implementing the proposed action.
- SECTION 5.0:*** ***FINDINGS AND CONCLUSIONS*** summarizes the environmental and socioeconomic effects of implementing the proposed action.
- SECTION 6.0:*** ***LIST OF PREPARERS*** identifies the persons who prepared the document.
- SECTION 7.0:*** ***DISTRIBUTION LIST*** indicates recipients of this Environmental Assessment.
- SECTION 8.0:*** ***REFERENCES*** provides bibliographical information for cited sources.
- SECTION 9.0:*** ***PERSONS CONSULTED*** provides a listing of persons and agencies consulted during preparation of this Environmental Assessment.
- SECTION 10.0:*** ***ACRONYMS AND ABBREVIATIONS*** provides a list of acronyms and abbreviations used in the document.

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- A*** Defense Base Closure and Realignment Commission Recommendations
- B*** Wetlands Information
- C*** Coastal Zone Consistency Determination
- D*** Agency Consultation Letters
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ENVIRONMENTAL ASSESSMENT

CONSTRUCTION AND OPERATION OF AN ARMED FORCES RESERVE CENTER PURSUANT TO BASE REALIGNMENT AND CLOSURE (BRAC) AT CEIBA, PUERTO RICO

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ENVIRONMENTAL ASSESSMENT

LEAD AGENCY: U.S. Army Reserve, 1st Mission Support Command

TITLE OF PROPOSED ACTION: Construction and Operation of an Armed Forces Reserve Center Pursuant to Base Realignment and Closure at Ceiba, Puerto Rico

AFFECTED JURISDICTION: Ceiba, Puerto Rico

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ABSTRACT: This Environmental Assessment (EA) considers the proposed construction and operation of an Armed Forces Reserve Center pursuant to the recommendations of the Base Realignment and Closure (BRAC) Commission at Ceiba, Puerto Rico. The EA identifies, evaluates, and documents the environmental and socioeconomic effects of facility construction, renovation, maintenance, and operation proposed to accommodate the changes mandated by the BRAC Commission. A No Action alternative is also evaluated. Implementation of the proposed action is not expected to result in significant environmental or socioeconomic impacts. Therefore, preparation of an Environmental Impact Statement is not required and a Finding of No Significant Impact (FONSI) will be published in accordance with the National Environmental Policy Act.

REVIEW COMMENT DEADLINE: The EA and FONSI are available for review and comment for 30 days from publication of a Notice of Availability in *El Nuevo Dia*. Copies of the EA and draft FNSI can be obtained by contacting Mr. Anibal Negrón at 787-707-3575, or by e-mail requests to anibal.negron1@us.army.mil. Copies of the EA and draft FONSI are available at the United States Army Garrison, Fort Buchanan, Directorate of Public Works, Environmental Division upon request. Copies of the EA and draft FONSI are also available in Ceiba at the Biblioteca Pública de Ceiba, Oficina del Alcalde de Ceiba, Avenida Lauro Piñero, Plaza de Recreo, Ceiba, Puerto Rico. Comments on the EA and draft FNSI should be submitted to Mr. Negrón by no later than the end of the public comment period.

EXECUTIVE SUMMARY

ES.1 INTRODUCTION

This Environmental Assessment (EA) describes and analyzes the effects of constructing and operating an Armed Forces Reserve Center pursuant to the 2005 Defense Base Closure and Realignment Commission (BRAC Commission) recommendations with respect to Ceiba, Puerto Rico, and associated actions on the human environment.

ES.2 BACKGROUND

With respect to Ceiba, Puerto Rico, the BRAC Commission recommended in relevant part:

Close the U.S. Army Reserve Center 1st Lieutenant Paul Lavergne, Bayamon, PR, and relocate the 973rd Combat Support (CS) Company into a new Armed Forces Reserve Center (AFRC) on United States Army Reserve property in Ceiba, Puerto Rico. ... The new AFRC facility in Ceiba, Puerto Rico shall have the capability to accommodate Puerto Rico Army National Guard (PRARNG) units from the following PRARNG Readiness Centers: Humacao, Juncos, and Ceiba, if Puerto Rico decides to relocate those National Guard units.

Relocation of units, equipment, and personnel from the Army Reserve Center and PRARNG Readiness Centers would require construction and operation of new facilities at Ceiba. In this EA, the Army identifies and describes the environmental effects associated with its proposed action at Ceiba, Puerto Rico.

ES.3 PROPOSED ACTION AND ALTERNATIVES

ES.3.1 Proposed Action (Moscrip Alternative)

The Army proposes to construct and operate a new AFRC large enough for 600 personnel at Ceiba, Puerto Rico. The primary facilities would include an AFRC training building, a vehicle maintenance shop (VMS), an unheated storage building, and organizational parking. Associated actions would include land clearing, paving, fencing, general site improvements, and extension of utilities to serve the project. The AFRC would provide about 88,000 square feet (ft²) of space, the VMS would provide about 8,400 ft² of space, and the unheated storage building would provide about 5,550 ft² for organizational unit storage. About 6,000 ft² of organizational unit parking would also be constructed. Contract award for the design is scheduled to occur in May 2009 and construction would be completed by not later than September 2011.¹ The AFRC would be in the Moscrip area on a 54-acre parcel in the eastern portion of the former Naval Station Roosevelt Roads. The parcel is occupied by an old, unused building that would be demolished to accommodate the new AFRC; a U.S. Army Reserve Training Center that is being used by the 346th Transportation Battalion; a new, unoccupied Navy barracks; a new, large, unoccupied building; a Defense Reutilization and Marketing Office scrap metal recycling yard; and several small, unused buildings. The northwestern and northeastern portions of the parcel are vegetated. The AFRC would support the operations of two Army Reserve units (the 973rd Quartermaster

¹ Section 2904(a), Public Law 101-510, as amended, provides that the Army must "...initiate all closures and realignments no later than two years after the date on which the President transmits a report [by the BRAC Commission] to the Congress...containing the recommendations for such closures or realignments; and...complete all such closures and realignments no later than the end of the six year period beginning on the date on which the President transmits the report...." The President took the specified action on September 15, 2005.

Company and the 268th Transportation Company) from a facility in Bayamon, Puerto Rico; and three PRARNG units from facilities in Humacao, Juncos, and Ceiba, Puerto Rico. These units have a total of approximately 600 personnel.

ES.3.2 Bundy Alternative

Review of other potential sites for construction of the AFRC at Ceiba produced one parcel that is satisfactory in terms of size, availability, compatibility of use, topography, and convenience. The alternative site is in the Bundy area on the former Naval Station Roosevelt Roads. The Bundy area is a 15-acre parcel south of Bennington Road in the southern part of the former naval station. Five unaccompanied personnel housing buildings, totaling 155,884 ft² of space, and a former post exchange building with 25,051 ft² of space, would be demolished to accommodate the new AFRC. The Bundy alternative is evaluated in detail in the EA.

ES.3.3 No Action Alternative

Inclusion of the No Action alternative is prescribed by CEQ regulations. The No Action alternative serves as a baseline alternative against which other alternatives can be evaluated. No action assumes that the Army would continue its mission at Ceiba as it existed in November 2005, with no unit relocations and no new facilities constructed. Because the BRAC Commission's recommendations now have the force of law, continuation of the November 2005 Ceiba mission is not possible without further Congressional action. The No Action alternative is evaluated in detail in this EA.

ES.4 ENVIRONMENTAL CONSEQUENCES

The EA evaluates potential effects on land use, aesthetics and visual resources, air quality, noise, geology and soils, water resources, biological resources, cultural resources, socioeconomics (including environmental justice and protection of children), transportation, utilities, and hazardous and toxic substances. For each resource, the predicted effects from the Moscrip alternative (identified as the Army's preferred alternative), the Bundy alternative, and the No Action alternative are briefly described below. The consequences of the three alternatives are summarized in Table ES-1.

ES.4.1 Moscrip Alternative

No adverse effects from implementing the Moscrip alternative would be expected on the following resource areas: land use, wetlands, floodplains, sensitive species, cultural resources, population, housing, schools, family services, environmental justice, protection of children, and hazardous materials. Short-term minor adverse effects from implementing the Moscrip alternative would be expected on the following resource areas: soils, surface waters, groundwater resources, the coastal zone, public services, traffic, and transportation systems. Short-term minor beneficial effects from implementing the Moscrip alternative would be expected on economic development. Short- and/or long-term minor adverse effects from implementing the Moscrip alternative would be expected on air quality, the noise environment, biological resources, and traffic. Long-term minor adverse and beneficial effects from implementing the Moscrip alternative would be expected on utility systems. Long-term minor beneficial effects from implementing the Moscrip alternative would be expected on aesthetic and visual resources. None of the adverse effects associated with implementing the Moscrip alternative would be significant.

Table ES-1
Summary of potential environmental and socioeconomic consequences

Environmental and socioeconomic effects			
Resource area	Moscrip alternative	Bundy alternative	No Action alternative
Land use	No effects	No effects	No effects
Aesthetics and visual resources	Long-term minor beneficial	Long-term minor beneficial and adverse	No effects
Air quality	Short- and long-term minor adverse	Short- and long-term minor adverse	No effects
Noise	Short- and long-term minor adverse	Short- and long-term minor adverse	No effects
Geology and soils			
• Geology/topography	No effects	No effects	No effects
• Soils	Short-term minor adverse	Short-term minor adverse	No effects
Water resources			
• Surface water	Short-term minor adverse	Short-term minor adverse	No effects
• Groundwater	Short-term minor adverse	Short-term minor adverse	No effects
• Wetlands	No effects	No effects	No effects
• Floodplains	No effects	No effects	No effects
• Coastal zone	Short-term minor adverse	Short-term minor adverse	No effects
Biological resources			
• Vegetation	Long-term minor adverse	Short-term minor adverse	No effects
• Wildlife	Long -term minor adverse	Short-term minor adverse	No effects
• Sensitive species	No effects	No effects	No effects
Cultural resources	No effects	No effects	No effects
Socioeconomics			
• Economic development	Short-term minor beneficial	Short-term minor beneficial	No effects
• Population	No effects	No effects	No effects
• Housing	No effects	No effects	No effects
• Quality of life	Short-term minor adverse	Short-term minor adverse	No effects
• Environmental justice	No effects	No effects	No effects
• Protection of children	No effects	No effects	No effects
Transportation	Short- and long-term minor adverse	Short- and long-term minor adverse	No effects
Utilities	Long-term minor adverse and beneficial	Long-term minor adverse and beneficial	No effects
Hazardous and toxic substances	No effects	Short-term minor adverse (on monitored natural attenuation investigations)	No effects

ES.4.2 Bundy Alternative

The environmental effects of implementing the Bundy alternative would be the same as those summarized above for the Moscrip alternative, with the following exceptions: Long-term minor beneficial and adverse effects on aesthetic and visual resources would be expected from implementing the Bundy alternative, and a short-term minor adverse on monitored natural

attenuation investigations at the Bundy area would be expected. The adverse effect on aesthetics would result from placement of a VMS on an area that is now an open, maintained lawn area. Also, while the effects of solid waste generation on landfill capacity would be characterized as long-term minor adverse under both alternatives, implementing the Bundy alternative would result in the generation of approximately 3.5 times more construction and demolition debris than would the Moscrip alternative. None of the adverse effects associated with implementing the Bundy alternative would be significant.

ES.4.3 No Action Alternative

No adverse effects on any resource area would be expected from implementing the No Action alternative. Under the No Action alternative, the Army would not construct an AFRC on either the Moscrip or Bundy area and the property would be available to the LRA for redevelopment.

ES.5 CUMULATIVE EFFECTS

Minor adverse cumulative effects on air quality, the noise environment, traffic, and landfill capacity, and minor beneficial effects on economic development would be expected from implementing the Moscrip alternative. None of the adverse cumulative effects would be significant.

ES.6 MITIGATION

Mitigation actions are used to reduce, avoid, or compensate for significant adverse effects. The EA did not identify the need for any mitigation measures.

ES.7 CONCLUSIONS

Based on the analysis performed in the EA, implementation of the preferred alternative would have no significant direct, indirect, or cumulative effects on the quality of the natural or human environment. Preparation of an Environmental Impact Statement is not required. Issuance of a Finding of No Significant Impact would be appropriate.

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SECTION 1.0 PURPOSE, NEED, AND SCOPE

1.1 INTRODUCTION

On September 8, 2005, the Defense Base Closure and Realignment Commission (BRAC Commission) recommended that certain realignment actions occur in the Commonwealth of Puerto Rico. The President approved these recommendations and forwarded them to Congress on September 15, 2005 (Appendix A). The Congress did not alter any of the BRAC Commission's recommendations, and on November 9, 2005, the recommendations became law. The BRAC Commission's recommendations must now be implemented, as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended. This Environmental Assessment (EA) pertains to the BRAC Commission's recommendations affecting Ceiba, Puerto Rico (Figure 1-1).

With respect to Ceiba, the BRAC Commission recommended in relevant part:

Close the U.S. Army Reserve Center 1st Lieutenant Paul Lavergne, Bayamon, PR, and relocate the 973rd Combat Support (CS) Company into a new Armed Forces Reserve Center (AFRC) on United States Army Reserve property in Ceiba, Puerto Rico. ... The new AFRC facility in Ceiba, Puerto Rico, shall have the capability to accommodate Puerto Rico Army National Guard (PRARNG) units from the following PRARNG Readiness Centers: Humacao, Juncos, and Ceiba, if Puerto Rico decides to relocate those National Guard units.

Relocation of units, equipment, and personnel from the Army Reserve Center and PRARNG Readiness Centers would require construction and operation of new facilities at Ceiba.² In this EA the Army identifies and describes the environmental effects associated with its proposed action at Ceiba. Details on the proposed action are set forth in Section 2.2.

1.2 PURPOSE AND NEED

The purpose of the proposed action is to provide the necessary facilities to support the BRAC Commission's recommendation pertaining to Reserve Component forces in Puerto Rico.

The need for the proposed action is to improve the nation's ability to respond rapidly to challenges of the 21st century by implementing the BRAC Commission's recommendations. The Army is legally bound to defend the United States and its territories, to support national policies and objectives, and to defeat nations responsible for aggression that endangers the peace and security of the United States. To carry out these tasks, the Army must adapt to changing world conditions and must improve its capabilities to respond to a variety of circumstances across the full spectrum of military operations.

² The United States closed U.S. Naval Station Roosevelt Roads in 2004 and established Naval Activity Puerto Rico (NAPR) to oversee the disposal of lands not further required by U.S. government agencies. The proposed action evaluated in this EA would occur on real property, known as the *Moscrip Area*, made available to the Army by the Navy before disposal of the installation. Accordingly, the site of this action is referred to as *Ceiba* (the municipality containing NAPR) instead of the former naval installation.



Location Map

Figure 1-1

In previous rounds of BRAC, the explicit goal was to save money and downsize the military to reap a *peace dividend*. In the 2005 BRAC round, the Department of Defense (DoD) sought to reorganize its installation infrastructure to most efficiently support its forces, increase operational readiness, and facilitate new ways of doing business. Thus, BRAC represents more than cost savings; it supports advancing the goals of transformation, improving military capabilities, and enhancing military value. The Army needs to carry out the BRAC recommendations at Ceiba to achieve the objectives of the BRAC law.

1.3 SCOPE

The 1990 Defense Base Closure and Realignment Act specifies that the National Environmental Policy Act (NEPA) of 1969 does not apply to actions of the President, the Commission, or the DoD, except “(i) during the process of property disposal, and (ii) during the process of relocating functions from a military installation being closed or realigned to another military installation after the receiving installation has been selected but before the functions are relocated” (Section 2905(c)(2)(A), Public Law 101-510, as amended). The law further specifies that in applying the provisions of NEPA to the process, the Secretary of Defense and the secretaries of the military departments concerned do not have to consider “(i) the need for closing or realigning the military installation which has been recommended for closure or realignment by the Commission, (ii) the need for transferring functions to any military installation which has been selected as the receiving installation, or (iii) military installations alternative to those recommended or selected” (Section 2905(c)(2)(B)). Because the BRAC Commission’s deliberation and decision, as well as the need for closing or realigning a military installation, are exempt from NEPA, this EA does not address the need for realignment. NEPA does apply to the activities proposed to support unit realignment, and therefore the Army addresses those actions in this document.

1.4 PUBLIC INVOLVEMENT

The Army invites public participation in the NEPA process. Consideration of the views and information of all interested persons promotes open communication and enables better decision making. All agencies, organizations, and members of the public having a potential interest in the proposed action, including minority, low-income, disadvantaged, and Native American groups, are urged to participate in the decision-making process.

Public participation opportunities with respect to this EA and decision making on the proposed action are guided by Title 32 of the *Code of Federal Regulations* (CFR) Part 651. On its completion, the EA will be made available to the public for 30 days along with a Finding of No Significant Impact (FNSI). At the end of the 30-day public review period, the Army will consider any comments submitted by individuals, agencies, or organizations on the proposed action, the EA, or the FNSI. As appropriate, the Army may then execute the FNSI and proceed with implementing the proposed action. If it is determined, before issuance of a final FNSI, that implementing the proposed action would result in significant impacts, the Army will publish in the *Federal Register* a notice of intent to prepare an Environmental Impact Statement (EIS), will commit to mitigation actions sufficient to reduce impacts below significant levels, or will take no action.

Throughout this process, the public may obtain information on the status and progress of the proposed action and the EA by calling Mr. Anibal Negrón at 787-757-3575.

1.5 IMPACT ANALYSIS PERFORMED

This EA has been developed in accordance with NEPA and its implementing regulations, issued by the President's Council on Environmental Quality (CEQ) and the Army.³ Its purpose is to inform decision makers and the public of the likely environmental consequences of the proposed action and alternatives.

An interdisciplinary team of environmental scientists, biologists, planners, economists, engineers, archaeologists, historians, and military technicians has analyzed the proposed action and alternatives in light of existing conditions and has identified relevant beneficial and adverse effects associated with the action. The proposed action is described in Section 2.0; alternatives, including the No Action Alternative, are described in Section 3.0. Conditions existing as of November 2005, considered to be the baseline conditions, are described in Section 4.0, Affected Environment. Environmental Consequences, or the expected environmental and socioeconomic effects of the proposed action, are described in Section 5.0. The potential for cumulative effects is also addressed in Section 5.0, and mitigation measures are identified where appropriate.

1.6 FRAMEWORK FOR DECISION MAKING

A decision on whether to proceed with the proposed action rests on numerous factors, such as mission requirements, schedule, availability of funding, and environmental considerations. In addressing environmental considerations, the Army is guided by relevant statutes and their implementing regulations and by Executive Orders (EO) that establish standards and provide guidance on environmental and natural resources management and planning. These include the following: Clean Air Act, Clean Water Act, Energy Policy Act of 2005, Noise Control Act, Endangered Species Act, National Historic Preservation Act (NHPA), Archaeological Resources Protection Act (ARPA), Resource Conservation and Recovery Act (RCRA), and Toxic Substances Control Act (TSCA). EOs bearing on the proposed action include EO 11988 (*Floodplain Management*); EO 11990 (*Protection of Wetlands*); EO 12088 (*Federal Compliance with Pollution Control Standards*); EO 12580 (*Superfund Implementation*); EO 12898 (*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*); EO 13045 (*Protection of Children from Environmental Health Risks and Safety Risks*); EO 13175 (*Consultation and Coordination with Indian Tribal Governments*); EO 13186 (*Responsibilities of Federal Agencies to Protect Migratory Birds*); and EO 13423 (*Strengthening Federal Environmental, Energy, and Transportation Management*). These authorities are addressed in various sections throughout this EA when relevant to particular environmental resources and conditions. The full text of the laws, regulations, and EOs is available on the Defense Environmental Network & Information Exchange Web site, at <http://www.denix.osd.mil>.

³ CEQ Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act, 40 CFR Parts 1500–1508, and Environmental Analysis of Army Actions, 32 CFR Part 651.

SECTION 2.0

DESCRIPTION OF THE PROPOSED ACTION

2.1 INTRODUCTION

This section describes the Army's preferred alternative for carrying out the BRAC Commission's recommendation to close an existing reserve center and construct and operate a new AFRC large enough to accommodate multiple Reserve Component organizations at Ceiba.

2.2 PROPOSED ACTION

Construction. The Army proposes to construct and operate a new AFRC large enough for 600 personnel at Ceiba, Puerto Rico. It is anticipated that the AFRC would be used on three weekends each month, with maximum usage (i.e., 600 personnel) on one or more weekend each month. Primary facilities would include an AFRC training building, a Vehicle Maintenance Shop (VMS), an unheated storage building, and organizational parking. Buildings would be of permanent construction with full mechanical systems. Actions taken to support the facilities would include land clearing, paving, fencing, general site improvements, and extension of utilities to serve the project. The Army would incorporate force protection (physical security) measures into the design of the facility, including consideration of standoff distance from roads, parking areas, and vehicle unloading areas. Sustainable design and development and Energy Policy Act of 2005 features will be incorporated into all designs.

The AFRC would provide approximately 88,000 square feet (ft²) of space for administrative, educational, unit assembly, library, learning center, vault, weapons simulator, and physical fitness functions. The VMS would provide approximately 8,400 ft² of space for work bays and administrative support. A building providing approximately 5,550 ft² of unheated space would be for organizational unit storage. Adequate parking space for all military and privately owned vehicles would be provided on approximately 6,000 ft² of organizational unit parking. Paving, walkways, curbs and gutters, and storm drainage for the buildings would be included in the project. Fencing would be installed at access points but would not completely surround the property.

The project would provide adequate parking for all military and privately owned vehicles. Units assigned to the AFRC are authorized 426 wheeled vehicles, trailers, and tracked vehicles. The actual number of vehicles and trailers is 270. To accommodate parking of privately owned vehicles and military equipment parking, the project would include approximately 20,400 square yards (4.2 acres) of paving.

Contract award for design is scheduled to occur in May 2009 and facility construction would be completed by not later than September 2011.⁴

⁴ Section 2904(a), Public Law 101-510, as amended, provides that the Army must, "...initiate all closures and realignments no later than two years after the date on which the President transmits a report [by the BRAC Commission] to the Congress...containing the recommendations for such closures or realignments; and...complete all such closures and realignments no later than the end of the six year period beginning on the date on which the President transmits the report...." The President took the specified action on September 15, 2005.

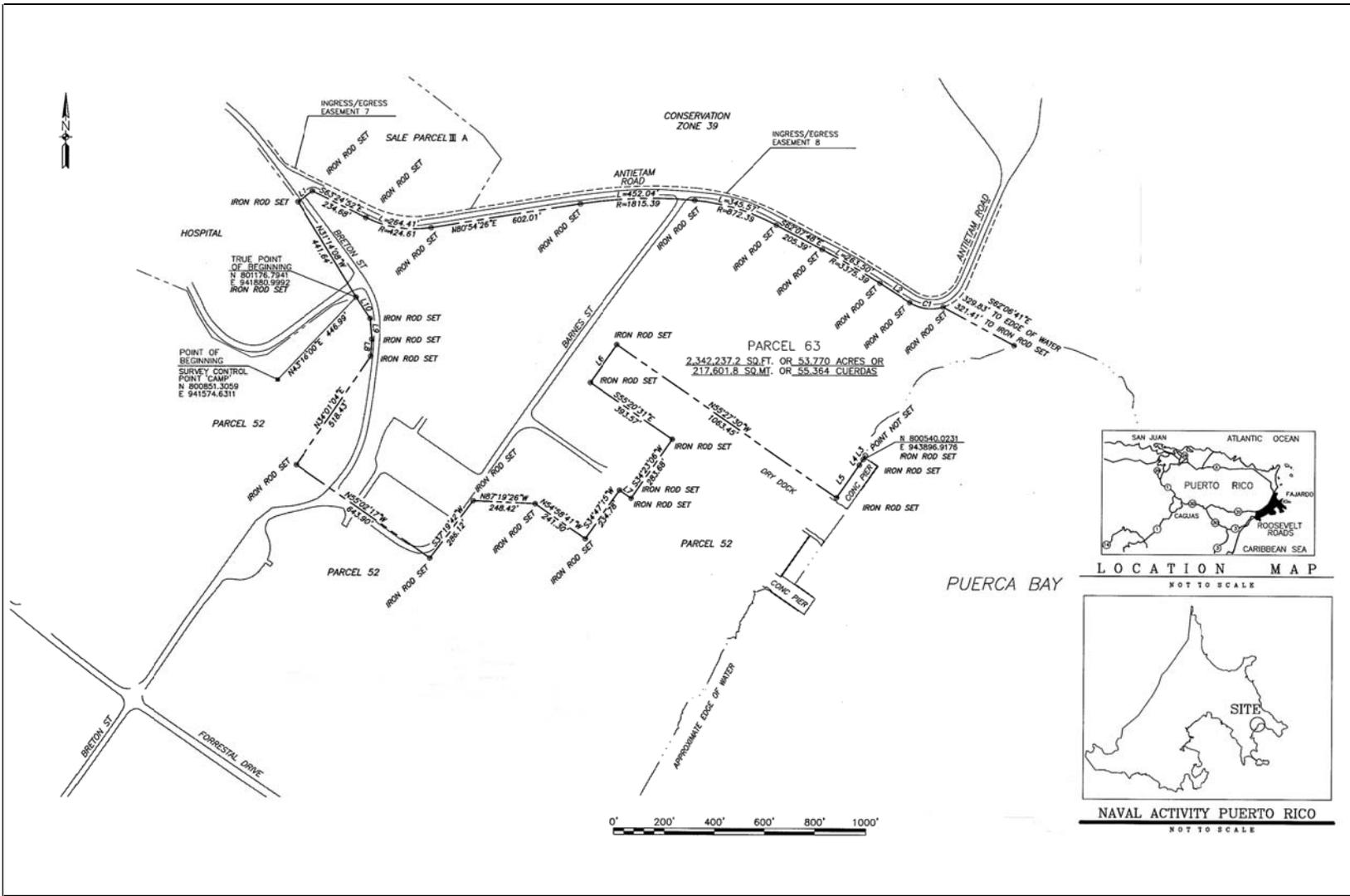
Location. The AFRC would be in the Moscrip Area on a 54-acre parcel in the eastern portion of the former Naval Station Roosevelt Roads. Figure 2-1 shows the area proposed for the new facilities. The parcel is bounded by Antietam Road on the north, Breton Street to the west, Barnes Street and a dry dock on the south, and the Atlantic Ocean on the east (Figure 2-2). Numerous buildings are on the parcel: an old, unused building that will be demolished to accommodate the new AFRC (the large white building in Figure 2-1); a U.S. Army Reserve Training Center that is being used by the 346th Transportation Battalion; a new, unoccupied Navy barracks; a new, large, unoccupied building; and several small, unused buildings. The parcel also contains a large parking lot and a Defense Reutilization and Marketing Office (DRMO) scrap metal recycling yard. Northwestern and northeastern portions of the parcel are vegetated.



Figure 2-1. View of Building 27 on the Moscrip area, the proposed location of the AFRC.

Operations. The proposed AFRC at Ceiba would support the operations of two Army Reserve units (the 973rd Quartermaster Company and the 268th Transportation Company) from a facility in Bayamon, Puerto Rico; and three PRARNG units from facilities in Humacao, Juncos, and Ceiba, Puerto Rico. These units have a total of approximately 600 personnel.

Full-time staff members would use the AFRC Monday through Friday, and Reserve Component units would use it on weekends. Daily operations would include administrative, training, and maintenance support of unit missions and requirements; recruiting; and preparation for battle assembly weekends. Training activities conducted during battle assembly weekends would include Military Occupational Specialties training in Soldiers' skills (such as maintenance and communications), required briefings, physical training, mentoring, and evaluations. On weekends, vehicular traffic would involve personal vehicles and military vehicles, such as high-mobility, multipurpose wheeled vehicles of various configurations, and medium-capacity cargo trucks.



Camp Moscrip Area Map

Figure 2-2

Final Environmental Assessment—Construction and Operation of an AFRC at Ceiba, Puerto Rico

SECTION 3.0 ALTERNATIVES

3.1 INTRODUCTION

A bedrock principle of NEPA is that an agency should consider reasonable alternatives to a proposed action. Considering alternatives helps to avoid unnecessary impacts and allows analysis of reasonable ways to achieve the stated purpose. To warrant detailed evaluation, an alternative must be reasonable. To be considered reasonable, an alternative must be ready for decision making (any necessary preceding events having taken place), it must be affordable and capable of being implemented, and it must meet the purpose of and need for the action. The following discussion identifies alternatives considered by the Army and whether they are feasible and, hence, subject to detailed evaluation in this EA.

Alternatives to the proposed action were assessed on the basis of three criteria: whether the alternative could physically accommodate realigned units, whether the alternative site was suitable for construction, and whether the alternative could accommodate the schedule. In this section, the Army presents its development of alternatives, addresses alternatives to the proposed action, and describes the No Action Alternative.

3.2 NO ACTION ALTERNATIVE

Inclusion of the No Action Alternative is prescribed by CEQ regulations. The No Action Alternative serves as a baseline alternative against which other alternatives can be evaluated. No action assumes that the Army would continue its mission at Ceiba as it existed in the fall of 2005, with no unit relocations and no new facilities constructed. The units proposed for relocation under the proposed action would continue to operate from their current facilities. Because the BRAC Commission's recommendations have the force of law, continuation of the fall 2005 Ceiba mission is not possible without further Congressional action. The No Action Alternative is evaluated in detail in this EA.

3.3 REALIGNMENT ALTERNATIVE

The Army proposes to construct and operate a new AFRC large enough for 600 personnel at Ceiba, Puerto Rico. Primary facilities would include an AFRC building, OMS, organizational unit storage, and organizational vehicle parking. This Preferred Alternative is further described in Section 2.2.

3.4 ADDITIONAL ALTERNATIVES

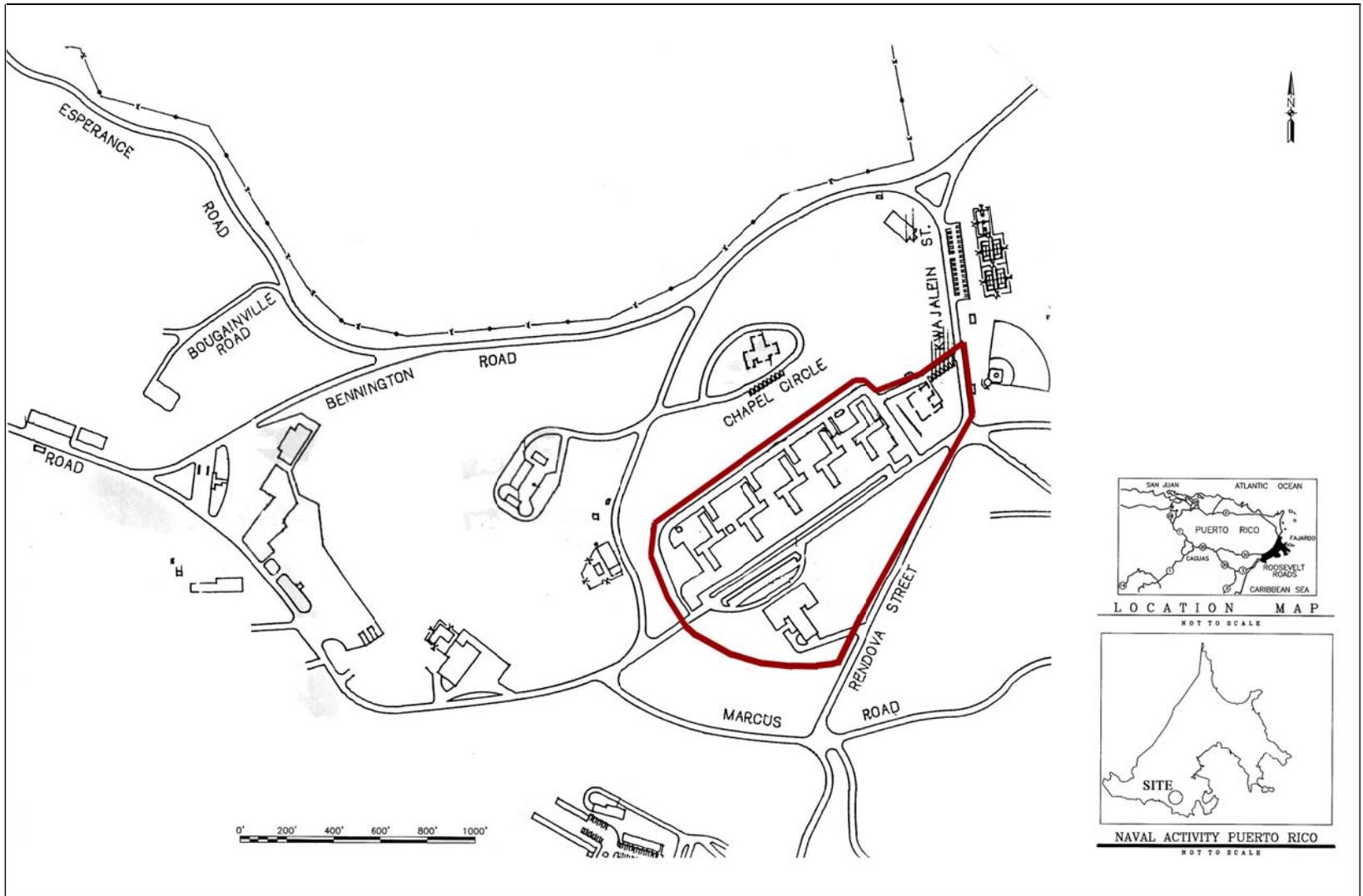
Because the BRAC Commission's recommendation, which is legally binding, specified that the AFRC be constructed at Ceiba, no alternate locations in Puerto Rico could be considered.

Review of other potential sites for construction of the AFRC at Ceiba produced one parcel (the Bundy area; Figure 3-1) that is satisfactory in terms of size, availability, compatibility of use, topography, and convenience.

The Bundy area is a 15-acre parcel south of Bennington Road in the southern part of the former Naval Station Roosevelt Roads. Figure 3-2 shows the location of the Bundy area. Five unaccompanied personnel housing buildings, totaling 156,284 square feet of space, would be demolished to accommodate the new AFRC. The Bundy Area alternative is evaluated in detail in this EA.



Figure 3-1. Bachelor enlisted quarters on the Bundy area.



Bundy Area Map

LEGEND
[Red Outline] Proposed Bundy Area Footprint

Figure 3-2

SECTION 4.0

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

This section describes the environmental and socioeconomic consequences of implementing the Army's proposed action to construct an AFRC on NAPR property. The NAPR property is mostly unused now because the Navy vacated the property in 2004 and redevelopment of most of the property has not yet begun. A Local Redevelopment Authority (LRA) has developed a redevelopment plan for the NAPR property (CBRE 2004). Because the Navy vacated the property and made it available to the Commonwealth of Puerto Rico for redevelopment, neither the Navy nor the Army Reserve would be the proponent for future activities on the property surrounding either of the parcels being evaluated for the new AFRC facility in this EA. Future decisions regarding the surrounding properties, including land use planning, economic development, management of facilities, capital improvements, and further transfer or conveyance, would be at the discretion of future managers and owners working with applicable federal, state, and local authorities. In the absence of actual redevelopment and use of the surrounding areas, the potential effects on areas surrounding the parcels proposed for the AFRC are based on the LRA's existing redevelopment plan.

4.2 LAND USE

4.2.1 Affected Environment

4.2.1.1 Regional Setting

The AFRC is proposed to be on the former U.S. Naval Station Roosevelt Roads (NSRR) within the municipality of Ceiba, on the east coast of Puerto Rico. NSRR was first commissioned as a U.S. Navy operations base in 1943 and was redesignated as a naval station in 1957. NSRR operated continuously from then until 2004, when all military activities there ceased and the Navy vacated the property. All of the property has been redesignated the *Naval Activity Puerto Rico* (NAPR). The terrestrial area west of NAPR is rural with large sections of rangeland. Fajardo to the north and Naguabo to the south border Ceiba. Ceiba is the municipality in which NAPR is located, and the town of Ceiba (*Ceiba Pueblo*), west of NAPR, is the administrative center of the municipality. Both Ceiba and Naguabo are former agricultural towns that are now primarily residential with small-scale retail and institutional facilities. The Atlantic Ocean lies to the east of NAPR.

4.2.1.2 Moscrip Area Land Use

The Moscrip area was classified as Waterfront/Industrial land use while the area operated as a naval station (Department of the Navy 2005). The Moscrip area is in the eastern portion of the NAPR, along the Atlantic Ocean waterfront. It is bounded by Antietam Road on the north, Breton Street to the west, and Barnes Street to the south (Figure 2-2). The proposed footprint's eastern edge borders a dry dock. The 346th Transportation Battalion uses the facilities in the northern portion of the property (a large building with associated parking north of the dry dock and east of Barnes Street). A new Navy SEAL barracks near the beach and east of the 346th Transportation Battalion building has never been used. Building 2034, a rectangular building at the northwest tip

of the footprint property, functioned as a Pest Control building. Building 27 is empty and proposed to be demolished to make room for the new AFRC. The parcel has a large parking lot and a Defense Reutilization and Marketing Office (DRMO) scrap metal recycling yard. A small building adjacent to Building 27 is Building 2335. It was the DRMO office and is now unoccupied. A very small former paint storage facility is at the edge of the DRMO lot near the tree line. The northwestern and northeastern portions of the parcel are vegetated.

4.2.1.3 Bundy Area Land Use

The Bundy area was classified as Housing land use while the area operated as a naval station (Department of the Navy 2005). The Bundy area was used for bachelor enlisted quarters (BEQ) and supporting facilities, including a fitness center, theater, library, recreation field, and wastewater treatment plant. Five vacant BEQ buildings (Buildings 731–735), totaling 156,284 ft², are on the 15-acre parcel. Building 730, a post exchange (PX), is also on the 15-acre parcel on the south side of Bairoko Street, across from the BEQ buildings, and west of the maintained open space. Bairoko Street runs northeast to southwest through the proposed parcel and separates the BEQ buildings from the maintained open space and Building 730. Undeveloped land surrounds the built facilities.

4.2.1.4 Surrounding Land Use

The Moscrip area is bordered on the north by vegetated mangrove areas, on the east by a dry dock and the Atlantic Ocean, and on the south and west by other Waterfront/Industrial land use areas of the former NSRR. Residential areas of Ceiba are north of the Bundy area along Puerto Rico Route 3 (PR-3). Facilities used for personnel support, administrative, and recreation functions and occupied by federal agencies are west of the Bundy area parcel (LANTNAVFACENGCOM 2003). All the occupied areas of the former NSRR surrounding the Bundy parcel were classified as Housing land use. The unoccupied areas were classified as Open Space, and they are maintained as lawn or vegetated with mangroves. The Atlantic Ocean is approximately ¾ mile to the southeast of the Bundy area.

4.2.2 Environmental Consequences

4.2.2.1 Moscrip Alternative

No adverse effects on land use would be expected from implementing the Moscrip alternative. Use of the property for AFRC operations would be compatible with past land uses of the property, and no conflicts with adjacent land uses would be expected. Operation of the AFRC would be compatible with the existing use of the 346th Transportation Battalion building and the Navy barracks. Properties nearby the Moscrip area have been unused since closure of NSRR in 2004.

4.2.2.2 Bundy Alternative

No adverse effects on land use would be expected from implementing the Bundy alternative. Use of the property for AFRC operations would be compatible with previous use of the property for BEQ, and no conflicts with adjacent land uses would be expected. Operation of the AFRC would be compatible with government use of nearby areas. Other areas near the Bundy area have been unused since closure of NSRR in 2004.

4.2.2.3 No Action Alternative

No effects on land use would be expected under the No Action alternative. Under the No Action alternative, the Army would not construct an AFRC in the Moscrip or Bundy area, and the land would be available to the LRA for redevelopment. The Army Reserve would have no authority over use of the two parcels under the No Action alternative.

4.3 AESTHETICS AND VISUAL RESOURCES

4.3.1 Affected Environment

4.3.1.1 Mocsrip Alternative

The Moscrip area of NAPR is relatively flat and surrounded by wooded areas, beachfront along the Atlantic Ocean, and Waterfront/Industrial areas of the former NSRR. The 1- and 2-story buildings on the parcel are in fair to good condition. The buildings in the northern portion of the parcel are surrounded by large paved parking areas and maintained vegetation. A small building (the Navy Seal barracks) and parking lot near the beach and dry dock have never been used and are overgrown with vegetation. There is also a DRMO scrap metal recycling yard on the parcel. Confirmed releases of hazardous substances have been identified at the former DRMO yard. Further information on hazardous material releases and cleanup on the yard is presented in Section 4.13. The remainder of the property is natural vegetation.

4.3.1.2 Bundy Alternative

The Bundy area is an open, relatively flat area surrounded by tree-covered hills. Views from the area to other parts of NAPR and vice versa are obscured by the surrounding hills and vegetation. The Bundy area has scattered trees, including palms and other types. The most prominent features on the property are the five BEQ buildings and Building 730. All the buildings are in fair condition but are noticeably neglected, showing rust stains beneath roof drains, peeling paint, and cracks in walls. Roads and sidewalks on the parcel are in disrepair: the surfaces are cracked with vegetation growing in the cracks, and in places grass completely covers the surface of the road or sidewalk. Utility poles are scattered throughout the parcel, and a drainage ditch crosses the area designated for the VMS.

4.3.2 Environmental Consequences

4.3.2.1 Moscrip Alternative

Long-term minor beneficial effects on aesthetic and visual resources would be expected from implementing the Moscrip alternative. Removal of old buildings, building renovation, and infrastructure replacement and upgrade would improve the overall appearance of the property and grounds. No adverse effects on the aesthetics of surrounding properties would be expected because there is little activity on those properties.

4.3.2.2 Bundy Alternative

Long-term minor beneficial and minor adverse effects on aesthetic and visual resources would be expected from implementing the Bundy alternative. Removal of old buildings, building renovation, and infrastructure replacement and upgrade would improve the overall appearance of

the property and grounds. A minor adverse effect in the form of creating a more industrial appearance on the property would result from converting open space to a VMS. No adverse effects on the aesthetics of surrounding properties would be expected because views of the Bundy area from surrounding properties are obscured by the surrounding vegetated hills.

4.3.2.3 No Action Alternative

No effects on the aesthetic and visual environment would be expected under the No Action alternative. Under the No Action alternative, the Army would not construct an AFRC in either the Moscrip or Bundy area and no changes would be made to the aesthetic or visual environment. The Army Reserve would have no authority over development of the parcels under the No Action alternative.

4.4 AIR QUALITY

4.4.1 Affected Environment

U.S. Environmental Protection Agency (USEPA) Region 2 and the Puerto Rico Environmental Quality Board regulate air quality in Puerto Rico. The Commonwealth of Puerto Rico is in Puerto Rico Air Quality Control Region (AQCR) 244. The area within AQCR 244 where the proposed action would occur is designated as in attainment for all criteria pollutants.

The ambient air quality conditions near Ceiba cannot be estimated from measurements conducted at air quality monitoring stations because none of the stations are near the Bundy area. The nearest air quality monitoring stations are in San Juan and Salinas, Puerto Rico, and monitored air quality conditions at those stations are better than the primary and secondary National Ambient Air Quality Standards for all monitored pollutants (USEPA 2006).

4.4.2 Environmental Consequences

4.4.2.1 Moscrip Alternative

Short- and long-term minor adverse effects on air quality would be expected from implementing the Moscrip alternative. Short-term releases of air pollutants would result from construction activity, and long-term minor increases in air pollutant emissions would result from operating equipment and facility infrastructure at the AFRC. Minor increases in emissions would be exempt from the General Conformity Rule (GCR) and would not contribute to a violation of any federal, state, or local air regulation. Because the entirety of NAPR is in an area that is in attainment for all criteria pollutants, the GCR does not apply, and neither an applicability analysis nor a Record of Non-applicability is required. Potential emissions from operational equipment would be added to the NAPR air operating permit and would be subject to the reporting requirements specified in the permit. The potential emissions would not be expected to exceed the New Source Review threshold of 10 tons per year, and therefore they would be exempt from the New Source Review permitting requirements. In addition, the project would not be subject to Prevention of Significant Deterioration review, and the use of Maximum Achievable Control Technology would not be required because potential emissions of Hazardous Air Pollutants would not exceed the thresholds of the National Emission Standards for Hazardous Air Pollutants.

The Army would implement best management practices (BMPs) to prevent air quality deterioration during construction activities. Such BMPs could include, but would not be limited

to, the use of water or chemicals to control dust during the demolition of existing buildings or structures and construction operations.

4.4.2.2 Bundy Alternative

Short- and long-term minor adverse effects on air quality would be expected from implementing the Bundy alternative. The effects on air quality would be the same under the Bundy alternative as those under the Moscrip alternative.

4.4.2.3 No Action Alternative

No effects on air quality would be expected under the No Action alternative. Under the No Action alternative, the Army would not construct an AFRC in either the Moscrip or Bundy area.

4.5 NOISE

4.5.1 Affected Environment

The Commonwealth of Puerto Rico's noise regulations outline noise level limits based on land use criteria. The levels outlined are sound levels that may not be exceeded during more than 10 percent of the measurement period. Noise from demolition and construction activities are specifically exempted from the regulations during the daytime. There are no substantial sources of noise in or near the Moscrip area or the Bundy area. With the closing of NSRR, noise from the naval station activities was eliminated.

4.5.2 Environmental Consequences

4.5.2.1 Moscrip Alternative

Short- and long-term minor adverse effects on the noise environment would be expected from implementing the Moscrip alternative. Short-term increases in noise would result from the use of heavy equipment during construction. The noise would end upon completion of construction. Because daytime construction activities are exempt from the Puerto Rico noise regulations, they would not be in violation of the noise level limits. The Army would use BMPs, including performing construction primarily during normal weekday business hours, to reduce the noise effects of construction on nearby areas.

A minor adverse effect on the long-term noise environment would result from operation of the AFRC and VMS. VMS activities would involve the use and maintenance of heavy equipment. Classroom training activities would contribute minor levels of noise, primarily from the increase in general activity at the area.

4.5.2.2 Bundy Alternative

Short- and long-term minor adverse effects on the noise environment would be expected from implementing the Bundy alternative. The effects on noise would be the same under the Bundy alternative as those under the Moscrip alternative.

4.5.2.3 No Action Alternative

No effects on the noise environment would be expected under the No Action alternative. Under the No Action alternative, the Army would not construct an AFRC in either the Moscrip or Bundy area.

4.6 GEOLOGY AND SOILS

4.6.1 Affected Environment

4.6.1.1 Moscrip Alternative

The relief in the Moscrip area is low, with elevations ranging from sea level to approximately 25 feet above mean sea level. The slope is generally toward the east-southeast in the direction of Puerca Bay (IMC-AR 2007).

The underlying geology of NAPR is predominately volcanic, composed of lava and tuff, as well as sedimentary rocks derived from discontinuous beds of limestone. The primary geologic formations on or near NSRR are various beach deposits, alluvium, quartz diorite and granodiorite, quartz keratophyre, the Daguao formation, and Figuera lava. The Pena Pobre fault zone traverses NSRR (IMC-AR 2007).

Soils on the Moscrip area have been mapped as Bajura and Descalabrado. The Bajura classification occurs on nearly level (0 to 2 percent slope) floodplains as fine- to moderately fine-textured sediments of mixed origin. Bajura soils are deep and poorly drained. The Descalabrado classification applies to shallow, well-drained, moderately permeable soil that formed in moderately fine-textured residuum derived from volcanic rock. Slopes range from 5 percent to 60 percent. This soil is characteristic of the steep volcanic coastal hills within NSRR (IMA-ARO 2006).

4.6.1.2 Bundy Alternative

The Bundy area is gently sloping, with elevations ranging from less than 10 to 192 feet above mean sea level (USGS 1977). Slopes generally range from 20 to 60 percent.

The Bundy area generally slopes from southwest to northeast. The underlying geology of NSRR is predominately volcanic, composed of lava and tuff, as well as sedimentary rocks derived from discontinuous beds of limestone.

Soils on the Bundy area have been mapped as Sabana silty clay loam, 20 to 40 percent slopes, eroded (USDA 1977). These soils consist of shallow, well-drained, moderately permeable soils that formed in fine-textured residuum derived from partly weathered volcanic rock.

4.6.2 Environmental Consequences

4.6.2.1 Moscrip Alternative

Short-term minor adverse effects on soils would be expected under the Moscrip alternative from disturbance during construction, but construction would not permanently alter the geology, soils, or topography of the Moscrip parcel. No effects on mineral reserves would result from the limited

construction and operational activities that would occur under the alternative. The Army and all contractors would adhere to Puerto Rico's *Regulation for the Control of Erosion and the Prevention of Sedimentation in Puerto Rico*, and the Army or its contractors would obtain a permit for erosion control and sedimentation prevention under the regulation, as required.

4.6.2.2 Bundy Alternative

Short-term minor adverse effects on soils would be expected under the Bundy alternative. The results would be the same as those expected under the Moscrip alternative although the quantity of soil eroded during construction might differ on the two parcels because of differing topographies, previous development, surrounding landscapes, and soil types. The Army and all contractors would adhere to Puerto Rico's *Regulation for the Control of Erosion and the Prevention of Sedimentation in Puerto Rico*, and the Army or its contractors would obtain a permit for erosion control and sedimentation prevention under the regulation, as required.

4.6.2.3 No Action Alternative

No effects on geology, topography, or soils would be expected under the No Action alternative. Under the No Action alternative, the Army would not construct an AFRC in either the Moscrip or Bundy area.

4.7 WATER RESOURCES

4.7.1 Affected Environment

4.7.1.1 Moscrip Alternative

Surface Waters. Several streams that originate in the foothills northwest of NAPR flow through NAPR and drain the lands that make up NAPR. These streams include the Daguao River, Quebrada Aguas Clara, and Quebrada Ceiba (Department of the Navy 2005). These major streams do not reach the Moscrip area. A stream associated with mangroves next to the Moscrip parcel runs parallel to Antietam Road north of the parcel. The Moscrip area is drained locally by direct runoff and channelized runoff from developed areas to surrounding mangrove areas and bays.

Potential sources of degradation to surface waters include solid waste management units (SWMUs), leaking underground storage tanks (USTs), leaking aboveground storage tanks (ASTs), and storm water runoff from impervious areas. The Navy reported the presence of four ASTs and five USTs in the vicinity of the Moscrip parcel. There are no records of spills or incidents associated with the tanks (Naval Facilities Engineering Command Atlantic 2005).

The Environmental Condition of Property report for the former NSRR uncovered no new environmental issues associated with oil/water separators (OWSs) on the Moscrip parcel. Three OWSs are reportedly in the vicinity. Two of them are undersized for handling storm water flows and flows from a 1-hour, 5-year storm, and one has structural decay. All OWSs on and near the parcel are associated with vehicle wash racks.

Hydrology/Groundwater. The principal aquifer in the NAPR area is alluvium with beds of clay, sand and gravel, and rock fragments to a maximum depth of 100 feet (LANTNAVFACENCOM 1995). Groundwater is generally acceptable for most industrial, commercial, and residential uses.

The water is very hard, however, because of high concentrations of calcium, bicarbonate, and magnesium. Residents of Ceiba and NAPR obtain their potable water from surface water sources. The potential sources of groundwater degradation are the same as those mentioned above for surface waters.

Wetlands. Information from the U.S. Fish and Wildlife Service on wetlands in the Moscrip area defines four types of wetlands near the proposed project footprint. Brief descriptions of the wetland types are provided below, with differences between like types accented with *italic*.

- M1UBL: *Marine*, subtidal, unconsolidated bottom
- E1UBL: *Estuarine*, subtidal, unconsolidated bottom
- E2FO3P: Estuarine, intertidal, forested, broad-leaved evergreen, *irregularly* flooded
- E2FO3N: Estuarine, intertidal, forested, broad-leaved evergreen, *regularly* flooded

A wetlands delineation was performed on the Moscrip area footprint in September 2008 (Tetra Tech 2008). None of the wetlands described by the U.S. Fish and Wildlife Service or delineated on the site are near the proposed project footprint (see Appendix B).

Floodplains. The Moscrip area is outside the 100-year floodplain (Department of the Navy 2005).

Coastal Zone. The Coastal Zone Management Program (CZMP) for Puerto Rico, prepared by the Commonwealth of Puerto Rico under the auspices of the Coastal Zone Management Act (CZMA) of 1972, was approved by the U.S. Department of Commerce in 1978 (Puerto Rico Planning Board 1990).

Land areas owned by the federal government are exempt from the CZMA; however, as required by Section 307 of the CZMA, any federal activity that directly or indirectly affects land or water use or natural resources of the coastal zone must be consistent with the CZMP to the maximum extent practicable. The Puerto Rico coastal zone is generally 1,000 meters inland and 3 marine leagues seaward. The Moscrip area is entirely within the Puerto Rico coastal zone. A coastal zone consistency determination has been prepared and is provided in Appendix C of this EA.

4.7.1.2 Bundy Alternative

Surface Waters. Surface water features adjacent to the proposed project area include two streams, Rio Daguao and Quebrada Palma. Rio Daguao flows in a southeast direction along the east border, and Quebrada Palma flows south on the west border of the Bundy area to the Caribbean Sea. Rio Daguao is the major river system that flows through NAPR. The drainage basin covers approximately 4,380 acres (Ecology and Environment 1987). Rio Daguao originates in the hills northwest of NAPR, enters NAPR in the southern portion of the installation, and flows south to the Daguao mangrove forest. In the southwestern portion of the parcel, an unnamed tributary to Quebrada Palma carries drainage off-site to the south. The tributary originates north of NAPR and flows south in the vicinity of the Bundy area, then flows through civilian lands to Bosque Estatal de Ceiba.

Potential sources of degradation of surface water quality on the Bundy area, primarily from activities at the former NSRR, include SWMUs, leaking USTs, leaking ASTs (for which detailed

information is provided in Section 4.13), storm water runoff from impervious areas, and land disturbances.

Hydrogeology and Groundwater. The hydrogeology and groundwater of the Bundy area are much the same as those of the Moscrip area, except that the principal aquifer in the area generally extends to a depth of less than 30 meters (LANTNAVFACENGCOM 1995). The potential sources of groundwater degradation in the Bundy area are the same as those listed earlier for surface water.

Wetlands. There are no wetlands on the Bundy area project footprint. An area of mangrove wetlands lies east and southeast of the Bundy area about three-fourths of a mile from the proposed footprint.

Floodplains. The Federal Emergency Management Agency Flood Insurance Rate Map for Naguabo, Puerto Rico (floodplain panel number 7200000192B) indicates that the 15-acre parcel does not lie within the 100-year flood zone boundary (Installation Management Agency 2006).

Coastal Zone. The proposed locations of projects in the Bundy area are outside the distance requirement for the Puerto Rico Coastal Zone, although the area's nearby mangroves could qualify as sensitive areas that would extend the boundary of the coastal zone inland. A coastal zone consistency determination for construction of the AFRC is provided in Appendix C of this EA.

4.7.2 Environmental Consequences

4.7.2.1 Moscrip Alternative

Surface Water. Short-term minor adverse effects on surface waters would be expected from implementing the Moscrip alternative. Land-clearing and construction activities would increase soil erosion and could contribute minor quantities of dissolved solids, sediment, and petroleum hydrocarbons to runoff and surface waters. The Army and all contractors would adhere to Puerto Rico's *Regulation for the Control of Erosion and the Prevention of Sedimentation in Puerto Rico*, and the Army or its contractors would obtain a permit for erosion control and sedimentation prevention under the regulation, as required. BMPs for soil erosion and storm water runoff, such as silt fencing and hay bales and eventual reseeded and revegetation after construction was complete, would be used to minimize adverse effects on water quality. No long-term effects would be expected.

Hydrogeology/Groundwater. Short-term minor adverse effects on groundwater resources would be expected from implementing the Moscrip alternative. Contamination from increased waterborne pollutants (e.g., dissolved solids, sediment, petroleum hydrocarbons) in surface waterbodies could enter the groundwater. BMPs for erosion and storm water management would minimize the potential effects.

Wetlands. No effects on wetlands would be expected under the Moscrip alternative. Estuarine and marine wetlands at off-site areas would not be affected by the proposed action, and delineated wetlands on the proposed project footprint would be avoided by limiting all construction and operational activities to previously developed areas.

Floodplain. No effects on floodplains would be expected from implementing the Moscrip alternative. The project footprint is outside the 100-year floodplain.

Coastal Zone Management. Short-term minor adverse effects on the coastal zone would be expected from implementing the Moscrip alternative. Runoff of contaminants to surface waters and groundwater could have minor adverse effects on coastal waters. No long-term effects would be expected.

4.7.2.2 Bundy Alternative

The effects discussed earlier (on surface water, hydrogeology/groundwater, wetlands, floodplains, and coastal zone management) for the Moscrip area apply equally to implementing the Bundy alternative. Short-term minor adverse effects on the resources (except wetlands and floodplains) would be expected, but they would not result in long-term effects or resource deterioration. The Army and all contractors would adhere to Puerto Rico's *Regulation for the Control of Erosion and the Prevention of Sedimentation in Puerto Rico*, and the Army or its contractors would obtain a permit for erosion control and sedimentation prevention under the regulation, as required.

4.7.2.3 No Action Alternative

No effects on surface waters or groundwater would be expected under the No Action alternative. Under the No Action alternative, the Army would not construct an AFRC in either the Moscrip or Bundy area.

4.8 BIOLOGICAL RESOURCES

4.8.1 Affected Environment

4.8.1.1 Moscrip Alternative

Vegetation. Vegetation on the Moscrip area consists of areas of maintained lawn near buildings and dense vegetation on undeveloped areas between buildings and along the northern boundary of the parcel. Riparian vegetation borders a stream along the northern boundary of the parcel.

Wildlife. The developed areas of the Moscrip area provide limited habitat value for wildlife. Wildlife likely to be on the portion of the property to be developed under the proposed action would include species such as feral dogs (*Canis* sp.) and feral cats (*Felis* sp.), Norway rats (*Rattus norvegicus*), gray-bellied rats (*Rattus rattus*), mice (*Mus* sp.), and mongooses (*Herpestes* sp.). The reptile population originally present at NSRR has been significantly reduced as a result of the large mongoose population; however, iguanas (*Iguana* sp.) and lizards were seen on the property during a site visit in September 2008 (Tetra Tech 2008). Mangrove forest habitats at NAPR support numerous bird, reptile, amphibian, and invertebrate species. Numerous species of frogs and toads occur, including the coqui, a small tree frog (Department of the Navy 2005). About six species of snakes are known to occur at NAPR: the Puerto Rican boa (*Epicrates inornatus*), Virgin Island tree boa (*Epicrates monesis granti*), Puerto Rican racer (*Alsophis portoricensis*), Puerto Rican garden snake (*Arrhyton exiguum*), common viper (*Typhlops richardi*), and beaked viper (*Typhlops rostellatus*). No coastal beaches or ocean waters are included in the project footprint.

Sensitive Species. Federally listed and Commonwealth-listed threatened plant and animal species found at NAPR include 1 mammal, 6 reptile, 10 bird, and 1 vegetative species. Most of these plant and animal species are found within the coastal and marine areas of the installation. All NAPR land has been designated critical habitat for the yellow-shouldered blackbird (*Agelaius xanthomus*); therefore, habitat for the species is assumed to exist in the Moscrip area. During the nesting season (May to September), most yellow-shouldered blackbirds stay in the mangrove zone or the arid coastal fringe. Nesting occurs in mangroves along the coast and on small offshore islands. NAPR supports a small population (fewer than 20 individuals) of the species. Suitable habitat for the yellow-shouldered blackbird is present in the Moscrip area. No suitable habitat for the Puerto Rican boa (*Epicrates inoratus*), which consists mostly of forested hills, is present on the Moscrip area, although a small number of Puerto Rican boas have been found at NAPR. An informal consultation letter regarding the potential for the proposed action to affect sensitive species has been sent to the U.S. Fish and Wildlife Service (Appendix D).

4.8.1.2 Bundy Alternative

Vegetation. Vegetation on the Bundy area consists mostly of maintained lawns surrounding the buildings on the parcel and dense vegetation behind the BEQ buildings. Some individual mature trees are present on the maintained areas.

Wildlife. The developed and landscaped habitats of the Bundy area provide limited habitat value for wildlife. Much of the area is open space, with a limited density of trees, asphalt roads, and buildings. Wildlife in the area is likely tolerant of development and human activity. The mammalian population in the area would be similar to that in the Moscrip area, although perhaps more abundant because of the greater amount of upland habitat at the site. The small Indian mongoose (*Herpestes auro-punctatus*), a species introduced from the Malay peninsula, has significantly reduced the reptile population of Puerto Rico, although some lizards and snakes would be expected to use the site.

Sensitive Species. The paragraph above describing sensitive species in the Moscrip area applies to the Bundy area as well. The Bundy area qualifies as critical habitat for the yellow-shouldered blackbird, and suitable habitat for the bird is present in the Bundy area. Suitable habitat for the Puerto Rican boa (*Epicrates inoratus*) is also present. Neither the yellow-shouldered blackbird nor the Puerto Rican boa has been found in the Bundy area.

4.8.2 Environmental Consequences

4.8.2.1 Moscrip Alternative

Long-term minor adverse effects on vegetation and wildlife would be expected from implementing the Moscrip alternative. Demolition and construction activities could involve some removal of vegetation to accommodate the new facilities. The site proposed for the VMS—across Barnes Street from Building 2335—has an isolated forested area. Use of the site would involve removal of all of the vegetation and the wildlife that uses it from that site.

Implementation of the Moscrip alternative would not be expected to adversely affect the yellow-shouldered blackbird, sea turtles, or the Puerto Rican boa. The Army would minimize the loss of forest in the Moscrip area to minimize the potential for effects on the Puerto Rican boa. The potential for effects on the yellow-shouldered blackbird would be minimized by scheduling demolition and construction activities to avoid the nesting season. In the event that building

demolition would occur during the nesting season, a qualified biologist would survey the Moscrip area immediately before demolition. If the survey were to reveal nesting birds, the nests would be avoided and the birds left undisturbed until after the young had fledged. Alternately, the Army could prevent bird nests from being established before the onset of the breeding season. Operational activities at the AFRC would not be expected to adversely affect biological resources.

U.S. Fish and Wildlife Service (USFWS)-recommended conservation measures for species would be incorporated as requirements for all construction contracts and operational aspects of the AFRC. The USFWS-recommended conservation measures are applicable to parcels of land at NAPR, and they would remain applicable on this parcel-specific basis during and after construction of the new AFRC (Table 4-1). Complete descriptions of applicable conservation measures and parcel boundaries for the Moscrip area are in Appendix E.

**Table 4-1
Parcel-specific applicable conservation measures**

Parcel Number	Yellow-shouldered blackbird	Puerto Rican boa	Sea turtles
Moscrip Area			
40	•	•	
52	•		
55	•		
63	•	•	•
Bundy Area			
3	•	•	

4.8.2.2 Bundy Alternative

Short-term minor adverse effects on vegetation and wildlife would be expected from implementing the Bundy alternative. Some disturbance of landscape habitat and some tree removal could occur as part of the construction phase of the project if implemented at the Bundy area. Disturbed soils would be vegetated after construction was complete, and areas surrounding the buildings would be planted with native species.

No effects on sensitive species would be expected from implementing the action in the Bundy area. Sensitive species would be protected, and U.S. Fish and Wildlife Service-recommended conservation measures for the Puerto Rican boa and the yellow-shouldered blackbird would be incorporated as requirements for all construction contracts and operational aspects of the AFRC.

4.8.2.3 No Action Alternative

No adverse effects on biological resources would be expected under the No Action alternative. The Army would not construct an AFRC in either the Moscrip or Bundy area under the No Action alternative, and no disturbance of vegetation or wildlife would occur.

4.9 CULTURAL RESOURCES

4.9.1 Affected Environment

Cultural resources are defined as follows:

- Historic properties as defined by the National Historic Preservation Act (NHPA)
- Cultural items as defined by the Native American Graves Protection and Repatriation Act (NAGPRA)
- Archaeological resources as defined by the Archaeological Resources Protection Act (ARPA)
- Sacred sites as defined in EO 13007 to which access is afforded under the American Indian Religious Freedom Act
- Collections and associated records as defined in at 36 CFR Part 79

4.9.1.1 Prehistoric and Historic Background

The 1985 *Cultural Resource Management Plan for Naval Station Roosevelt Roads, The Atlantic Fleet Training Facility, and the Vieques Naval Reservation* (Department of the Navy, Atlantic Division 1985); the 1999 archival and architectural study of Naval Station Roosevelt Roads (Best et al. 1999); the 1998 archaeological survey report (Sanders et al. 1998); the 1999 *Historic Archaeological Resources Protection Plan* (Department of the Navy, Atlantic Division 1999); and the 2001 architectural survey *Architectural Resources Inventory and Evaluation, Naval Station Roosevelt Roads, Naval Ammunitions Support Detachment (NASD), Ceiba, Vieques, and Culebra, Puerto Rico* (Law Environmental Caribe 2001) can be consulted for a discussion of the cultural background of the region and project area.

4.9.1.2 Status of Cultural Resource Inventories and Section 106 Consultations

Roosevelt Roads adopted a *Historic Archaeological Resources Protection Plan* (HARPP) in 1999 that contains the inventory of cultural resources at Roosevelt Roads and procedures for their management.

Moscrip Alternative. For the purposes of this EA, the cultural resources area of potential effects for the proposed action in the Moscrip area is defined as the footprint of the proposed AFRC and associated structures plus an immediate buffer around the parcel.

There are no previously recorded archaeological sites in the Area of Potential Effect (APE). The peninsula on which the APE is located has been determined to be disturbed/man-made land and therefore does not require Phase I archaeological survey (Sanders et al. 1998). There are three recorded archaeological sites within one mile of the APE (Table 4-2).

One NRHP eligible historic resource is located adjacent to the APE: Structure 844, the Bolles Dry Dock. At the onset of World War II, the US Navy lacked repair facilities for the Caribbean fleet, with the nearest dry dock at that time being in Charleston, Virginia. The Bolles Dry dock was constructed to provide the Navy with repair facilities for the Caribbean fleet. It was the first major construction initiated at Roosevelt Roads and was the largest and most modern of its type when completed. The Dry Dock was constructed in 1943 and was dedicated on February 15, 1944; it was named for Captain Harry A. Bolles (CEC) USN, who was killed in Alaska earlier in World

War II. The Bolles Dry Dock is located on the southern and eastern edges of the project site and measures approximately 1,100 feet in length by 155 feet wide and 53 feet deep. It is constructed of poured concrete with metal locks on its opening to Bahía Puerca and a concrete approach pier extending from the northern quay wall. While the Bolles Dry Dock has received regular maintenance since its construction, it has not been altered or modified from its as-built condition.

This resource was first inventoried and evaluated by Best et al. (1999) and was recommended not eligible for the NRHP at that time. The Puerto Rican SHPO did not concur with this evaluation. During a subsequent architectural inventory for the Naval Ammunitions Support Detachment (NASD) at Ceiba, Vieques, and Culebra (Law Environmental-Caribe 2001), this resource was reevaluated and has been determined eligible for listing on the NRHP. Law Environmental-Caribe (2001:65) recommended the Bolles Dry Dock eligible to the National Register of Historic Places at the National Level under Criterion A, for its contribution to US Naval (Military) History and at the State Level for Criterion C as a unique example of dry dock engineering and construction in Puerto Rico. The study site (Parcel 63) borders the Bolles Dry Dock's northwestern edge.

Table 4-2
Known archaeological sites within one mile of the Moscrip area

Designation	Approximate Location Relative to APE	Description*
RR12	2,050 meters west-southwest	Pre-Columbian Petroglyph, NRHP Eligible
RR14	3,000 meters northwest	Pre-Columbian Site, Santa Elena (800-1200AD) and Esperanza (1200-1524AD) Components NRHP Eligible
RR19	1,200 meters due north	Pre-Columbian Site, Undetermined Ceramic Age (post 400BC) Determined Not Eligible to the NRHP

* Based on draft *Naval Station Roosevelt Roads Archaeological Site Status* table provided by Bruce Larson, January 29, 2007, and Sara and McClintock (2005).

Bundy Alternative. For the purposes of this EA, the cultural resources area of potential effects for the proposed action on the Bundy area is defined as the footprint of buildings on the site, the surrounding yard and parking areas, plus an immediate buffer around the parcel.

There are no previously recorded archaeological sites or NRHP resources in the Bundy area. The area was subjected to Phase I archaeological survey in 1996 (Sanders et al. 1996). No archaeological sites were found in the Bundy area, which fell within Survey Area N.

There are four recorded archaeological sites within one mile of the Bundy area (Table 4-3).

The built resources in the area of potential effects are designated Buildings 731–735 and Building 730. These resources were included in the architectural survey and evaluation project completed in 1999 (Best et al. 1999). Best et al. (1999) discuss their history:

Table 4-3
Known archaeological sites within one mile of the Bundy area

Designation	Approximate location relative to the Bundy area	Description^a
RR1	2,400 feet west-southwest	Pre-Columbian and Spanish Colonial, NRHP-eligible
RR2	2,000 feet southwest	Pre-Columbian, not NRHP-eligible
RR15	600 feet west	Spanish Colonial, not NRHP-eligible
RR20	1,600 feet north-northeast	Pre-Columbian and Spanish Colonial, to be treated as NRHP-eligible

^a Based on draft *Naval Station Roosevelt Roads Archaeological Site Status* table provided by Bruce Larson, January 29, 2007, and Sara and McClintock (2005).

The majority of built resources constructed during the Cold War era provided housing for the influx of personnel attached to the air station and guided missile training program. A construction program was initiated in 1958 to replace and upgrade existing facilities. Institutional housing was expanded with the construction of enlisted men's barracks; bachelor officers quarters; junior officers public quarters; mess hall; and a dispensary.

Buildings 731–735 and Building 730 were found to lack the attributes to support NRHP eligibility; they were recommended not eligible for the NRHP (Best et al. 1999). The overall installation was found not eligible as a district under either the World War II or Cold War era context.

4.9.1.3 Native American Resources

No federally-recognized tribes have been identified with historical links to Puerto Rico. Several groups claim an association with the historic Taino Indians, the occupants of the island around the time of Spanish contract. These include the United Confederation of Taino People located in New York, New York; the General Council of Tainos Borincanos located in Trujillo Alto, Puerto Rico; and El Caney del Quinto Mundo located in Ciales, Puerto Rico.

4.9.2 Environmental Consequences

4.9.2.1 Moscrip Alternative

No effects on cultural resources would be expected from implementing the Moscrip alternative because none are found within the APE. The proposed undertaking will not have a direct effect on NRHP-eligible historic structures as none are located on the project site. One NRHP-eligible historic structure is located in the APE, Structure 844, the Bolles dry dock. The Bolles Dry Dock was determined eligible for listing on the NRHP at a National Level under Criterion A for its association with U.S. Naval (Military) history and planning in the Caribbean and at the State Level under Criterion C as an example of dry-dock engineering in Puerto Rico (Law Environmental-Caribe 2001). The surrounding area includes modern warehouse and administrative buildings, concrete piers and jetties, as well as undeveloped property. The proposed AFRC will not change the character or attributes of this landscape and therefore will not have an adverse effect on Structure 844, the Bolles dry dock. No further treatment of this resource is recommended as a consequence of the AFRC's construction.

During implementation of activities associated with the undertaking, there is the potential that previously unknown archaeological resources could be discovered. If such resources are discovered, the standard operating procedures outlined in the HARPP should be followed. Any intact archaeological resources discovered would be recorded and evaluated for eligibility to the NRHP, in consultation with the Puerto Rico SHPO. Treatment of the discovery would be determined by the installation, again in consultation with the Puerto Rico SHPO.

4.9.2.2 Bundy Alternative

No effects on cultural resources would be expected from implementing the Bundy alternative. No such resources have been found within that area. The same precautions regarding previously unknown archaeological resources that could be discovered during construction that would be taken for the Moscrip alternative would apply to implementation of the proposed action at the Bundy area.

4.9.2.3 No Action Alternative

No adverse effects on cultural resources would be expected under the No Action alternative. The Army would not construct an AFRC in either the Moscrip or Bundy area under the No Action alternative, so no disturbance of cultural resources would result.

4.10 SOCIOECONOMICS

4.10.1 Affected Environment

4.10.1.1 Introduction

The geographic area in which the predominant social and economic effects of the project alternatives would occur defines the socioeconomic region of influence (ROI) for this study. The major factors used to determine the ROI are the residency distribution of the employees and Reservists affected by the proposed action, commuting distances and times, and the location of businesses providing goods and services to the affected areas and their personnel. On the basis of these criteria, the ROI for the proposed action includes the municipalities of Ceiba and Fajardo. For comparative purposes, additional data are presented for the whole of Puerto Rico. Because the ROI for socioeconomics is not limited to the potential project footprint and includes a much larger geographic area, the discussion that follows is equally applicable to the Moscrip and Bundy alternatives.

The baseline year for socioeconomic data is 2005, the date of the BRAC Commission's announcement of the Ceiba, Puerto Rico, Reserve Component realignment. Where 2005 data are not available, the most recent data available are presented. Census 2005 Puerto Rico Community Survey data were not available for Ceiba or Fajardo. The most recent data available are the 2000 Census data.

4.10.1.2 Economic Development

Industry and Employment. The primary economic sectors of the Ceiba and Fajardo region include tourism, marinas, and ports (Department of the Navy 2005). The 2005 total civilian labor force for the two municipalities was 21,623, with 18,710 persons employed. The annual unemployment rate was 13.5 percent, up from 11.5 percent in 2000 (BLS 2006).

About 80 Navy personnel and about 230 contractor personnel work on NAPR; however, NAPR will eventually be conveyed to the LRA, which will sell the property to private owners. The remaining Navy and contractor personnel will vacate the site. Most of the facilities on NAPR (e.g., PX, commissary, housing, recreational facilities, police station, and fire station) are closed and not operational. Redevelopment of the facilities depends on the further actions of the LRA and the future property owners (Garay Rivera, personal communication, 2007).

Income. The 2000 per capita incomes in Ceiba and Fajardo were \$9,256 and \$7,852, respectively. Ceiba’s median household income was \$16,440, with 68 percent of households receiving earned income. Fajardo’s median household income was \$15,410, with 64 percent of the households receiving earnings (U.S. Census Bureau 2000a).

4.10.1.3 Population

Census 2000 data show the two-municipality population at 58,716, an increase of 9 percent over the 1990 population of 54,027 (U.S. Census Bureau 2000a, 2000b). Table 4-4 shows population data for Puerto Rico and the two municipalities.

**Table 4-4
NAPR area population**

Location	1990	2000
Ceiba municipality	17,145	18,004
Fajardo municipality	36,882	40,712
Total	54,027	58,716
Puerto Rico	3,522,037	3,806,610

Source: U.S. Census Bureau 2000a, 2000b.

4.10.1.4 Housing

There is no active housing in either the Moscrip or Bundy areas. NAPR has vacant housing units; however, this property will be turned over to the LRA and eventually sold to private owners, who might not keep the housing units (Garay Rivera, personal communication, 2007).

As of 2000, the Ceiba and Fajardo municipalities had about 6,750 and 17,100 housing units, respectively, for a total of about 23,850 units. Approximately 17 percent of the units were vacant, which was slightly higher than the average vacancy rate for Puerto Rico (11 percent). In Ceiba, the median monthly mortgage was \$518 and the median gross rent was \$349. Fajardo’s median monthly mortgage was \$568, and the median gross rent was \$325 (U.S. Census Bureau 2000a).

4.10.1.5 Quality of Life

Law Enforcement, Fire Protection Services, and Medical Services. There are no police stations, fire departments, or medical facilities in either of the potential project areas. NAPR has a police station, fire department, and hospital, but these facilities are not operational and will be transferred to the LRA. Whether the police and fire station will remain depends on the redevelopment of the NAPR property and the future property owners. At this time, the plan is for the hospital to go to Episcopal, Inc., a nonprofit organization that will reopen the hospital and operate it as a local hospital (Garay Rivera, personal communication, 2007).

The area surrounding NAPR is within the jurisdiction of either the Commonwealth of Puerto Rico Police Department or one of the Ceiba or Fajardo municipal police departments. Ceiba and Fajardo each have a fire department (Garay Rivera, personal communication, 2007).

Medical care is available at the San Pablo del Este Hospital in Fajardo, which is about 6 miles from the proposed project location (HospitalSoup.com 2007).

Schools. No permanent party personnel or school-age dependents live on NAPR. The Puerto Rico Department of Public Education oversees the Commonwealth's public school system, which has about 1,500 schools and more than 575,000 students. Ceiba and Fajardo have a total of 15 public schools serving children in kindergarten through 12th grade (NCES 2006).

Family Support, Shops and Services, and Recreation. There are no military family support activities on NAPR. The PRARNG provides a full range of family support services to Reservists through the PRARNG headquarters office in San Juan. Services include family support groups, the Family Assistance Center family center programs, and dependent educational and financial assistance programs (PRARNG 2006).

Most of the shopping, service, and recreation facilities on NAPR are not operational and will be transferred to the LRA. Future use of these facilities depends on the LRA's redevelopment plan and the future owners of the property (Garay Rivera, personal communication, 2007).

Shopping and service establishments (e.g., shopping plazas, grocery stores, gas stations, banks, barber shops, and hair salons) are available in Ceiba and Fajardo. Fajardo is a popular tourist destination that has a number of retail and dining establishments. The Ceiba and Fajardo areas also have numerous beaches, ports, and marinas for water sports and boating activities (Department of the Navy 2005).

4.10.1.6 Environmental Justice

Environmental justice addresses race, ethnicity, and the poverty status of populations within the ROI. On February 11, 1994, President Clinton issued EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. The order is designed to focus the attention of federal agencies on the human health and environmental conditions in minority and low-income communities. Environmental justice analyses are performed to identify potential disproportionately high and adverse effects from proposed actions and to identify alternatives that might mitigate these effects.

Minority populations are identified as Black or African American and not of Hispanic origin; American Indian and Alaska Native; Asian; Native Hawaiian and other Pacific Islander; Hispanic; persons of some other race; and persons of two or more races. Minority populations should be identified where either the minority population of the affected area exceeds 50 percent or the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis (CEQ 1997). As of 2005, 99 percent of the people in Puerto Rico were Hispanic. One percent of the people were white non-Hispanic (U.S. Census Bureau 2005). In Ceiba and Fajardo, 81 percent and 97 percent of the population, respectively, were Hispanic (U.S. Census Bureau 2000a).

The Census Bureau establishes poverty thresholds to identify low-income populations (CEQ 1997). Poverty status is reported as the number of persons or families with income below a defined threshold level. The 2000 Census defines the poverty level as \$8,794 of annual income, or less, for an individual and \$17,603 of annual income, or less, for a family of four. As of 2005, 45 percent of the Puerto Rico residents were classified by the U.S. Census Bureau as living in poverty (U.S. Census Bureau 2005). In Ceiba, 39 percent of the population was living below the poverty level. In Fajardo, 42 percent of the population was below the poverty level (U.S. Census Bureau 2000a).

4.10.1.7 Protection of Children

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks* (April 21, 1997), seeks to protect children from disproportionately incurring environmental health risks or safety risks.

No children live on NAPR.

4.10.2 Environmental Consequences

4.10.2.1 Proposed Action

Economic Development. Short-term minor beneficial effects on economic development would be expected from implementing the proposed action, regardless of whether it was implemented at the Moscrip or Bundy location. In the short term, the expenditures and employment associated with demolition of existing buildings and construction of the AFRC, VMS, and two unit storage buildings (with a total estimated expenditure of almost \$36 million over 21 months) would increase ROI sales volume, employment, and income. A benefit the development would be the construction spending, especially if local labor and materials were used, although the economic benefits would be short-term, lasting only for the duration of the construction period. Given the available labor force and the unemployment rate in the ROI and Puerto Rico as a whole, there would be a sufficient number of people to fill the construction jobs. The money spent during the construction phase would be cycled through the local economy through subsequent business spending and wages earned locally, creating further indirect and induced economic benefits.

Population. No effects on population would be expected from implementing the proposed action. The proposed action would not change the ROI's or Puerto Rico's population. Full-time employees and Reservists would commute from their homes to the AFRC.

Housing. No effects on housing would be expected from implementing the proposed action. The proposed action would not change the ROI's population and would not affect the housing market. Full-time employees and Reservists would commute from their homes to the AFRC.

Quality of Life. The following paragraphs identify the anticipated effects of implementation of the proposed action for each of the key components of quality of life.

Law Enforcement, Fire Protection, and Medical Services. Short-term minor adverse effects would be expected. Local police and fire departments would respond to any emergencies at the proposed site. The proposed action would result in 25–50 additional permanent on-post personnel and support staff that would work at the proposed AFRC during normal weekday business hours and about 600 Reservists that would train at the AFRC on weekends. The additional personnel

would be expected to generate a minor increase in service calls to the local authorities. The additional personnel also would likely need occasional medical services. Medical care would be available at the former naval station hospital when it was reopened by Episcopal, Inc., and at the San Pablo del Este Hospital in Fajardo.

Schools. No effects would be expected. The proposed action would not change the ROI's population and would not affect school enrollment. Full-time employees and Reservists would commute from their current homes to the AFRC.

Family Support, Shops and Services, and Recreation. No effects would be expected. The PRARNG headquarters office in San Juan would continue to provide family support services for AFRC Soldiers. Other shopping and service facilities (such as gas stations or food establishments) would be available in the local communities.

Environmental Justice. No effects on environmental justice would be expected from implementing the proposed action. Implementation of the proposed action would not result in disproportionate adverse environmental or health effects on low-income or minority populations.

Protection of Children. No effects on children would be expected from implementing the proposed action. Implementation of the proposed action would not result in disproportionate adverse environmental or health or safety risks to children.

4.10.2.2 No Action Alternative

Regional Economic Activity, Population, Housing, and Quality of Life. No effects on sales volume, income, employment, or population would be expected under the No Action alternative. The Army would not construct an AFRC in either the Moscrip or Bundy area under the No Action alternative. Therefore, there would be no change in demand for housing, law enforcement, fire protection services, medical services, schools, family support services, shopping, or recreation facilities.

Environmental Justice. No effects on low-income or minority populations would be expected under the No Action alternative.

Protection of Children. No effects on children would be expected under the No Action alternative.

4.11 TRANSPORTATION

4.11.1 Affected Environment

4.11.1.1 Moscrip Alternative

Roads. The roads on the Moscrip area and in surrounding areas of NAPR are primarily two-lane roads. Langley Drive and Forrestal Drive lead to the Moscrip area from Gate 3 off PR-3, which is currently the only open gate on NAPR. Breton Street separates from Antietam Road at the northwest point of the Moscrip area, and it intersects Barnes Street near the southwest corner of the proposed project footprint. Barnes Street is the main street that provides access to different areas in the Moscrip area, including the proposed AFRC, and the northeastern area with the

existing U.S. Army Reserve Center and Navy barracks. Small side streets lead off Barnes Street to other facilities in the Moscrip area. Antietam Road borders the proposed footprint to the north.

Traffic outside NAPR on PR-3 near the access roads to the installation is moderate. PR-3 has two lanes in the immediately surrounding area. Traffic congestion is minor along the small section of PR-3 that passes through the center of Ceiba. Traffic congestion is not a problem on NAPR.

Airports and Ports. The only major airport in the area is the Luis Muñoz Marín International Airport in San Juan, Puerto Rico, approximately 1 hour from NAPR. San Juan is also a major port facility for Puerto Rico. There is a former naval airfield on NAPR, but it is not operational. The airfield was transferred to the LRA, which is working with the Federal Aviation Administration to obtain operational status for the airport. The services that will be available when the airport is opened is not known.

4.11.1.2 Bundy Alternative

Roads. The roads in the Bundy area and in surrounding areas of NAPR are primarily two-lane roads. Bennington Road provides access to the Bundy area from Gate 3 and PR-3. Bairoko Road and Marcus Road and other secondary roads provide access to other facilities in the Bundy area. Bairoko Road, which runs northeast to southwest through the Bundy area, is a paved road that separates the BEQ buildings from the maintained open space.

Airports and Ports. Local area traffic and airports and ports were described earlier under the Moscrip alternative.

4.11.2 Environmental Consequences

4.11.2.1 Moscrip Alternative

Short-term minor adverse effects on transportation systems and short- and long-term minor adverse effects on traffic would be expected from implementing the Moscrip alternative. Minor changes to the transportation system on NAPR and to local traffic would be expected with implementation of the Moscrip alternative, primarily from construction vehicle use and from small changes in localized traffic patterns from the additional permanent personnel and increased weekend traffic from Reservists.

Traffic delays near construction sites and road closures or detours to accommodate utility system work would be temporary and would be minor given NAPR's low level of use. The local NAPR and off-post road infrastructure are adequate to support any increase in construction vehicle traffic.

Long-term minor effects would result from approximately 25–50 additional permanent on-post personnel and support staff that would work at the proposed AFRC and the Reservists that would train at the facility. Traffic on local roads would increase by approximately 60–120 trips per normal weekday and by about 1,900 trips from Friday to Sunday evenings (ITE 2003). Only a fraction of the trips would occur during peak traffic periods. This small increase in traffic would not affect the capacity of any of the gates, roadway segments, or intersections on NAPR or on local roads.

Air Transportation, Rail Access, and Public Transit. No effects on rail or air transportation resources would result from implementing the Moscrip alternative.

4.11.2.2 Bundy Alternative

Short-term minor adverse effects on transportation systems and short- and long-term minor adverse effects traffic would be expected from implementing the Bundy alternative. The effects on transportation systems and traffic under the Bundy alternative would be similar to those discussed earlier for the Moscrip alternative, except that the effects on NAPR would be located on a different part of the installation. The local on-post and off-post road infrastructure are adequate to support the construction and operational vehicle traffic. No effects on rail or air transportation resources would result from implementing the Bundy alternative.

4.11.2.3 No Action Alternative

No effects on transportation resources would be expected under the No Action alternative because there would be no change to the road network or increase in traffic volume. The Army would not construct an AFRC in either the Moscrip or the Bundy area under the No Action alternative.

4.12 UTILITIES

4.12.1 Affected Environment

Utility systems available at the Moscrip and Bundy areas are potable water, wastewater collection and treatment, electricity, solid waste disposal, and communications.

4.12.1.1 Moscrip Area

4.12.1.1.1 Potable Water Supply

Potable water for NAPR is obtained from the Rio Blanco and stored in a 46-million-gallon reservoir west of the Moscrip area in the central portion of NAPR. The water treatment plant is just north of the reservoir. The plant's maximum rated capacity is 4 million gallons per day (mgd). The potable water distribution system is extensive: It includes 68 miles of distribution pipes, seven pump stations, and five storage tanks with a combined storage volume of 2.6 million gallons. The Tacan water storage tank serves the Moscrip area and has a capacity of 1.5 million gallons (NAVFAC Atlantic 2005). The water treatment facility, reservoir, and distribution system were originally constructed in the 1940s. Major repairs and facility upgrades were completed at the treatment plant in 1976 and 1986 (Department of the Navy 2007). The Navy still owns and maintains the potable water system. The system might be conveyed to the LRA or sold upon sale of the property. The Army would then purchase water from the new owners.

4.12.1.1.2 Sewer and Wastewater

NAPR has three wastewater treatment plants (WWTPs) for wastewater treatment and final disposal:

- Bundy WWTP (permitted capacity of 0.65 mgd) (near the Bundy area)

- Capehart WWTP (permitted capacity of 1.13 mgd) (near Capehart housing on Point Algodones)
- Forrestal WWTP (permitted capacity of 1.01 mgd) (near the Moscrip area)

The plants were constructed in the early 1970s. Each WWTP provides tertiary treatment before the treated effluent is discharged into the ocean via outfalls (Department of the Navy 2007). The Forrestal WWTP is associated with the Moscrip area. The Forrestal WWTP received most of the industrial wastewater, as well as domestic wastewater from the enlisted personnel barracks and the officer's quarters, when the former NSRR was in operation. This WWTP also has an oil spill recovery system (NAVFAC Atlantic 2005). The Navy still owns and maintains the wastewater system. The system might be conveyed to the LRA or sold upon sale of the property. The Army would then purchase wastewater treatment from the new owners.

4.12.1.1.3 Energy Sources

The Puerto Rico Electric Power Authority (PREPA) provides electrical power throughout Puerto Rico, but the Navy owns the electrical system on NAPR. Electrical service for the Moscrip area is provided by two circuits. A few large loads are served directly at 38 kilovolts (kV), and the remaining power is stepped down to 13.2 kV, 4.16 kV, or 480 kV for distribution. In 2001 the maximum electrical demand was about 15 kilovolt-amperes. Annual consumption was estimated at about 95,500 megawatts per hour (Department of the Navy 2007). The Army would purchase electricity from the new property owners after sale by the Navy.

4.12.1.1.4 Solid Waste

According to a Consent Order entered between USEPA and the Department of the Navy, the 85-acre landfill site at the former NSRR will be closed in accordance with a RCRA Fact Sheet titled *Naval Activity Puerto Rico (NAPR), formerly Naval Station Roosevelt Roads, Ceiba, PR*, dated September 8, 2006. Thereafter, solid waste disposal will be the responsibility of the local municipality using existing facilities operated by Landfill Technologies, Inc. In 2005 Landfill Technologies, Inc., managed municipal solid waste for a population of approximately 187,185 (including the municipalities of Fajardo, Ceiba, Naguabo, and other private and government agencies).

4.12.1.1.5 Communication Systems

The Puerto Rico Telephone Company provides all telephone service to NAPR.

4.12.1.2 Bundy Area

4.12.1.2.1 Potable Water Supply

The potable water system is the same as that described earlier in Section 4.12.1.1.1. A water storage tank in the Bundy area has a capacity of 0.75 million gallons (Department of the Navy 2003).

4.12.1.2.2 Sewer and Wastewater

The wastewater treatment system is the same as that described earlier in Section 4.12.1.1.2. The Bundy WWTP is associated with the Bundy area. The facility received wastewater from facilities

in the southwestern portion of the former NSRR. The facility was designed for an average daily flow of 0.65 mgd. A total of 56,000 linear feet of sanitary sewers and seven sewage pumping stations are associated with the Bundy WWTP. Treated effluent is discharged to the ocean via the Vieques Passage.

The average daily flow at the Bundy WWTP in 2004 after partial mission reduction was projected to be approximately 0.003 mgd (Department of the Navy 2003). In addition to the above-stated wastewater generated, the Bundy collection system receives approximately 0.07 mgd of infiltration and inflow.

4.12.1.2.3 Energy Sources

The electrical supply system is the same as that described earlier in Section 4.12.1.1.3.

4.12.1.2.4 Solid Waste

The solid waste disposal information is the same as that provided earlier in Section 4.12.1.1.4.

4.12.1.2.5 Communication Systems

The communication systems are the same as those described above in Section 4.12.1.1.5.

4.12.2 Environmental Consequences

4.12.2.1 Moscrip Alternative

Long-term minor adverse and beneficial effects on utility systems serving the Moscrip area would be expected. Adverse effects would be expected from construction and demolition (C&D) debris generation and municipal solid waste generated after the AFRC became operational. Beneficial effects would be expected from utility system upgrades at the Moscrip area.

The potable water and wastewater systems have sufficient capacity to meet the demand that the BRAC action would produce. Under the Moscrip alternative, a maximum of 600 personnel would use the proposed facilities on three weekends each month. The potable water system that serves the Moscrip area has a capacity of 1.5 million gallons and is sufficient for an effective population of about 10,000 (using a per capita consumption of 150 gallons per capita per day). The Forrestal WWTP has a permitted capacity of 1.01 mgd, which is sufficient for an effective population of approximately 10,000 full-time residents.

The Army would minimize the increased demand on utility systems by installing water-conserving devices such as low-flow shower heads, faucets, and toilets in new AFRC facilities and installing fixtures and heating systems in compliance with the Energy Policy Act of 2005 (Public Law 109-58). Starting with Fiscal Year 2008, all vertical building construction projects would be expected to achieve the SILVER level of Leadership in Energy and Environmental Design (LEED) of the U.S. Green Building Council (Deputy Assistant Secretary of the Army 2006).

The amount of solid waste generated by operation of the AFRC under the Moscrip alternative would not be substantial. Assuming 2 pounds of municipal solid waste generated per day per Reservist, 600 Reservists would generate approximately 58 tons of waste per year, or about 5 tons

per month (estimating an average of 8 days of training per month [Friday afternoons through Sunday evenings, three weekends per month]).

Table 4-5 provides an estimate of the C&D debris that would be generated by construction under the Moscrip alternative. A minimum of 50 percent of the estimated 3,063 tons of C&D debris would be recycled, resulting in approximately 1,532 tons of C&D debris that would be disposed of in landfills. This equates to a yearly average of 875 tons of debris, or a monthly average of approximately 73 tons, assuming 21 months of construction activity.

**Table 4-5
Estimates of construction and demolition debris generated
as a result of implementing the Moscrip alternative**

Construction type	Admin area (ft²)	C&D factor (lb/ft²)	Estimated waste (lb)	Estimated waste (tons)
Construction	101,904	2.8 ^a	285,331	143
Demolition	37,683	155 ^b	5,840,865	2,920
Gross total	139,587	N/A	6,126,196	3,063
Amount recycled (50%)	N/A	N/A	3,063,098	1,532
Net total C&D debris generated	N/A	N/A	3,063,098	1,532

^a EPA estimate for nonresidential construction debris generation.

^b EPA estimate for nonresidential demolition debris generation.

4.12.2.2 Bundy Alternative

Long-term minor adverse and beneficial effects on utility systems serving the Bundy area would be expected, and they would be attributable to the same causes as those discussed for the Moscrip alternative.

The potable water and wastewater systems have sufficient capacity to meet the demand that the BRAC action would produce. The potable water system serving the Bundy area has a capacity of 0.75 mgd and is sufficient for an effective population of approximately 5,000 (using a per capita consumption of 150 gallons per capita per day). The Bundy WWTP has a permitted capacity of 0.65 mgd, which is sufficient for an effective population of approximately 6,500 full-time residents.

The Army would minimize the increased demand on utility systems in the same manner as discussed for the Moscrip alternative, would comply with the Energy Policy Act of 2005, and would be expected to achieve the Silver level of LEED of the U.S. Green Building Council.

Solid waste generation by Reservists and others using the AFRC would be the same as under the Moscrip alternative—approximately 58 tons of waste per year, or about 5 tons per month. Table 4-6 provides an estimate of the C&D debris that would be generated by construction under the Bundy alternative.

Table 4-6
Estimates of construction and demolition debris generated
as a result of implementing the Bundy alternative

Construction type	Admin area (ft ²)	C&D factor (lb/ft ²)	Estimated waste (lb)	Estimated waste (tons)
Construction	101,904	2.8 ^a	285,331	143
Demolition	180,935	115 ^b	20,807,525	10,404
Gross total	282,839	N/A	21,092,856	10,547
Amount recycled (50%)	N/A	N/A	10,546,428	5,274
Net total C&D debris generated	N/A	N/A	10,546,428	5,274

^a EPA estimate for nonresidential construction debris generation.

^b EPA estimate for residential demolition debris generation. The BEQ buildings would account for most of the demolition debris.

A minimum of 50 percent of the estimated 10,547 tons of C&D debris would be recycled, resulting in approximately 5,274 tons of C&D debris that would be disposed of in landfills. This equates to a yearly average of 3,013 tons of debris, or a monthly average of approximately 251 tons, assuming 21 months of construction activity.

4.12.2.3 No Action Alternative

No effects on utility systems would be expected under the No Action alternative. Facilities for BRAC would not be constructed, and no change in demand on utility systems would occur. Redevelopment of the property would not be under the authority of the Army.

4.13 HAZARDOUS AND TOXIC SUBSTANCES

4.13.1 Affected Environment

Specific environmental statutes and regulations govern hazardous material and hazardous waste management activities in the Moscrip and Bundy areas. For the purpose of this analysis, the terms *hazardous waste*, *hazardous materials*, and *toxic substances* include those substances defined as hazardous by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), RCRA, or TSCA. In general, they include substances that, because of their quantity, concentration, or physical, chemical, or toxic characteristics, might present substantial danger to public health or welfare or to the environment when released into the environment.

The parcel for the Moscrip alternative was included in an Environmental Condition of Property (ECP) report that the Installation Management Command, Army Reserve (IMC-AR) prepared for the Fort Buchanan Department of Public Works, Mission Support Division, in November 2007 and an ECP that was prepared by the Naval Facilities Command—Atlantic for Commander, Navy Region Southeast, in July 2005. The ECP prepared by IMC-AR covered approximately 28 acres of land that is included in the Moscrip alternative. The ECP prepared by the Naval Facilities Command—Atlantic covered the former NSRR.

The parcel for the Bundy alternative was included in an Environmental Baseline Survey (EBS) that the Installation Management Agency, Army Reserve Office (IMA-ARO) prepared for the

65th Regional Readiness Command (now the 1st Mission Support Command) in October 2006. The EBS, which covered approximately 150 acres of land within Fort Bundy, was prepared to determine the environmental condition of property before transfer. Findings from these environmental documents and other sources that are relevant to the BRAC AFRC parcels are provided below.

4.13.1.1 Moscrip Alternative

Storage and Handling Areas. Hazardous substances (below CERCLA reportable quantities) have been used and stored in Building 2335 in amounts necessary to support unit-level vehicle and building maintenance activities. Confirmed releases have been identified at the former DRMO scrap metal recycling yard (also known as ECP Site 19/SWMU 73). Former Building 25 (AOC B) once contained hazardous waste materials. An inspection in 1993 identified 55-gallon drums of lubricating oils and diesel stored outdoors on the former floor of the building. Extensive oil stains were observed. Former Building 145 (SWMU 6), which consisted of a partially buried concrete bunker, was once used as a long-term storage area for containers of discarded and surplus paints, polishes, and the like (IMC-AR 2007). Details concerning these sites are provided in the Site Contamination and Cleanup section below.

One 500-gallon vaulted AST containing diesel fuel is on the proposed Moscrip parcel. The AST serves a water pump station adjacent to Building 2360. Visual inspections of the AST did not identify any spills, releases, or stains (IMO-ARO 2006).

Building 2034 (Pest Control Building) is used to mix and store small quantities of pesticides. On the exterior of the building, there is a wash pad with a floor drain that is connected to the sanitary sewer system (IMC-AR 2007).

Hazardous Waste Disposal. Under both Commonwealth and federal law, NSRR was historically classified as a RCRA large-quantity hazardous waste generator (i.e., more than 1,000 kilograms per month). The station's USEPA identification number is PR2170027203 (USEPA 2007a). It is important to note that because most operations at NSRR have ceased or have been significantly downsized as a result of station closure, the quantity of hazardous waste generated has significantly declined and many historically significant locations of hazardous waste generation or storage are no longer in use (Naval Facilities Engineering Command Atlantic 2005).

Site Contamination and Cleanup. Confirmed releases have been identified at the former DRMO scrap metal recycling yard. Constituents of concern (CoCs) were identified above industrial and residential risk-based concentrations (RBCs). Vanadium was identified in the groundwater above the tap water RBC, but it was attributed to leaching from naturally occurring high levels of vanadium (IMC-AR 2007). Based on these findings and the requirements of a RCRA Section 7003 Order of Consent (Consent Order), an approved work plan to complete site characterization and a Corrective Measures Study (CMS) to determine the final remedy for the site was prepared. Field work for the corrective measures study began in April 2008. Visual observations during the field investigations identified several inactive open dumps containing waste tires/rims, metal, wood, and concrete debris and other unknown materials in a wooded area within the site. Analytical sampling results identified elevated levels of CoCs along the perimeter of each investigation area within the site. Based on these findings, further characterization of the CoCs was required to fully determine the appropriate corrective action. Once the CoCs are fully delineated, risk calculations will be completed to determine the extent of potential cleanup and

proposed corrective measures. No existing structures within the site appear to be in areas of known contamination.

Arsenic and 4,4-DDT were detected at SWMU 6/AOC B, located just southwest of the former DRMO scrap metal recycling yard. A CMS was performed for SWMU 6/AOC B; no further action was recommended (IMC-AR 2007). On the basis on the final Consent Order, a *Corrective Action Complete without Controls* determination was approved for SWMU 6/AOC B. This determination is subject to completion of public notice and possible changes in response to public comment. Any additional environmental issues identified would require further investigation and consultation with regulatory agencies.

Other than these areas, there is no evidence that the chemicals used or stored were ever improperly handled, released, or disposed of on the Moscrip parcel (IMC-AR 2007).

Installation Restoration Program. The Installation Restoration Program (IRP) at NSRR is a Department of the Navy initiative to identify, investigate, and clean up former waste disposal sites. Depending on the circumstances, military IRP sites are identified, investigated, and cleaned up in accordance with RCRA or CERCLA or in accordance with an integrated approach based on both laws (NAPR n.d.).

In October 1994 a RCRA Part B permit was issued for NSRR. The permit included Corrective Action. The waste sites identified during earlier investigations would be cleaned up under the station's RCRA program (NAPR n.d.). In 2007 a RCRA Section 7003 Consent Order was entered into by USEPA and the Department of the Navy. The Consent Order identifies the Navy's corrective action obligations under RCRA and replaces the 1994 RCRA permit as the document memorializing these obligations concerning the former NSRR (USEPA 2007b). The Navy is continuing to implement its cleanup obligations under its 1994 RCRA Permit, but it intends to transfer certain portions of its cleanup obligations to willing buyers (NAPR 2006).

Special Hazards

Asbestos. An asbestos survey of Buildings 27, 2034, 2335, 2468 and 2469 was conducted in January 2005. The analytical sample results for each building were negative for asbestos.

Polychlorinated Biphenyls. Transformers containing polychlorinated biphenyls (PCBs) were removed from all of NSRR before 1998; however, light ballasts in older light fixtures could contain PCBs (IMA-ARO 2006).

Lead-based Paint. There are no survey data for lead-based paint (LBP) for the buildings in the Moscrip parcel; however, it should be assumed that LBP is present in all structures constructed before 1978. Buildings 27 and 111 were constructed in the late 1950s. Buildings 2034, 2335, 2468 and 2469 were built in the 1980s or later (IMC-AR 2007).

LBP debris from renovation and demolition activities is managed and disposed of as construction debris in accordance with applicable regulations.

Pesticides. The Pesticide Compliance and Pest Management Plan provides policy and guidance for pesticide management and pest control operations at NSRR. All pesticide operations at NSRR are conducted in accordance with Commonwealth, federal, and Navy regulations (Naval Facilities Engineering Command Atlantic 2005).

Ordnance. There is no indication that Munitions and Explosives of Concern (MEC) are present on the proposed Moscrip alternative parcel (IMC-AR 2007).

Radon. Based on the local geology, it is unlikely that radon gas poses as an environmental threat (IMC-AR 2007).

Mold. Mold problems are controlled at NSRR as needed by eliminating sources of mold followed, where required, by repairing and cleaning mold-affected substrates.

4.13.1.2 Bundy Alternative

Storage and Handling Areas. There are four 1,000-gallon ASTs containing diesel fuel on the proposed AFRC parcel. Visual inspections of the ASTs did not identify any spills, releases, or stains. Five 1,000-gallon diesel USTs were removed in 1993. Three of the former UST sites are part of an existing monitored natural attenuation (MNA) study; soil contamination remains at two of the former UST sites. The Puerto Rico Environmental Quality Board has recommended continued annual soil and groundwater sampling at these locations (IMA-ARO 2006).

The proposed RCRA Section 7003 Consent Order (see the Installation Restoration Program section below) recommends a work plan to complete additional site characterization for these three sites, which are included in AOC F (NAPR n.d.).

Hazardous Waste Disposal. Under both Commonwealth and federal law, NSRR was historically classified as a RCRA large-quantity hazardous waste generator (i.e., more than 1,000 kilograms per month). The station's USEPA identification number is PR2170027203 (USEPA 2006). It is important to note that because most operations at NSRR have either ceased or been significantly downsized as a result of station closure, the quantity of hazardous waste generated has significantly declined, and many historically significant locations of hazardous waste generation or storage are no longer in use (Naval Facilities Engineering Command Atlantic 2005). Impacted areas associated with the handling, storage, and disposal of hazardous waste were not identified in the direct vicinity of the proposed AFRC parcel.

Site Contamination and Cleanup. There are three MNA sites on the proposed AFRC parcel. Four additional sites that required or require additional environmental investigations were identified in the EBS; however, those sites are approximately 1,400 feet west of the proposed AFRC parcel and it is unlikely that they would affect the parcel.

Installation Restoration Program. The IRP at NSRR is a Department of the Navy initiative to identify, investigate, and clean up former waste disposal sites. Depending on the circumstances, military IRP sites are identified, investigated, and cleaned up in accordance with RCRA or CERCLA or in accordance with an integrated approach based on both laws (NAPR n.d.). The information provided earlier concerning the Navy's RCRA obligations under the Consent Order also apply to the Bundy alternative.

Special Hazards

Asbestos. An asbestos survey of 113 buildings in 1990 confirmed asbestos-containing materials (ACM) or suspect ACM in 77 of 113 buildings on NSRR. According to the survey, friable and non-friable material were observed in the five buildings on the proposed AFRC property (IMA-ARO 2006).

Under the proposed action, ACM will be characterized and disposed of in accordance with applicable federal and local solid waste management regulations.

Polychlorinated Biphenyls. Transformers containing PCBs were removed from all of NSRR before 1998; however, light ballasts in older light fixtures could contain PCBs (IMA-ARO 2006).

Lead-based Paint. There are no survey data for LBP for the buildings within the Bundy area; however, it should be assumed that LBP is present in all structures constructed before 1978. The five structures on the proposed AFRC parcel were constructed in 1960 (IMA-ARO 2006).

LBP debris from renovation and demolition activities is managed and disposed of as construction debris in accordance with applicable regulations.

Pesticides. The Pesticide Compliance and Pest Management Plan provides policy and guidance for pesticide management and pest control operations at NSRR. All pesticide operations at NSRR are conducted in accordance with Commonwealth, federal, and Navy regulations (Naval Facilities Engineering Command Atlantic 2005).

Ordnance. According to the EBS, there is no evidence that MEC are present on the proposed AFRC parcel or surrounding areas. In addition, the property was historically used exclusively as a Reserve Center. There is no record of MEC being discovered or record that munitions-related activities occurred within the area (IMA-ARO 2006).

Radon. Based on the local geology, it is unlikely that radon gas poses as an environmental threat in the Bundy area (IMA-ARO 2006).

Mold. Mold problems are controlled at NSRR as needed by eliminating sources of mold followed, where required, by repairing and cleaning mold-affected substrates.

4.13.2 Environmental Consequences

4.13.2.1 Moscrip Alternative

No environmental or health effects resulting from the removal, handling, and disposal of hazardous materials would be expected during demolition of existing structures, renovation, or new construction at the Moscrip area. All BRAC-related activities would be conducted in accordance with all applicable regulatory requirements. Demolition and renovation wastes that contain ACM, LBP, or contaminated soil would be handled in accordance with all applicable regulatory requirements. Existing ASTs and their contents would be removed in accordance with applicable regulations. Proper health and safety measures would be implemented for on-site personnel.

No effects from hazardous waste disposal, mold, pesticide use, or MEC would be expected. All contractors associated with implementation of the Moscrip alternative would be responsible for adhering to existing policies and procedures and local and federal regulations for storage, handling, and disposal of hazardous wastes. Any mold in buildings on the property would be eliminated during demolition and renovation. Pesticides are not considered hazardous waste if used at their current location for their intended purpose, instead of being stored, disposed of as waste material, or allowed to migrate to their current location from the site of application. There were no training areas that could contain MEC in the vicinity of the proposed AFRC.

Hazardous materials that could be found on-site during BRAC-related activities include paints, asphalt, and fuel and motor oils for construction vehicles and equipment. Construction contractors would be responsible for preventing or responding to paint and fuel spills and for collecting, storing, and disposing of hazardous materials in accordance with applicable federal and local laws.

4.13.2.2 Bundy Alternative

No environmental or health effects resulting from the removal, handling, and disposal of hazardous materials would be expected during demolition of existing structures, renovation, or new construction at the Bundy area. The analysis of effects for the Moscrip alternative also applies to the Bundy alternative.

Short-term minor adverse effects on MNA investigations would be expected. Upon completion of construction activities, the use of monitoring devices to monitor subsurface water quality would need to be reevaluated.

4.13.2.3 No Action Alternative

No adverse effects on the removal, handling, and disposal of hazardous materials would be expected under the No Action alternative. Current procedures would continue to be implemented in accordance with applicable laws.

4.14 CUMULATIVE EFFECTS

In this section, the Army identifies the cumulative effects of the proposed action. A cumulative effect is defined at 40 CFR 1508.7 as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonable foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” Only resources with similar and comparable types of environmental effects from both the proposed action and non-BRAC-related projects are considered to have cumulative effects.

The only reasonably foreseeable future project that would be expected to contribute cumulatively to the effects of the proposed action is reuse and redevelopment of NAPR. Because reuse and redevelopment of the NAPR property are still in the planning phase and some time would likely pass before a redevelopment plan would be implemented, this EA assumes that the short-term effects of the proposed action would not overlap with the effects of redevelopment. No cumulative effects, therefore, would be expected on any resource areas for which no long-term effects from implementation of the proposed action have been identified in the EA. These resource areas are land use, aesthetic and visual resources, geology and soils, water resources, biological resources, socioeconomics, cultural resources, and hazardous and toxic substances. Cumulative effects on air quality, noise, transportation systems, and utilities are discussed below.

4.14.1 Air Quality

A minor adverse cumulative effect on air quality would be expected. The proposed action would have long-term effects on air quality through operational air contaminant emissions and the emissions of the vehicles used by AFRC personnel and Soldiers. Redevelopment of NAPR would

generate construction equipment emissions, operational emissions, and vehicular emissions. Redevelopment of NAPR could also generate other regional development projects, which would also produce some measurable amounts of air pollutants. The Commonwealth of Puerto Rico takes into account the effects of all past, present, and reasonably foreseeable projects in the region and associated emissions during the development of its State Implementation Plan, so it is expected that the cumulative effects on air quality would be minor.

4.14.2 Noise

A minor adverse cumulative effect on noise would be expected. Ambient noise from nearby construction associated with redevelopment and from surrounding land uses after redevelopment of the property would add to noise from activities at the VMS. The LRA's redevelopment plan indicates that residential areas and lodging facilities would be constructed near the Bundy area. If that were the case, no significant cumulative noise effects would be expected.

4.14.3 Transportation

An adverse cumulative effect on the transportation system would be expected. Redevelopment of NAPR would generate construction traffic, traffic delays for utility line work, and additional local traffic, including air traffic to the former NSRR airport if it were redeveloped as an airport. It is unreasonable at this time to attempt to determine the magnitude of the potential effect because whether the reuse of NAPR would generate mostly weekly traffic from residential and commercial uses (which would not conflict with the primarily weekend traffic associated with the AFRC) or weekend traffic from hotel and recreational uses is not known. Nevertheless, post-construction traffic from reuse of the property would create a long-term change in the form of additional demand placed on the local transportation infrastructure.

4.14.4 Utilities

An adverse cumulative effect on utility systems would be expected. Redevelopment of NAPR would impose additional demands on all utility systems and landfill facilities. The intensity of development on the NAPR property would determine the magnitude of effect on utility systems and whether major system improvements or upgrades would be necessary.

4.15 MITIGATION SUMMARY

Mitigation actions are used to reduce, avoid, or compensate for significant adverse effects. The EA did not identify the need for any mitigation measures.

SECTION 5.0 CONCLUSIONS

This EA has been prepared to evaluate the potential effects on the natural and human environment from activities associated with implementing the BRAC Commission's recommendations pertaining to Ceiba, Puerto Rico. The EA has examined the Army's preferred alternative (realignment) and the No Action alternative.

The EA has evaluated potential effects on land use, aesthetic and visual resources, air quality, noise, geology and soils, water resources, biological resources, cultural resources, socioeconomics (including environmental justice and protection of children), transportation, utilities, and hazardous and toxic substances.

Evaluation of the Moscrip alternative, identified as the Army's preferred alternative, and the Bundy alternative indicates that the physical and socioeconomic environments at Ceiba and in the ROI would not be significantly affected. The predicted consequences on resource areas are briefly described below. Table 5-1 provides a summary and comparison of the consequences of the alternatives versus the No Action alternative.

5.1 SUMMARY OF CONSEQUENCES

5.1.1 Moscrip Alternative

5.1.1.1 Land Use

No adverse effects on land use would be expected from implementing the Moscrip alternative. No conflicts with adjacent land uses would be expected and use of the property for AFRC operations would be compatible with past land uses of the property and surrounding land uses.

5.1.1.2 Aesthetics and Visual Resources

Long-term minor beneficial effects on aesthetic and visual resources would be expected from implementing the Moscrip alternative. Removal of old buildings, building renovation, and infrastructure replacement and upgrade would improve the overall appearance of the property and grounds.

5.1.1.3 Air Quality

Short- and long-term minor adverse effects on air quality would be expected from implementing the Moscrip alternative. Short-term releases of air pollutants would result from construction activity, and long-term minor increases in air pollutant emissions would result from operating equipment and facility infrastructure at the AFRC.

5.1.1.4 Noise

Short- and long-term minor adverse effects on the noise environment would be expected from implementing the Moscrip alternative. Short-term increases in noise would result from the use of heavy equipment during construction. A minor adverse effect on the long-term noise environment would result from operation of the AFRC and MEP.

Table 5-1
Summary of potential environmental and socioeconomic consequences

Resource area	Environmental and socioeconomic effects		
	Moscrip Alternative	Bundy Alternative	No Action Alternative
Land use	No effects	No effects	No effects
Aesthetics and visual resources	Long-term minor beneficial	Long-term minor beneficial and adverse	No effects
Air quality	Short- and long-term minor adverse	Short- and long-term minor adverse	No effects
Noise	Short- and long-term minor adverse	Short- and long-term minor adverse	No effects
Geology and soils <ul style="list-style-type: none"> • Geology/topography • Soils 	No effects Short-term minor adverse	No effects Short-term minor adverse	No effects No effects
Water resources <ul style="list-style-type: none"> • Surface water • Groundwater • Wetlands • Floodplains • Coastal zone 	Short-term minor adverse Short-term minor adverse No effects No effects Short-term minor adverse	Short-term minor adverse Short-term minor adverse No effects No effects Short-term minor adverse	No effects No effects No effects No effects No effects
Biological resources <ul style="list-style-type: none"> • Vegetation • Wildlife • Sensitive species 	Long-term minor adverse Long-term minor adverse No effects	Short-term minor adverse Short-term minor adverse No effects	No effects No effects No effects
Cultural resources	No effects	No effects	No effects
Socioeconomics <ul style="list-style-type: none"> • Economic development • Population • Housing • Quality of life • Environmental justice • Protection of children 	Short-term minor beneficial No effects No effects Short-term minor adverse No effects No effects	Short-term minor beneficial No effects No effects Short-term minor adverse No effects No effects	No effects No effects No effects No effects No effects No effects
Transportation	Short- and long-term minor adverse	Short- and long-term minor adverse	No effects
Utilities	Long-term minor adverse and beneficial	Long-term minor adverse and beneficial	No effects
Hazardous and toxic substances	No effects	Short-term minor adverse (on monitored natural attenuation investigations)	No effects

5.1.1.5 Geology and Soils

Short-term minor adverse effects on soils would be expected under the Moscrip alternative from disturbance during construction, but construction would not permanently alter the geology, soils, or topography of the Moscrip parcel.

5.1.1.6 Water Resources

Short-term minor adverse effects on surface waters would be expected from implementing the Moscrip alternative. Land-clearing and construction activities would increase soil erosion and could contribute minor quantities of dissolved solids, sediment, and petroleum hydrocarbons to runoff and surface waters. Short-term minor adverse effects on groundwater resources would be expected from increased waterborne pollutants (e.g., dissolved solids, sediment, petroleum hydrocarbons) in surface waters that could enter the groundwater. No effects on wetlands or floodplains would be expected from implementing the Moscrip alternative. A short-term minor adverse effect on the coastal zone could result from contaminant runoff.

5.1.1.7 Biological Resources

Long-term minor adverse effects on vegetation and wildlife would be expected from implementing the Moscrip alternative. Demolition and construction activities could involve some removal of an isolated forested area. Implementation of the Moscrip alternative would not be expected to adversely effect federal or Puerto Rico designated sensitive species.

5.1.1.8 Cultural Resources

No effects on cultural resources would be expected from implementation of the Moscrip alternative as no such resources are known to occur within the Moscrip area.

5.1.1.9 Socioeconomics

Short-term minor beneficial effects on economic development would be expected from implementation of the Moscrip alternative. In the short term, the expenditures and employment associated with demolition of existing buildings and construction of new facilities would increase ROI sales volume, employment, and income.

Short-term minor adverse effects on public services would be expected from a slightly increased demand for these services in the Ceiba area after the AFRC was operational.

No effects on population, housing, schools, family support services, environmental justice, or children would be expected from implementation of the proposed action.

5.1.1.10 Transportation

Short-term minor adverse effects on transportation systems and short- and long-term minor adverse effects on traffic would be expected from implementation of the Moscrip alternative. Minor changes to the transportation system on NAPR and to local traffic would be expected with implementation of the Moscrip alternative, primarily from construction vehicle use and from small changes in localized traffic patterns from the additional permanent personnel and increased weekend traffic from Reservists.

5.1.1.11 Utilities

Long-term minor adverse and beneficial effects on utility systems serving the Moscrip area would be expected. Adverse effects would be expected from construction and demolition debris generation and municipal solid waste generated after the AFRC is operational. Assuming that half

of the estimated C&D debris would be recycled, approximately 1,532 tons of C&D debris would be disposed of in landfills as a result of implementing the Moscrip alternative. Beneficial effects would be expected from utility system upgrades.

5.1.1.12 Hazardous and Toxic Substances

No environmental or health effects resulting from the removal, handling, and disposal of hazardous materials would be expected during demolition of existing structures, renovation, or new construction at the Moscrip area. All BRAC-related activities would be conducted in accordance with all applicable regulatory requirements.

5.1.1.13 Cumulative Effects

Minor adverse cumulative effects on air quality, the noise environment, traffic, and landfill capacity, and minor beneficial effects on economic development would be expected from implementing the Moscrip alternative. None of the adverse cumulative effects would be significant.

5.1.2 Bundy Alternative

5.1.2.1 Land Use

No adverse effects would be expected. The change in land use from housing to training and maintenance would not create land use conflicts.

5.1.2.2 Aesthetics and Visual Resources

Long-term minor beneficial and minor adverse effects would be expected. The removal of old buildings and replacement of aging infrastructure would improve the appearance and functionality of the property and grounds. A minor adverse effect would be expected from the conversion of open space to an OMS. No adverse effect on the aesthetics of surrounding properties would be expected.

5.1.2.3 Air Quality

Short- and long-term minor adverse effects on air quality would be expected. Short-term emissions from construction equipment and long-term minor emissions from facilities operation would not contribute to a violation of any air quality regulation.

5.1.2.4 Noise

Short-term minor adverse effects on the noise environment would be expected. Minor increases in noise would primarily result from the use of heavy equipment during construction.

5.1.2.5 Geology and Soils

Short-term minor adverse effects on soils would be expected. The Army would implement BMPs to prevent excessive soil erosion.

5.1.2.6 Water Resources

Short-term minor adverse effects on surface water, groundwater, and the coastal zone would be expected. Implementing BMPs would limit short-term pollutant loading to surface waters and groundwater.

5.1.2.7 Biological Resources

Short-term minor adverse effects on vegetation and wildlife would be expected from implementing the Bundy alternative. Demolition and construction activities would require the removal of some mature trees and deter wildlife from using the area during construction, but operational activities would not affect biological resources. No effects on sensitive species would be expected.

5.1.2.8 Cultural Resources

No effects on archaeological sites or historic resources that are listed in, nominated for, or determined eligible for inclusion on the NRHP would be expected. No such sites have been found on the property.

5.1.2.9 Socioeconomics

The effects of constructing an AFRC in Ceiba on socioeconomics would be the same regardless of whether the AFRC was built in the Bundy or Moscrip areas. Those effects would be short-term minor beneficial effects on economic development from the expenditures and employment associated with demolition and construction increasing ROI sales volume, employment, and income; short-term minor adverse effects on public services; and no effects on population, housing, schools, family support services, environmental justice, or children.

5.1.2.10 Transportation

Short-term and long-term minor adverse effects on traffic would be expected. Construction vehicle traffic would have a short-term effect, and minor changes in localized traffic patterns and increases in local weekend traffic would be expected from operation of the AFRC.

5.1.2.11 Utilities

Long-term minor adverse and beneficial effects on utility systems would be expected. Beneficial effects would be expected from utility system upgrades, and adverse effects would be expected from the additional municipal solid waste and C&D debris sent to local landfills. Assuming that half of the estimated 10,547 tons of C&D debris generated under the Bundy alternative would be recycled, then approximately 5,274 tons of C&D debris would be disposed of in landfills as a result of implementing the Bundy alternative.

5.1.2.12 Hazardous and Toxic Substances

Short-term minor adverse effects would be expected. Construction activities could affect existing groundwater monitoring investigations, and upon completion of construction activities, subsurface water-quality monitoring devices would need to be evaluated.

5.1.2.13 Cumulative Effects

Minor adverse cumulative effects on air quality, traffic, and landfills, and minor beneficial effects on economic development would be expected from implementing the Bundy alternative. None of the adverse cumulative effects would be significant.

5.1.3 No Action Alternative

No effects on any of the resource areas considered in the EA would be expected from implementing the No Action alternative.

5.2 CONCLUSIONS

On the basis of the analyses performed in this EA, construction of an AFRC and associated facilities on either the Moscrip area or the Bundy area would not be expected to have any significant direct, indirect, or cumulative adverse effects on the quality of the natural or human environment. The effects of the two alternatives would be largely equal, though implementing the Moscrip alternative would entail the removal of a small forested area, with minor adverse effects on vegetation and wildlife, and implementing the Bundy alternative would result in approximately 3,750 tons more solid waste to be disposed of in landfills than would implementing the Moscrip alternative.

An Environmental Impact Statement does not need to be prepared, and issuance of a Finding of No Significant Impact would be appropriate.

SECTION 6.0

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Puerto Rico Agencies

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Government of Puerto Rico
Puerto Rico Planning Board
Minillas Government Center
P.O. Box 41119
San Juan, PR 00940

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Sector El Cinco
Río Piedras, PR 00906

Oficina Estatal de Conservación Histórica
Calle Norzagaray Final
Cuartel de Ballajá
Oficina 336-A, 3er Piso
San Juan PR 00902

Biblioteca Pública de Ceiba
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NAPR Public Affairs Office

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SECTION 9.0
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January 11, 2007.

Mejia, Ileana, Puerto Rico Army National Guard, Environmental Section, November 2006.

Ramos, José, Puerto Rico Army National Guard, Master Planner, November 2006.

Silva, José, Puerto Rico Army National Guard, Environmental Section, Utilities, November 2006.

APPENDIX A
DEFENSE BASE CLOSURE AND REALIGNMENT COMMISSION
RECOMMENDATIONS

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RESERVE COMPONENT TRANSFORMATION, PUERTO RICO (ARMY RECOMMENDATION)

SECRETARY OF DEFENSE RECOMMENDATION

Close the US Army Reserve Center 1st Lieutenant Paul Lavergne, Bayamon, PR, and relocate the 973rd Combat Support (CS) Company into a new Armed Forces Reserve Center on United States Army Reserve property in Ceiba, PR, and relocate all other units into a new Armed Forces Reserve Center (AFRC) on Fort Buchanan, PR. Realign the US Army Reserve Center Captain E. Rubio Junior, Puerto Nuevo, PR, by relocating the 807th Signal Company into a new Armed Forces Reserve Center on Fort Buchanan, PR. The new AFRC on Fort Buchanan, PR, shall have the capability to accommodate units from the Puerto Rico Army Guard San Juan Readiness Center, San Juan, PR, if Puerto Rico decides to relocate those National Guard units. The new AFRC facility in Ceiba, PR, shall have the capability to accommodate Puerto Rico National Guard units from the following PRARNG Readiness Centers: Humacao, Juncos, and Ceiba, PR, if Puerto Rico decides to relocate those National Guard units.

Realign United States Army Reserve Center Captain E. Rubio Junior, Puerto Nuevo, PR, by relocating the 8th Brigade, 108th DIV (IT) to a new Armed Forces Reserve Center on Fort Allen, PR.

Realign United States Army Reserve Center Ramey, Aguadilla, PR, by relocating the 249th Quartermaster Company into a new Armed Forces Reserve Center in Mayaguez, PR, if the Army is able to acquire suitable land. The new facility shall have the capability to accommodate Puerto Rico National Guard units from the Puerto Rico Army National Guard Readiness Center Mayaguez if Puerto Rico decides to relocate those National Guard units.

SECRETARY OF DEFENSE JUSTIFICATION

This recommendation transforms Reserve Component facilities throughout Puerto Rico. The implementation of this recommendation will enhance military value, improve homeland defense capability, greatly improve training and deployment capability, create significant efficiencies and cost savings, and is consistent with the Army's force structure plans and Army transformational objectives.

This recommendation is the result of a state-wide analysis of Reserve Component installations and facilities conducted by a team of functional experts from Headquarters, Department of the Army, the Office of the State Adjutant General, and the Army Reserve Regional Readiness Command.

This recommendation closes one and realigns four US Army Reserve Centers throughout Puerto Rico and constructs four multicomponent, multifunctional Armed Forces Reserve Centers capable of accommodating National Guard and Reserve units. This recommendation reduces the number of separate DoD installations by relocating to an existing base. This recommendation reduces military manpower and associated costs for maintaining existing facilities by collapsing five geographically separated facilities into three modern Armed Forces Reserve Centers. These joint facilities will significantly reduce operating costs and create improved business processes. The Department understands that Puerto Rico will close PRARNG Readiness Centers: Humacao, Juncos, Ceiba, and Mayaguez, PR. The Armed Forces Reserve Centers will have the capability to accommodate these units if the state decides to relocate the units from these closed facilities into the new AFRCs.

This recommendation provides the opportunity for other Local, State, or Federal organizations to partner with the Reserve Components to enhance homeland security and homeland defense at a reduced cost to those agencies.

Although not captured in the COBRA analysis, this recommendation avoids an estimated \$36.4M in mission facility renovation costs and procurement avoidances associated with meeting AT/FP construction standards and altering existing facilities to meet unit training and communications requirements. Consideration of these avoided costs would reduce costs and increase the net savings to the Department of Defense in the 6-year BRAC implementation period and in the 20-year period used to calculate NPV.

COMMUNITY CONCERNS

There were no formal expressions from the community.

COMMISSION FINDINGS

The Commission found no reason to disagree with the recommendation of the Secretary of Defense. In addition, the Commission notes that the Army's process was well thought-out and inclusive of the leadership of the Reserve Components and the State.

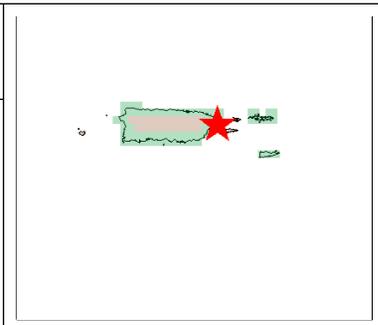
COMMISSION RECOMMENDATIONS

The Commission found the Secretary's recommendation consistent with the final selection criteria and force structure plan. Therefore, the Commission approved the recommendation of the Secretary.

APPENDIX B
WETLAND INFORMATION

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Moscrip Area PR-Wetlands Info from USFWS



Legend

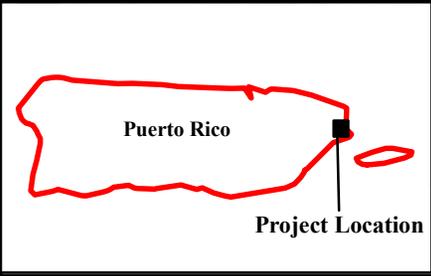
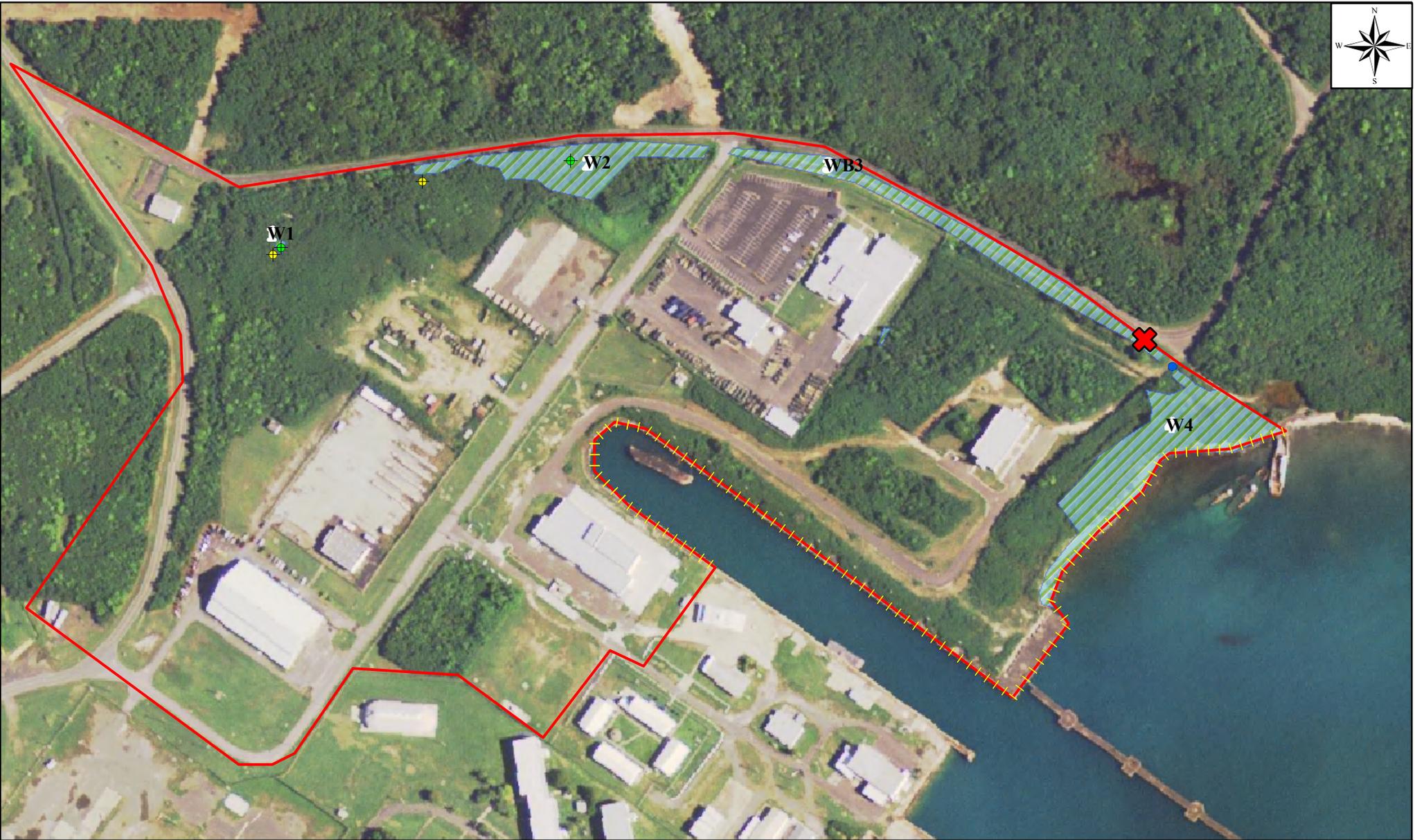
- Major Roads**
 - Other Road
 - Interstate
 - State highway
 - US highway
- Roads**
- PRVI Cities**
- PRVI Wetland Polygons**
 - Estuarine and Marine Deepwater
 - Estuarine and Marine Wetland
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Freshwater Pond
 - Lake
 - Other
 - Riverine
- PRVI Available Wetland Data**
 - Non-Digital
 - Digital
 - No Data
 - Scan
 - Waterbodies 2M
 - Streams 2M
 - PRVI Counties 2M



Scale: 1:16,271

Map center: 18° 13' 48" N, 65° 36' 25" W

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.



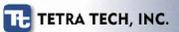
LEGEND

 Project Boundary	 Culvert
 Corps Jurisdiction up to MHW Level	 Upland Plot
 Wetland/Waterbody	 Wetland Plot
 Warning: Bee Hive	

100 50 0 100 200 300 Feet

Figure 4. Delineated Wetlands for Moscrip Area, Ceiba, Puerto Rico.

Prepared For:  Army Reserve

Prepared By:  TETRA TECH, INC. Date: 12/08

APPENDIX C

COASTAL ZONE CONSISTENCY DETERMINATION

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Commonwealth of Puerto Rico
Office of the Governor
Puerto Rico Planning Board
Physical Planning Area
Land Use Planning Bureau

**Application for Certification of Consistency with the
Puerto Rico Coastal Management Program**

General Instructions:

- A. Attach a 1:20,000 scale, U.S. Geological Survey topographic quadrangular base map of the site.
- B. Attach a reasonably scaled plan or schematic design of the proposed object, indicating the following:
 - 1. Peripheral areas
 - 2. Bodies of water, tidal limit and natural systems.
- C. You may attach any further information you consider necessary for proper evaluation of the proposal.
- D. If any information requested in the questionnaire does not apply in your case, indicate by writing "N/A"(not applicable).
- E. Submit a minimum of seven (7) copies of this application.

DO NOT WRITE IN THIS BOX			
Type of application: _____	Application Number: _____		
Date received: _____	Date of Certification: _____		
Evaluation result:	<input type="checkbox"/> Objection	<input type="checkbox"/> Acceptance	<input type="checkbox"/> Negotiation
Technician: _____	Supervisor: _____		
Comments:			

- 1. Name of Federal Agency: 1st Mission Support Command, U.S. Army Reserve
- 2. Federal Program Catalog Number: N/A
- 3. Type of Action:
 - Federal Activity
 - License or permit
 - Federal Assistance
- 4. Name of Applicant: Mr. Anibal Negrón, DPW Environmental Division, Acting Chief
- 5. Postal Address: 218 Brook St. (ATTN: IMSE-BUC-PWE), Fort Buchanan, PR 00934
Telephone: 787-707-3575 Fax: 787-707-3570
- 6. Project name: Environmental Assessment of Construction and Operation of an AFRC Pursuant to BRAC 2005 at Ceiba, Puerto Rico
- 7. Physical Description of Project Location (area, facilities such as vehicular access, drainage, storm and sanitary sewer placement, etc.): See attached, item #7.

Lambert Coordinates: X = 65.6739 W Y = 18.2168 N

8. Type of construction or other work proposed:

- drainage channeling landfill sand extraction
 pier bridge residential tourist

others (specify and explain) See attached, item #8.

Description of proposed work: See attached, item #8.

9. Natural, artificial, historic or cultural systems likely to be affected by the project

Place an X opposite any of the systems indicated below that are in the project area or its surroundings, which are likely to be affected by that activity. Indicate the distance from the project to any outside system that would likely be affected.

System	Within Project	Outside Project	Distance (meters)	Local name of affected system
beach, dunes				
marshes		X		unknown; see description in the attached under Item # 9.
coral, reefs				
river, estuary				
bird sanctuary	X			unknown; NSRR is critical habitat for the yellow-shouldered blackbird
pond, lake, lagoon				
agricultural unit				
forest, wood		X		Bosque Estatal de Ceiba
cliff, breakwater				
cultural or tourist area				
other (explain)				

Describe the likely impact of the project on the identified system (s).

Positive

Negative

Explain: See attached, item #9.

10. Indicate permits, approvals and endorsements of the proposal by Federal and Puerto Rican government agencies. Evidence of such support should be attached to the proposal.

	Yes	No	Pending	Application Number
a. Planning Board	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
b. Regulation and Permits Administration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
c. Environmental Quality Board	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
d. Department of Natural Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>N/A</u> _____
e. State Historic Preservation Office	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>N/A</u> _____
f. U.S. Army Corps of Engineers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
g. U.S. Coast Guard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
h. Other (s) (specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>USFWS</u> _____

CERTIFICATION

I CERTIFY THAT (project name) BRAC Implementation at Ceiba is consistent with the Puerto Rico Coastal Zone Management Program, and that to the best of my knowledge the above information is true.

Name (legible)

Signature

Position

Date

Item 3. Type of Action

The U.S. Army Corps of Engineers is preparing an Environmental Assessment (EA) that describes and analyzes the effects of implementing the 2005 Defense Base Closure and Realignment Commission (BRAC Commission) recommendations with respect to Ceiba, Puerto Rico, and associated actions. The excerpts below are adapted from the draft EA.

With respect to Ceiba, the BRAC Commission recommended the following:

Close the U.S. Army Reserve Center 1st Lieutenant Paul Lavergne, Bayamon, PR, and relocate the 973rd Combat Support (CS) Company into a new Armed Forces Reserve Center (AFRC) on United States Army Reserve property in Ceiba, Puerto Rico. ...The new AFRC facility in Ceiba, Puerto Rico shall have the capability to accommodate Puerto Rico Army National Guard (PRARNG) units from the following PRARNG Readiness Centers: Humacao, Juncos, and Ceiba, if Puerto Rico decides to relocate those National Guard units.

The BRAC Commission's recommendations have the force of law and must be implemented.

Item 7. Physical Description of Project Location

Two potential sites on the Naval Activity Puerto Rico (NAPR, formerly Naval Station Roosevelt Roads), were proposed for the location of the AFRC. Because the BRAC Commission's recommendation, which is legally binding, specified that the AFRC be constructed at Ceiba, no alternative locations in Puerto Rico could be considered.

The first site, identified as the Moscrip site and the Army's preferred alternative, is in the Moscrip area of NAPR at the northeast corner of the naval activity property. The AFRC would be constructed on a portion of a 54-acre parcel in the Moscrip area. The parcel is bounded by Antietam Road on the north, Breton Street to the west, Barnes Street and a dry dock on the south, and the Atlantic Ocean on the east; the approximate coordinate location is 18-13.8°N, 65-36.5°W (**Figure 1**). Numerous buildings are present on the parcel: an old, unused building (**Building 27**; **Figure 2**) that would be demolished to accommodate the new AFRC; a U.S. Army Reserve Training Center that is being used by the 346th Transportation Battalion; a new, unoccupied Navy SEAL barracks; a new, large, unoccupied building on the south side of the dry dock; and several small, unused buildings. The parcel also contains a large parking lot and a Defense Reutilization and Marketing Office scrap metal recycling yard. The northwestern and northeastern portions of the parcel are vegetated.



Figure 1. View southwest along Barnes Street. Building 27 is at the far right.



Figure 2. View of Building 27 on the Moscrip area, the proposed location of the AFRC.

Review of other potential sites for construction of the AFRC within the Ceiba area produced one parcel, the Bundy area, that is satisfactory in terms of size, availability, compatibility of use, topography, and convenience. The Bundy area is a 15-acre parcel south of Bennington Road and near Gate 3 off Puerto Rico Route 3 in the southern part of NAPR. Five unaccompanied personnel housing buildings, totaling 156,284 square feet of space, would be demolished to accommodate the new AFRC if it were placed on the Bundy area (**Figure 3**). A cement-lined ditch drains the undeveloped part of the property, where the Vehicle Maintenance Shop (VMS) would be constructed (**Figure 4**). The vacant buildings are served by all utilities (water, electric, sewer), and the existing utility infrastructure would be used for the AFRC and VMS. The coordinates for the Bundy area parcel are 18-12.9°N, 65-40.4°W.



Figure 3. Bachelor enlisted quarters on the Bundy area.



Figure 4. Undeveloped part of the Bundy area.

Item 8. Description of the Proposed Work

Construction. The Army proposes to construct and operate a new AFRC large enough for 600 personnel at Ceiba, Puerto Rico. The primary facilities would include an AFRC training building, a Vehicle Maintenance Shop (VMS), an unheated storage building, and organizational parking. The buildings

would be of permanent construction with full mechanical systems. Actions taken to support the facilities would include land clearing, paving, fencing, general site improvements, and extension of utilities to serve the project. The Army would incorporate force protection (physical security) measures into the design of the facility, including consideration of standoff distance from roads, parking areas, and vehicle unloading areas. Sustainable design and development and Energy Policy Act of 2005 features would be incorporated into all designs.

The AFRC would provide approximately 88,000 square feet (ft²) of space for administrative, educational, unit assembly, library, learning center, vault, weapons simulator, and physical fitness functions. The VMS would provide approximately 8,400 ft² of space for work bays and administrative support. A building providing approximately 5,550 ft² of unheated space would be used for organizational unit storage. Adequate parking space for all military and privately owned vehicles would be provided on approximately 6,000 ft² of organizational unit parking lots. Paving, walkways, curbs and gutters, and storm drainage for the buildings would be included in the project.

The units assigned to the AFRC are authorized 426 wheeled vehicles, trailers, and tracked vehicles. The actual number of vehicles and trailers is 270. To accommodate parking of privately owned vehicles and military equipment, the project would include approximately 20,400 square yards (4.2 acres) of paving.

Construction is estimated to begin by May 2009 and would be completed by not later than September 2011, as required by BRAC law.

Operations. The proposed AFRC at Ceiba would support the operations of two Army Reserve units (the 973rd Quartermaster Company and the 268th Transportation Company) from a facility in Bayamon, Puerto Rico, and three PRARNG units from facilities in Humacao, Juncos, and Ceiba, Puerto Rico. These units have a total of approximately 600 personnel.

Full-time staff members would use the AFRC Monday through Friday, and Reserve Component units would use it on weekends. Daily operations would include administrative, training, and maintenance support of unit missions and requirements; recruiting; and preparation for battle assembly weekends. Training activities conducted during battle assembly weekends would include Military Occupational Specialties training in Soldiers' skills (such as maintenance and communications), required briefings, physical training, mentoring, and evaluations. On weekends, vehicular traffic would involve personal vehicles and military vehicles, such as high-mobility, multipurpose wheeled vehicles of various configurations and medium-capacity cargo trucks.

Item 9. Natural, Artificial, Historic, or Cultural Systems Likely to Be Affected by the Project

It is not expected that any of the systems listed in the table under Item 9 would be affected. The Moscrip area is within the Puerto Rico coastal zone, but the area has been developed and nearly all construction would occur on previously disturbed areas. The U.S. Army and its contractors would strictly adhere to Puerto Rico's regulation for the control of erosion and prevention of sedimentation (Reglamento Para el Control de la Erosión y Prevención de la Sedimentación) to control storm water runoff to sensitive coastal resources. Best management practices approved by the Puerto Rico Environmental Quality Board would be used during all construction activities.

It is not expected that any of the systems listed in the table under Item 9 on form JP-833 would be affected. The proposed site in the Bundy Area is at a lower elevation than the surrounding land, and in combination with the use of erosion control and storm water best management practices during all construction activities, this factor would prevent any effect on the mangrove systems to the southeast.

With respect to cultural and historic resources, a search of records was conducted for the EA. It included those at the Puerto Rico Historic Preservation Office and those of the former NSRR cultural resources manager. There are no previously recorded archaeological sites on or in the area surrounding the Moscrip site. The peninsula on which the Moscrip site is located has been determined to be disturbed/man-made land and therefore does not require Phase I archaeological survey. One NRHP eligible historic resource is located adjacent to the Moscrip site. Structure 844, the Bolles Dry Dock, was constructed in 1943. This resource was first recommended not eligible for the NRHP. The Puerto Rican SHPO did not concur with this evaluation, and during a subsequent architectural inventory the resource was reevaluated and has been determined eligible for listing on the NRHP due to its association with Roosevelt Roads and the US Navy in Puerto Rico during World War II. The study site (Parcel 63) borders the dry-dock's northwestern edge.

A records search indicated that there are no previously recorded archaeological sites or National Register of Historic Places resources on the Bundy area. The area was subjected to Phase I archaeological survey in 1996 (Sanders et al. 1996). No archaeological sites were found in the Bundy area, which fell within the surveyors' Survey Area N.

The entirety of the former Naval Station Roosevelt Roads has been designated as critical habitat for the yellow-shouldered blackbird (*Agelaius xanthomus*); therefore, habitat for the species is assumed to exist at both the Moscrip area and the Bundy area. NAPR supports a small population (fewer than 20 individuals) of the species. Suitable habitat for the yellow-shouldered blackbird is found on both parcels, though specimens of the bird have not been found on them. Potential effects on the yellow-shouldered blackbird would be minimized by scheduling demolition and construction activities to avoid the nesting season. If building demolition would occur during the nesting season, a qualified biologist would survey the area immediately before demolition to ensure that no nesting birds would be displaced.

In addition, the NAPR area has the potential to support the Puerto Rican boa (*Epicrates inornatus*). A consultation letter regarding sensitive species has been sent to the U.S. Fish and Wildlife Service and the Puerto Rico Department of Natural and Environmental Resources.

Upland forested areas adjoin the Bundy area, and mangrove systems are approximately one-third mile east of the Bundy area and north of the Moscrip area. The mangrove system near the Bundy area has a narrow extension to the boundary of the area. The Bosque Estatal de Ceiba lies approximately one-half mile southwest of the Bundy area. It is not expected that construction would disturb any of the upland forest or mangrove systems near either site. No bird sanctuaries or tourist areas would be affected by the proposed action.

Reference cited:

Sanders, S., L.A. Curet, J. Clarke, and D. Maher. 1996. *Archaeological Survey of Portions of NAVSTA Roosevelt Roads, Puerto Rico (Year 2)*. Prepared for Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia, by R. Christopher Goodwin & Associates, Inc., Frederick, Maryland.

APPENDIX D
AGENCY COORDINATION LETTERS

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REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BUCHANAN
218 BROOKE STREET
FORT BUCHANAN, PUERTO RICO 00934-4206

September 22, 2008

Directorate of Public Works

Dr. Jorge Saliva
U.S. Fish and Wildlife Service
Caribbean Field Office
Post Office Box 491
Boquerón, P.R. 00622

Dear Dr. Saliva:

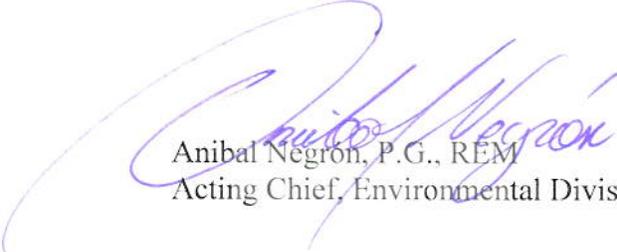
The United States Army Reserve (USAR) is acquiring approximately 54 acres of land at Naval Activity Puerto Rico (former Naval Station Roosevelt Roads) from the Department of the Navy. This land acquisition will support the construction and operation of an Armed Forces Reserve Center (AFRC), Organizational Maintenance Shop (OMS), and unheated storage building (with associated parking areas) to support USAR and Puerto Rico National Guard units. The project will lie in previously disturbed, filled, paved, developed, and building occupied areas at Camp Moscrip area. This AFRC project is detailed within the 2005 Defense Base Realignment and Closure (BRAC) which recommends an AFRC with support structures to be constructed in Ceiba, Puerto Rico. The proposed federal action described within this letter and enclosures is proposed to begin in calendar year 2009. The project site will be transferred to the Army as an expanded compound, comprised of some 54 acres, from the existing Roosevelt Roads USAR Center located within the Camp Moscrip area at the Naval Activity Puerto Rico which is currently functioning under a tenant agreement with the US Navy.

Pursuant to Section 7 of the Endangered Species Act, USAR has determined that the property acquisition and subsequent construction and operation of the AFRC and support facilities would not likely adversely affect federally listed species and would not result in adverse modification of designated critical habitat. This determination would include complying with the Conservation Measures for yellow shouldered blackbird, sea turtles, and the Puerto Rico boa as detailed in the January 2006 Biological Assessment which was approved by the Department of the Navy and U.S. Fish and Wildlife Service on April 7, 2006. This determination is based on the enclosed information (see Enclosures 1-4).

The United States Army Reserve requests written concurrence with our determination within 30 days of the receipt of this letter and further requests additional support to allow the U.S. Army to meet the requirement for this land acquisition/construction project. A copy of this letter has been sent to the Secretary of the Puerto Rico Department of Natural and Environmental Resources, Mr. Javier Velez Arocho.

For additional information or questions regarding the referenced action, please feel free to contact Mr. Yamil E. Hernandez, M. AIT, M. Arch, Conservation Manager for Army Reserve at yamil.hernandez@us.army.mil, telephones (787) 707-2553 or (787) 707-3575.

Sincerely,



Anibal Negrón, P.G., REM
Acting Chief, Environmental Division

Enclosures

Cc: Mr. David Criswell, Department of the Navy

Mr. Javier Velez Arocho, Department of Natural and Environmental Resources



Wetland area above former DRMO described as E2SS within Navy documents. Area has not been field verified, but lies within the AF/TP setbacks. The likelihood is this area will not be disturbed by construction activities; however, if anticipated to be impacted, appropriate permitting and mitigation would occur through USACE and State of PR.



Photograph of wetland area.

THREATENED AND ENDANGERED SPECIES CONSERVATION MEASURES—PARCEL 52

Common Name—Science Park

Conveyance—EPC

Neighboring Parcel(s)—40, 48, 50, 51, 53, 55, 59, 63

Yellow-shouldered Blackbird

GENERAL REQUIREMENTS

- Notify USFWS if a yellow-shouldered blackbird nest is found anywhere on the property (787-851-7297).
- Pesticide and herbicide applications must follow Commonwealth of Puerto Rico regulations.

Activity	Conservation Measures
Development Planning	Save as many existing on site palms and trees as possible in new development plans.
Demolition/Remodeling	Schedule activity from September 1 through March 14 or conduct outdoor survey of building(s) (ledges, etc.) and nearby trees (within 50 m of the building) for yellow-shouldered blackbird nests prior to start date if the development activity is scheduled to occur between March 15 and August 30. Consult with USFWS if a yellow-shouldered blackbird nest is found.
Grounds Maintenance	No trimming or cutting of palms and trees between March 15 and August 30 except in an emergency (i.e., downed trees and palms from storms).
Building Maintenance	Check for yellow-shouldered blackbird nests prior to any outdoor building maintenance activities between March 15 and August 30. Determine identity of any bird nest found. Notify and consult with USFWS if a yellow-shouldered blackbird nest is found.
General Operations	Before moving parked outdoor equipment (e.g., carts, vehicles) check for yellow-shouldered blackbird nests (March 15-August 30). Notify USFWS if a yellow-shouldered blackbird nest is located.
Property Sale/Lease	Notify buyer/lessee of all mitigation requirements (see above) and include mitigation with all legal documents.

Parcel Index 52

August 18, 2005

Common Name: Science Park

Conveyance: EDC

Neighboring Parcel(s): 40, 48, 50

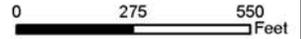
51, 53, 55, 59, 63

Legend

-  Parcel
-  Neighboring Parcel Boundaries
- Yellow-shouldered Blackbird**
-  Nesting/Foraging Palms
-  Breeding Habitat



1 inch equals 410 Feet



THREATENED AND ENDANGERED SPECIES CONSERVATION MEASURES—PARCEL 55

Common Name—Sale

Conveyance—Sale

Neighboring Parcel(s)—39, 40, 50, 52, 59, 63

GENERAL REQUIREMENTS

- No Requirements

Activity	Conservation Measures
NA	NA

NOTICE:

Consult with the U.S. Fish and Wildlife Service if you have any questions on the conservation measures. Property owners that cannot adhere to the conservation measures must consult with the U.S. Fish and Wildlife Service to seek a Section 10.0 permit for authorization to modify the identified critical habitat. Failure to comply with the identified conservation measures violates Section 9.0 and/or Section 10.0 of the Endangered Species Act. The U.S. Fish and Wildlife Service has the authority to prosecute violations under the Endangered Species Act.

Parcel Index 55

Common Name: Sale
Conveyance: Sale
Neighboring Parcel(s): 39, 40, 50,
52, 59, 63

Legend

- Parcel
- Neighboring Parcel Boundaries
- Yellow-shouldered Blackbird
- Nesting/Foraging Palms
- Breeding Habitat



August 18, 2005

1 inch equals 246 Feet





THREATENED AND ENDANGERED SPECIES CONSERVATION MEASURES—PARCEL 63

Common Name—Sale
Conveyance—Sale
Neighboring Parcel(s)—39, 52, 55

Sea Turtle

GENERAL REQUIREMENTS

- No development in Parcel 39 (Conservation).
- Consult with U.S. Fish and Wildlife Service (USFWS) and Puerto Rico Department of Environmental Resources (DNER) on all beach use plans and permit requirements.
- Notify USFWS if you observe an injured or dead turtle anywhere on the property (787-851-7297).
- Pesticide and herbicide applications must follow Commonwealth of Puerto Rico regulations.

Activity	Conservation Measures
Beach Development/Use	Implement all USFWS and Puerto Rico DNER lighting standards/requirements (includes parcels bordering the nesting area). Implement USFWS/ Puerto Rico DNER precautionary measures for sea turtles before, during, and after development activities. Establish a 50 m buffer zone between any developed or undeveloped site (parcel 59) and the land edge of the sea turtle nesting beach.

NOTICE:

Consult with the U.S. Fish and Wildlife Service if you have any questions on the conservation measures. Property owners that cannot adhere to the conservation measures must consult with the U.S. Fish and Wildlife Service to seek a Section 10.0 permit for authorization to modify the identified critical habitat. Failure to comply with the identified conservation measures violates Section 9.0 and/or Section 10.0 of the Endangered Species Act. The U.S. Fish and Wildlife Service has the authority to prosecute violations under the Endangered Species Act.

Parcel Index 63

Common Name: Sale
Conveyance: Sale
Neighboring Parcel(s): 39, 52, 55

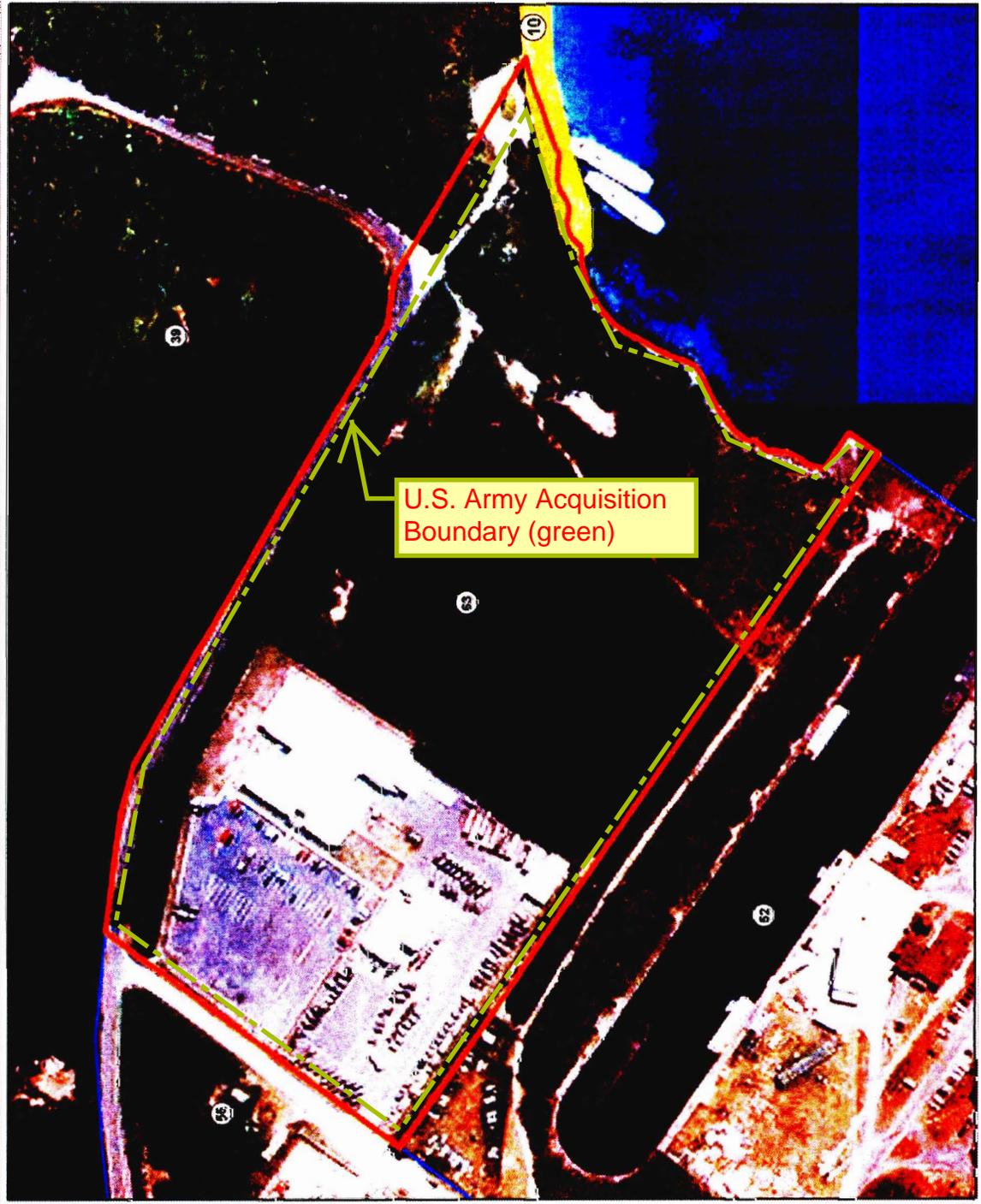
Legend

- Parcel
- Neighboring Parcel Boundaries
- Sea Turtle Habitat
- Yellow-shouldered Blackbird
- Nesting/Foraging Palms
- Breeding Habitat



August 18, 2006

1 inch equals 200 Feet





Parcel 39 - Conservation Area

Anti-Terrorism/Force Protection Setback

Parcel 63

Portion of Parcel 52

Parcel 55

Camp Moscrip Area

NORTH

Enclosure 4



Boundary

AFRC BRAC Construction
Location

Camp Moscrip Aerial with Proposed Boundary



United States Department of the Interior



FISH & WILDLIFE SERVICE

Boqueron Field Office

Carr. 301, KM 5.1, Bo. Corozo

P.O. Box 491

Boqueron, PR 00622

OCT 21 2008

Mr. Anibal Negrón
Acting Chief, Environmental Division
Department of the Army
U.S. Army Installation Management Command – Fort Buchanan
218 Brooke Street
Fort Buchanan, Puerto Rico 00934-4206

Re: Acquisition of approximately 54 acres of
land at Naval Activity Puerto Rico (former
Naval Station Roosevelt Roads), Ceiba,
Puerto Rico

Dear Mr. Negrón:

Thank you for your letter of September 22, 2008, requesting concurrence with your determination of effects for the above-mentioned project. Our comments are provided under the Endangered Species Act (ESA)(87 Stat. 884, as amended; 16 United States Code 1531 et seq.) the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). Our office has assigned an identification number for this action; please refer to identification number **FWS-72037-070**, in future correspondence.

Based on the information provided, the proposed action consists of the acquisition of approximately 54 acres of land at the former Naval Station Roosevelt Roads. This land acquisition will support the construction and operation of an Armed Forces Reserve Center (AFRC), Organizational Maintenance Shop (OMS), and unheated storage building (with associated parking areas) to support United States Army Reserve and Puerto Rico National Guard units. The project site consists of Parcel 63, Parcel 55, and portion of Parcel 52 of the former Naval Station Roosevelt Roads. Based on the information provided and the aerial photographs the project site lays in previously disturbed and developed lands.

In 2006, the Navy consulted under Section 7 of the ESA with the Service for the closure of the base and the transfer of the lands. Throughout an informal consultation, conservation measures were developed for each parcel. In your letter, it is mentioned that the conservation measures developed for yellow-shouldered blackbird (*Agelaius xanthomus*) for Parcel 52 and for sea turtles for Parcel 63 will be fully implemented. Parcel 55 does not have conservation measures. You mentioned the presence of a wetland area within the project site. However, the

area is located within the proposed set-back and would not be affected by construction activities. We encourage that the wetland area be appropriately delineated, marked and protected with temporary fences and sediment barriers during construction.

Based on the above information, characteristics of the site and the nature of the project, we concur with your determination that the proposed action is not likely to adversely affect these endangered species. Should additional information on listed or proposed species become available, this determination may be reconsidered.

It is our mission to work with others, to conserve, protect and enhance fish, wildlife and plants and their habitats for the continuing benefit of our people. If you have any additional question regarding this issue, please do not hesitate to contact Marelisa Rivera from our staff at 787-851-7297 extension 231. You may also visit our website <http://www.fws.gov/caribbean> for additional information on threatened and endangered species under jurisdiction and the programs to conserve them.

Sincerely yours,



Edwin E. Muñiz
Field Supervisor
Caribbean Field Office

Mtr
CC: COE, San Juan



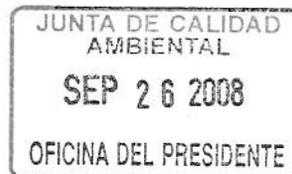
REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BUCHANAN
218 BROOKE STREET
FORT BUCHANAN, PUERTO RICO 00934-4206

September 25, 2008

Directorate of Public Works

Hon. Javier J. Rua Jovet
Chairman, Environmental Quality Board
1375 Ponce De León Avenue
State Road No. 8838
Sector El Cinco
Rio Piedras, P.R. 00926-2604



Dear Mr. Rua,

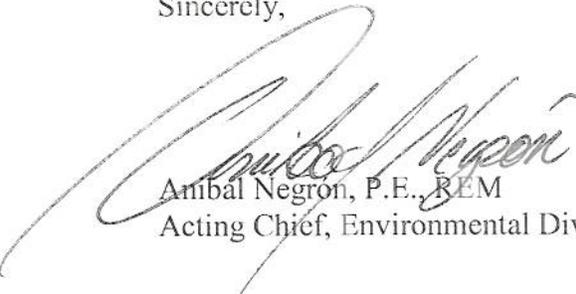
On September 8, 2005, the Defense Base Closure and Realignment Commission (BRAC Commission) recommended that certain realignment actions occur in the Commonwealth of Puerto Rico. The President of the United States approved these recommendations and forwarded them to Congress on September 15, 2005. The Congress did not alter any of the BRAC Commission's recommendations, and on November 9, 2005, the recommendations became law. The BRAC Commission recommendations must now be implemented, as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended.

In accordance with the National Environmental Policy Act (NEPA), the U.S. Army is performing an environmental assessment (EA) for the implementation of the 2005 BRAC Commission recommendations for Ceiba, Puerto Rico (see the figure below). The EA will determine the impacts that implementation of the proposed action could have on environmental, natural, cultural, and socioeconomic resources of the Ceiba area, the parcel proposed for the new facilities, and the surrounding area. Details of the proposed action are provided in the enclosure.

The U.S. Army Corps of Engineers (USACE), Mobile District, respectfully requests your input regarding the potential effects of the proposed action on the resources of concern to your agency and issues that your agency thinks should be addressed in the EA. The USACE, Mobile District, is developing the EA, and will incorporate any input that you can provide while the document is being prepared. Please provide your input within 30 days of receipt of this correspondence if at all possible. I will provide you with a copy of the final EA for your review and comment.

For additional information or questions regarding the referenced, please feel free to contact Mr. Yamil E. Hernandez, A.I.T., M. Arch., Conservation Manager for US Army Reserve at yamil.hernandez@us.army.mil, at telephone: (787) 707-2553 or (787) 707-3575.

Sincerely,



Ambal Negrón, P.E., REM
Acting Chief, Environmental Division

Enclosures

ENCLOSURE 1

USGS Punta Puerca Quadrangle Map



Location Figure of Ceiba (USGS Punta Puerca [PR] Quadrangle map)

ENCLOSURE 2

Ceiba AFRC Description of Proposed Actions

CEIBA, PUERTO RICO

DESCRIPTION OF THE PROPOSED ACTION

INTRODUCTION

This section describes the Army's Preferred Alternative for carrying out the BRAC Commission's recommendation to close an existing reserve center and construct and operate a new AFRC large enough to accommodate multiple Reserve Component organizations at Ceiba.

PROPOSED ACTION

Construction. The Army proposes to construct and operate a new AFRC large enough for 600 personnel at Ceiba, Puerto Rico. The primary facilities would be an AFRC training building, an organizational maintenance shop (OMS), an unheated storage building, and organizational parking. The buildings would be of permanent construction with full mechanical systems. Actions taken to support the facilities would include land clearing, paving, fencing, general site improvements, and extension of utilities to serve the project. The Army would incorporate force protection (physical security) measures into the design of the facility, including consideration of standoff distance from roads, parking areas, and vehicle unloading areas. Sustainable design and development and Energy Policy Act of 2005 features would be incorporated into all designs.

The AFRC would provide approximately 88,000 square feet (ft²) of space for administrative, educational, unit assembly, library, learning center, vault, weapons simulator, and physical fitness functions. The OMS would provide approximately 8,400 ft² of space for work bays and administrative support. A building providing approximately 5,550 ft² of unheated space would be used for organizational unit storage. Paving, walkways, curbs and gutters, and storm drainage for the buildings would be included in the project.

Adequate parking space for all military and privately owned vehicles would be provided on approximately 6,000 ft² of organizational unit parking areas. Units assigned to the AFRC are authorized wheeled vehicles, trailers, and tracked vehicles. To accommodate parking of privately owned vehicles and military equipment, the project would include approximately 20,400 square yards (4.2 acres) of paving.

Construction is estimated to begin by May 2009 and would be completed by not later than September 2011.¹

Location. The AFRC would be in the Moscrip Area on a 54-acre parcel in the eastern portion of the former Naval Station Roosevelt Roads. The parcel is bounded by Antietam Road on the north, Breton Street to the west, Barnes Street and a dry dock on the south, and the Atlantic Ocean on the east. The attached figures show the location of the proposed facilities. Four buildings are on the parcel. The parcel also contains a large parking lot and a Defense Reutilization and Marketing Office (DRMO) scrap metal recycling yard. The northwestern and northeastern portions of the parcel are vegetated.

Operations. The proposed AFRC at Ceiba would support the operations of two Army Reserve units (the 973rd Quartermaster Company and the 268th Transportation Company) from a facility in

¹ Section 2904(a), Public Law 101-510, as amended, provides that the Army must, "...initiate all closures and realignments no later than two years after the date on which the President transmits a report [by the BRAC Commission] to the Congress...containing the recommendations for such closures or realignments; and...complete all such closures and realignments no later than the end of the six year period beginning on the date on which the President transmits the report...." The President took the specified action on September 15, 2005.

Bayamon, Puerto Rico, and three PRARNG units from facilities in Humacao, Juncos, and Ceiba, Puerto Rico. These units have a total of approximately 600 personnel.

Full-time staff members would use the AFRC Monday through Friday, and Reserve Component units would use it on weekends. Daily operations would include administrative, training, and maintenance support of unit missions and requirements; recruiting; and preparation for battle assembly weekends. Training activities conducted during battle assembly weekends would include Military Occupational Specialties training in Soldiers' skills (such as maintenance and communications), required briefings, physical training, mentoring, and evaluations. On weekends, vehicular traffic would involve personal vehicles and military vehicles, such as high-mobility, multipurpose wheeled vehicles (HMMWVs) of various configurations and medium-capacity cargo trucks.

ALTERNATIVES

INTRODUCTION

A bedrock principle of NEPA is that an agency should consider reasonable alternatives to a proposed action. Considering alternatives helps to avoid unnecessary impacts and allows analysis of reasonable ways to achieve the stated purpose. To warrant detailed evaluation, an alternative must be reasonable. To be considered reasonable, an alternative must be ready for decisionmaking (any necessary preceding events having taken place), must be affordable and capable of being implemented, and must meet the purpose of and need for the action. The following discussion identifies alternatives considered by the Army and assesses whether they are feasible and, hence, subject to detailed evaluation in this EA.

Alternatives to the proposed action were assessed on the basis of three criteria: whether the alternative could physically accommodate realigned units, whether the alternative site was suitable for construction, and whether the alternative could accommodate the schedule. In this section, the Army presents its development of alternatives, addresses alternatives to the proposed action, and describes the No Action Alternative.

NO ACTION ALTERNATIVE

Inclusion of the No Action Alternative is prescribed by CEQ regulations. The No Action Alternative serves as a baseline alternative against which other alternatives can be evaluated. No action assumes that the Army would continue its mission at Ceiba as it existed in the fall of 2005, with no unit relocations and no new facilities constructed. The units proposed for relocation under the proposed action would continue to operate from their current facilities. Because the BRAC Commission's recommendations have the force of law, continuation of the fall 2005 Ceiba mission is not possible without further Congressional action. The No Action Alternative is evaluated in detail in this EA.

REALIGNMENT ALTERNATIVE

The Army proposes to construct and operate a new AFRC large enough for 600 personnel at Ceiba, Puerto Rico. The primary facilities would be an AFRC building, OMS, organizational unit storage, and organizational vehicle parking. This Preferred Alternative is further described in Section 2.2.

ADDITIONAL ALTERNATIVES

Because the BRAC Commission's recommendation, which is legally binding, specified that the AFRC be constructed at Ceiba, no alternative locations in Puerto Rico could be considered.

Review of other potential sites for construction of the AFRC within the Ceiba area produced one parcel that is satisfactory in terms of size, availability, compatibility of use, topography, and convenience.

The alternative site is in the Bundy Area on the former Naval Station Roosevelt Roads. The Bundy Area is a 15-acre parcel south of Bennington Road in the southern part of the former Naval Station (see photo above). The figure at the right shows the Bundy Area. Five unaccompanied personnel housing buildings, totaling 156,284 square feet of space, would be demolished to accommodate the new AFRC. The Bundy Area alternative is evaluated in detail in this EA.





REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BUCHANAN
218 BROOKE STREET
FORT BUCHANAN, PUERTO RICO 00934-4206

September 25, 2008

Directorate of Public Works

Hon. Javier Vélez Arocho, Secretary
Department of Natural Resources and Environment
Carretera Núm. 8838, KM 6.3
Sector El Cinco,
San Juan, PR 00906-6600



Dear Mr. Arocho:

On September 8, 2005, the Defense Base Closure and Realignment Commission (BRAC Commission) recommended that certain realignment actions occur in the Commonwealth of Puerto Rico. The President of the United States approved these recommendations and forwarded them to Congress on September 15, 2005. The Congress did not alter any of the BRAC Commission's recommendations, and on November 9, 2005, the recommendations became law. The BRAC Commission recommendations must now be implemented, as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended.

In accordance with the National Environmental Policy Act (NEPA), the U.S. Army is performing an environmental assessment (EA) for the implementation of the 2005 BRAC Commission recommendations for Ceiba, Puerto Rico (see the figure below). The EA will determine the impacts that implementation of the proposed action could have on environmental, natural, cultural, and socioeconomic resources of the Ceiba area, the parcel proposed for the new facilities, and the surrounding area. Details of the proposed action are provided in the enclosure.

The U.S. Army Corps of Engineers (USACE), Mobile District, respectfully requests your input regarding the potential effects of the proposed action on the resources of concern to your agency and issues that your agency thinks should be addressed in the EA. The USACE, Mobile District, is developing the EA, and will incorporate any input that you can provide while the document is being prepared. Please provide your input within 30 days of receipt of this correspondence if at all possible. I will provide you with a copy of the final EA for your review and comment.

For additional information or questions regarding the referenced, please feel free to contact Mr. Yamil E. Hernandez, A.I.T., M. Arch., Conservation Manager for US Army Reserve at yamil.hernandez@us.army.mil, at telephone: (787) 707-2553 or (787) 707-3575.

Sincerely,



Anibal Negrón, P.E., REM
Acting Chief, Environmental Division

Enclosures

ENCLOSURE 1

USGS Punta Puerca Quadrangle Map



Location Figure of Ceiba (USGS Punta Puerca [PR] Quadrangle map)

ENCLOSURE 2

Ceiba AFRC Description of Proposed Actions

CEIBA, PUERTO RICO

DESCRIPTION OF THE PROPOSED ACTION

INTRODUCTION

This section describes the Army's Preferred Alternative for carrying out the BRAC Commission's recommendation to close an existing reserve center and construct and operate a new AFRC large enough to accommodate multiple Reserve Component organizations at Ceiba.

PROPOSED ACTION

Construction. The Army proposes to construct and operate a new AFRC large enough for 600 personnel at Ceiba, Puerto Rico. The primary facilities would be an AFRC training building, an organizational maintenance shop (OMS), an unheated storage building, and organizational parking. The buildings would be of permanent construction with full mechanical systems. Actions taken to support the facilities would include land clearing, paving, fencing, general site improvements, and extension of utilities to serve the project. The Army would incorporate force protection (physical security) measures into the design of the facility, including consideration of standoff distance from roads, parking areas, and vehicle unloading areas. Sustainable design and development and Energy Policy Act of 2005 features would be incorporated into all designs.

The AFRC would provide approximately 88,000 square feet (ft²) of space for administrative, educational, unit assembly, library, learning center, vault, weapons simulator, and physical fitness functions. The OMS would provide approximately 8,400 ft² of space for work bays and administrative support. A building providing approximately 5,550 ft² of unheated space would be used for organizational unit storage. Paving, walkways, curbs and gutters, and storm drainage for the buildings would be included in the project.

Adequate parking space for all military and privately owned vehicles would be provided on approximately 6,000 ft² of organizational unit parking areas. Units assigned to the AFRC are authorized wheeled vehicles, trailers, and tracked vehicles. To accommodate parking of privately owned vehicles and military equipment, the project would include approximately 20,400 square yards (4.2 acres) of paving.

Construction is estimated to begin by May 2009 and would be completed by not later than September 2011.¹

Location. The AFRC would be in the Moscrip Area on a 54-acre parcel in the eastern portion of the former Naval Station Roosevelt Roads. The parcel is bounded by Antietam Road on the north, Breton Street to the west, Barnes Street and a dry dock on the south, and the Atlantic Ocean on the east. The attached figures show the location of the proposed facilities. Four buildings are on the parcel. The parcel also contains a large parking lot and a Defense Reutilization and Marketing Office (DRMO) scrap metal recycling yard. The northwestern and northeastern portions of the parcel are vegetated.

Operations. The proposed AFRC at Ceiba would support the operations of two Army Reserve units (the 973rd Quartermaster Company and the 268th Transportation Company) from a facility in

¹ Section 2904(a), Public Law 101-510, as amended, provides that the Army must, "...initiate all closures and realignments no later than two years after the date on which the President transmits a report [by the BRAC Commission] to the Congress...containing the recommendations for such closures or realignments; and...complete all such closures and realignments no later than the end of the six year period beginning on the date on which the President transmits the report...." The President took the specified action on September 15, 2005.

Bayamon, Puerto Rico, and three PRARNG units from facilities in Humacao, Juncos, and Ceiba, Puerto Rico. These units have a total of approximately 600 personnel.

Full-time staff members would use the AFRC Monday through Friday, and Reserve Component units would use it on weekends. Daily operations would include administrative, training, and maintenance support of unit missions and requirements; recruiting; and preparation for battle assembly weekends. Training activities conducted during battle assembly weekends would include Military Occupational Specialties training in Soldiers' skills (such as maintenance and communications), required briefings, physical training, mentoring, and evaluations. On weekends, vehicular traffic would involve personal vehicles and military vehicles, such as high-mobility, multipurpose wheeled vehicles (HMMWVs) of various configurations and medium-capacity cargo trucks.

ALTERNATIVES

INTRODUCTION

A bedrock principle of NEPA is that an agency should consider reasonable alternatives to a proposed action. Considering alternatives helps to avoid unnecessary impacts and allows analysis of reasonable ways to achieve the stated purpose. To warrant detailed evaluation, an alternative must be reasonable. To be considered reasonable, an alternative must be ready for decisionmaking (any necessary preceding events having taken place), must be affordable and capable of being implemented, and must meet the purpose of and need for the action. The following discussion identifies alternatives considered by the Army and assesses whether they are feasible and, hence, subject to detailed evaluation in this EA.

Alternatives to the proposed action were assessed on the basis of three criteria: whether the alternative could physically accommodate realigned units, whether the alternative site was suitable for construction, and whether the alternative could accommodate the schedule. In this section, the Army presents its development of alternatives, addresses alternatives to the proposed action, and describes the No Action Alternative.

NO ACTION ALTERNATIVE

Inclusion of the No Action Alternative is prescribed by CEQ regulations. The No Action Alternative serves as a baseline alternative against which other alternatives can be evaluated. No action assumes that the Army would continue its mission at Ceiba as it existed in the fall of 2005, with no unit relocations and no new facilities constructed. The units proposed for relocation under the proposed action would continue to operate from their current facilities. Because the BRAC Commission's recommendations have the force of law, continuation of the fall 2005 Ceiba mission is not possible without further Congressional action. The No Action Alternative is evaluated in detail in this EA.

REALIGNMENT ALTERNATIVE

The Army proposes to construct and operate a new AFRC large enough for 600 personnel at Ceiba, Puerto Rico. The primary facilities would be an AFRC building, OMS, organizational unit storage, and organizational vehicle parking. This Preferred Alternative is further described in Section 2.2.

ADDITIONAL ALTERNATIVES

Because the BRAC Commission's recommendation, which is legally binding, specified that the AFRC be constructed at Ceiba, no alternative locations in Puerto Rico could be considered.

Review of other potential sites for construction of the AFRC within the Ceiba area produced one parcel that is satisfactory in terms of size, availability, compatibility of use, topography, and convenience.

The alternative site is in the Bundy Area on the former Naval Station Roosevelt Roads. The Bundy Area is a 15-acre parcel south of Bennington Road in the southern part of the former Naval Station (see photo above). The figure at the right shows the Bundy Area. Five unaccompanied personnel housing buildings, totaling 156,284 square feet of space, would be demolished to accommodate the new AFRC. The Bundy Area alternative is evaluated in detail in this EA.





REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BUCHANAN
218 BROOKE STREET
FORT BUCHANAN, PUERTO RICO 00934-4206

September 25, 2008

Directorate of Public Works

Ing. Ángel David Rodríguez, President
Puerto Rico Planning Board
Centro Gubernamental Minillas
Edif. Norte, Piso 16
San Juan PR 00940-1119

Dear Mr. Rodríguez:

On September 8, 2005, the Defense Base Closure and Realignment Commission (BRAC Commission) recommended that certain realignment actions occur in the Commonwealth of Puerto Rico. The President of the United States approved these recommendations and forwarded them to Congress on September 15, 2005. The Congress did not alter any of the BRAC Commission's recommendations, and on November 9, 2005, the recommendations became law. The BRAC Commission recommendations must now be implemented, as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended.

In accordance with the National Environmental Policy Act (NEPA), the U.S. Army is performing an environmental assessment (EA) for the implementation of the 2005 BRAC Commission recommendations for Ceiba, Puerto Rico (see the figure below). The EA will determine the impacts that implementation of the proposed action could have on environmental, natural, cultural, and socioeconomic resources of the Ceiba area, the parcel proposed for the new facilities, and the surrounding area. Details of the proposed action are provided in the enclosure.

The U.S. Army Corps of Engineers (USACE), Mobile District, respectfully requests your input regarding the potential effects of the proposed action on the resources of concern to your agency and issues that your agency thinks should be addressed in the EA. The USACE, Mobile District, is developing the EA, and will incorporate any input that you can provide while the document is being prepared. Please provide your input within 30 days of receipt of this correspondence if at all possible. I will provide you with a copy of the final EA for your review and comment.

For additional information or questions regarding the referenced, please feel free to contact Mr. Yamil E. Hernandez, A.I.T., M. Arch., Conservation Manager for US Army Reserve at yamil.hernandez@us.army.mil, at telephone: (787) 707-2553 or (787) 707-3575.

Sincerely,



Anibal Negrón, P.E., REM
Acting Chief, Environmental Division

Enclosures

ENCLOSURE 1

USGS Punta Puerca Quadrangle Map



Location Figure of Ceiba (USGS Punta Puerca [PR] Quadrangle map)

ENCLOSURE 2

Ceiba AFRC Description of Proposed Actions

CEIBA, PUERTO RICO

DESCRIPTION OF THE PROPOSED ACTION

INTRODUCTION

This section describes the Army's Preferred Alternative for carrying out the BRAC Commission's recommendation to close an existing reserve center and construct and operate a new AFRC large enough to accommodate multiple Reserve Component organizations at Ceiba.

PROPOSED ACTION

Construction. The Army proposes to construct and operate a new AFRC large enough for 600 personnel at Ceiba, Puerto Rico. The primary facilities would be an AFRC training building, an organizational maintenance shop (OMS), an unheated storage building, and organizational parking. The buildings would be of permanent construction with full mechanical systems. Actions taken to support the facilities would include land clearing, paving, fencing, general site improvements, and extension of utilities to serve the project. The Army would incorporate force protection (physical security) measures into the design of the facility, including consideration of standoff distance from roads, parking areas, and vehicle unloading areas. Sustainable design and development and Energy Policy Act of 2005 features would be incorporated into all designs.

The AFRC would provide approximately 88,000 square feet (ft²) of space for administrative, educational, unit assembly, library, learning center, vault, weapons simulator, and physical fitness functions. The OMS would provide approximately 8,400 ft² of space for work bays and administrative support. A building providing approximately 5,550 ft² of unheated space would be used for organizational unit storage. Paving, walkways, curbs and gutters, and storm drainage for the buildings would be included in the project.

Adequate parking space for all military and privately owned vehicles would be provided on approximately 6,000 ft² of organizational unit parking areas. Units assigned to the AFRC are authorized wheeled vehicles, trailers, and tracked vehicles. To accommodate parking of privately owned vehicles and military equipment, the project would include approximately 20,400 square yards (4.2 acres) of paving.

Construction is estimated to begin by May 2009 and would be completed by not later than September 2011.¹

Location. The AFRC would be in the Moscrip Area on a 54-acre parcel in the eastern portion of the former Naval Station Roosevelt Roads. The parcel is bounded by Antietam Road on the north, Breton Street to the west, Barnes Street and a dry dock on the south, and the Atlantic Ocean on the east. The attached figures show the location of the proposed facilities. Four buildings are on the parcel. The parcel also contains a large parking lot and a Defense Reutilization and Marketing Office (DRMO) scrap metal recycling yard. The northwestern and northeastern portions of the parcel are vegetated.

Operations. The proposed AFRC at Ceiba would support the operations of two Army Reserve units (the 973rd Quartermaster Company and the 268th Transportation Company) from a facility in

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Bayamon, Puerto Rico, and three PRARNG units from facilities in Humacao, Juncos, and Ceiba, Puerto Rico. These units have a total of approximately 600 personnel.

Full-time staff members would use the AFRC Monday through Friday, and Reserve Component units would use it on weekends. Daily operations would include administrative, training, and maintenance support of unit missions and requirements; recruiting; and preparation for battle assembly weekends. Training activities conducted during battle assembly weekends would include Military Occupational Specialties training in Soldiers' skills (such as maintenance and communications), required briefings, physical training, mentoring, and evaluations. On weekends, vehicular traffic would involve personal vehicles and military vehicles, such as high-mobility, multipurpose wheeled vehicles (HMMWVs) of various configurations and medium-capacity cargo trucks.

ALTERNATIVES

INTRODUCTION

A bedrock principle of NEPA is that an agency should consider reasonable alternatives to a proposed action. Considering alternatives helps to avoid unnecessary impacts and allows analysis of reasonable ways to achieve the stated purpose. To warrant detailed evaluation, an alternative must be reasonable. To be considered reasonable, an alternative must be ready for decisionmaking (any necessary preceding events having taken place), must be affordable and capable of being implemented, and must meet the purpose of and need for the action. The following discussion identifies alternatives considered by the Army and assesses whether they are feasible and, hence, subject to detailed evaluation in this EA.

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NO ACTION ALTERNATIVE

Inclusion of the No Action Alternative is prescribed by CEQ regulations. The No Action Alternative serves as a baseline alternative against which other alternatives can be evaluated. No action assumes that the Army would continue its mission at Ceiba as it existed in the fall of 2005, with no unit relocations and no new facilities constructed. The units proposed for relocation under the proposed action would continue to operate from their current facilities. Because the BRAC Commission's recommendations have the force of law, continuation of the fall 2005 Ceiba mission is not possible without further Congressional action. The No Action Alternative is evaluated in detail in this EA.

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The Army proposes to construct and operate a new AFRC large enough for 600 personnel at Ceiba, Puerto Rico. The primary facilities would be an AFRC building, OMS, organizational unit storage, and organizational vehicle parking. This Preferred Alternative is further described in Section 2.2.

ADDITIONAL ALTERNATIVES

Because the BRAC Commission's recommendation, which is legally binding, specified that the AFRC be constructed at Ceiba, no alternative locations in Puerto Rico could be considered.

Review of other potential sites for construction of the AFRC within the Ceiba area produced one parcel that is satisfactory in terms of size, availability, compatibility of use, topography, and convenience.

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APPENDIX E
PARCEL-SPECIFIC CONSERVATION MEASURES

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6.0 MITIGATION

The transfer of NAPR property to federal agencies and disposal to other future property owners would not in and of itself result in impacts to threatened or endangered species or their habitat. Therefore, no Navy instituted mitigation measures are proposed. However, it is important to note that 3,333 ac (1,349 ha) of ecologically sensitive areas of the former NAPR are being transferred to the Puerto Rico DNER for conservation lands management. The conservation areas include 2,467ac (998 ha) of mangroves and 866 ac (351 ha) of adjacent upland forest. Future protection of these areas will benefit all listed species present within the former NAPR. These conservation areas constitute 18 parcels and will be managed by the Puerto Rico DNER and the Puerto Rico Conservation Trust. Additionally, a Special Zoning Plan has been proposed by the LRA to regulate land-use of additional areas of concern. Land covered by slopes greater than 15% has limited development opportunity and is listed as undevelopable in the NAPR Reuse Plan. Special conservation measures have been developed for federally-listed species and will be incorporated into the special zoning to ensure their compliance by future land-owners. For those properties being retained as federal property with only caretaker status being transferred to other federal agencies, any future land use changes would be coordinated with USFWS as required under section 7 of the ESA. Any future federal permit, fund, or activity that would result in possible adverse effects to threatened and endangered species will require a section 7 consultation with the USFWS. Implementation of conservation measures would be the responsibility of the new owner/developer and the respective reviewing agency would be responsible for assuring mitigation measures are instituted. The Navy would no longer retain any ownership or control of these properties.

Tables 6-1 through **6-3** provide species-specific conservation measures for the perspective parcels. **Table 6-4** provides a consolidated overview of the conservation measures by parcel for the listed species.

- In a letter dated December 2, 2005, the Department of Economic Development and Commerce (DEDC) indicated that the Department, through the LRA is working on a Special Zoning Plan for Porto del Futuro (the NAPR property), which the LRA will present to the to the PRPB for approval (this will also require approval of the Strategic Environmental Impact Statement by the Puerto Rico EQB). It is anticipated that the PRPB would adopt the Special Zoning Plan. Upon its adoption, this plan would serve as the local zoning for the property. Any future development projects proposed on former NAPR property would be reviewed by the PRPB to ensure that such development is consistent with the Special Zoning Plan. This Special Zoning Plan the Authority will incorporate the conservation measures that are currently under discussion between the Navy and the FWS (**Appendix A**). All owners of property within the former Roosevelt Roads will be on notice as to those conservation measures and the possible violations of the Endangered Species Act if the measures are not followed.

Table 6-1
Sea Turtle Conservation Measures by Parcel #:

GENERAL REQUIREMENTS

- Consult with U.S. Fish and Wildlife Service (USFWS) and Puerto Rico Department of Environmental Resources (DNER) on all beach use plans and permit requirements
- Notify DNER if you observe an injured or dead turtle anywhere on the property (787-724-5700–Centro de Mando–24 hours).
- Pesticide and herbicide applications must follow Commonwealth of Puerto Rico regulations.
- **Obtain all Commonwealth of Puerto Rico required permits (development, use, etc.) and implement permit requirements**
- Implement all USFWS and Puerto Rico DNER lighting standards/requirements
- No commercial or residential development is allowed in Zone 9 (Conservation)

During planning and development phases; vegetation removal, land clearing activities, new construction; demolition or remodeling of existing structures; ground maintenance; building maintenance; and general operations the following conservation measures should be implemented to minimize possible effects to the sea turtle species and their habitats.

Sea Turtles Conservation Measures by Parcel:

1. Avoid the removal of vegetation, fence installation, construction activities, and light installation within 50 meters from the high tide.
2. Designate a buffer zone of additional 20 meters from the 50-meter setback to minimize indirect impacts from the project and plant sea grapes and native trees within the zone.
3. Prepare and implement a comprehensive lighting plan to avoid detrimental impacts of artificial lighting on sea turtles. The goal of the plan should be that lights not be seen directly, indirectly or cumulatively from the beach. Light management strategies such as shielding, lowering of the lights, locating the lights away from sight view of the beach, using an alternate light source such as Low Pressure Sodium Vapor, and planting of vegetation barriers are some of the available alternatives to reach the plan goal. In already constructed projects, all lights visible from the beach should be eliminated or relocated so as not to be visible. Those remaining lights shall be modified in order to avoid or minimize the possibility of disorientation. The plan goal and the light management strategies should be specified, described and located in the lighting plan. The plan should be submitted to the Service for review.
4. Once the plan is fully implemented, a lighting inspection should be conducted to identify and correct any remaining problematic lights.
5. Enhance coastal vegetation with planting of native species (e.g., sea grapes) within the maritime zone. Protect coastal vegetation and nesting habitat from vehicular traffic in the area.
6. Proposed local zoning requirements will require new landowners to develop a lighting plan compliant with lighting plan specifications of the USFWS and DNER. Beachfront development without comprehensive sea turtle conservation measures may result in habitat degradation and destruction, resulting in adverse impacts to sea turtles and their nesting habitat. Some of the activities that may affect these species and their habitat are: destruction of native coastal vegetation, installation of permanent barriers or structures at their habitat, installation of artificial lights that can be seen from the beach, vehicular traffic or parking within the beach, increased predation by pest species (rats, mongooses, dogs, horses, and ants), and root intrusion from landscapes or exotic vegetation. Artificial lighting may deter females from coming onto the beach to nest and may cause disorientation or misorientation of both adult female nesting turtles and emerging hatchlings, often resulting in their death.

Note: The above conservation measures are applicable to parcels as noted in **Figure 4-1**.

Parcels: 5, 6, 7, 8, 9, 10, 11, 12, 13, 25, 26, 28, 35, 38, 39, 42, 44, 45, 46, 47, 49, 56, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, and 68.

Notice: If you are willing to comply with the general requirements and conservation measures listed above during the development and subsequent use of this parcel, you may proceed with the project. If you have any questions on the conservation measures, please consult with USFWS, Caribbean Field Office in Boquerón, Puerto Rico. Property owners that cannot adhere to the conservation measures must consult with USFWS to seek an Incidental Take Permit (ITP) under section 10(a)(1)(B). Be aware that the preparation of a Habitat Conservation Plan is required to apply for an ITP. Failure to comply with the identified general requirements and conservation measures may result in the violation of section 9 of the ESA. The USFWS has the authority to prosecute violations under ESA.

Table 6-2
Boas Conservation Measures by Parcel #:

During development and planning; new construction or clearing; demolition or remodeling; grounds maintenance; building maintenance; and general operations the following conservation measures are necessary to minimize possible adverse effects to Puerto Rico boa and VI tree boa or their habitats:

- No commercial or residential development is allowed in Zone 9 (Conservation)
- When planning new developments in areas that contain possible Puerto Rican boa and VI tree boa habitat protect as many existing forested habitat as possible.
- If suitable Puerto Rico boa or VI tree boa habitats are present and proposed for clearing, consult with USFWS and PRDNER. Note: A minimum of one year maybe required to complete consultation. As part of the consultation process, USFWS may require a survey conducted by experienced and qualified personnel prior to clearing to determine the presence/absence of boas.
- If Puerto Rico boas are present, USFWS and PRDNER should be contacted. These agencies may require the implementation of the Search and Protection Protocol established by the PRDNER for the protection of boas in Puerto Rico. An Endangered Species permit from DNER may be required.
- Notify USFWS and DNER if a Puerto Rico boa or VI tree boa is found during maintenance activities, inside a building/structure or on the grounds.

Note: The above conservation measures are applicable to parcels as noted in **Figure 4-2**.

Parcels: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 18, 19, 20, 22, 27, 28, 29, 30, 31, 38, 39, 40, 43, 44, 48, 56, 58, 59, 61, 62, 63, 64, 65, 66, 67, 68

Notice: If you are willing to comply with the general requirements and conservation measures listed above during the development and subsequent use of this parcel, you may proceed with the project. If you have any questions on the conservation measures, please consult with USFWS, Caribbean Field Office in Boquerón, Puerto Rico. Property owners that cannot adhere to the conservation measures must consult with USFWS to seek an Incidental Take Permit (ITP) under section 10(a)(1)(B) of the ESA. Be aware that the preparation of a Habitat Conservation Plan is required to apply for an ITP. Failure to comply with the identified general requirements and conservation measures may result in the violation of section 9 of the ESA. The USFWS has the authority to prosecute violations under ESA.

Table 6-3
Yellow-shouldered Blackbird Conservation Measures by Parcel #:

GENERAL REQUIREMENTS

- No commercial or residential development is allowed in Zone 9 (Conservation)
- All development related activities (new construction, ground clearing, demolition/remodeling) in zones adjacent to Zone 9 should occur between September 1 and March 15 (non-breeding season) or be restricted to an area 50 m from the Zone 9 boundary from March 15-August 30 (breeding season).
- Notify USFWS and DNER if a yellow-shouldered blackbird nest is found anywhere on the property
- Pesticide and herbicide applications should conform with Commonwealth of Puerto Rico regulations.

Yellow-Shouldered Blackbird Conservation Measures by Parcel:

During development and planning; new construction or clearing; demolition or remodeling; grounds maintenance; building maintenance; and general operations the following conservation measures are necessary to avoid impact to Yellow-shouldered Blackbirds or their habitat:

1. Protect as many existing on site palms and trees as possible in new development plans.
2. If forested suitable habitat is proposed for clearing or alteration, consultation with USFWS should be initiated. Note: A minimum of one year may be required to complete consultation.
3. Schedule activity from September 1 through March 14 or conduct outdoor survey of building(s) (ledges, etc.) and nearby trees (within 50 m of the building) for yellow-shouldered blackbird nests prior to start date if the development activity is scheduled to occur between March 15 and August 30. Surveys should be conducted by qualified and experienced personnel. Consult with USFWS if a yellow-shouldered blackbird nest is found.
4. Consult with PRDNER to identify the need for an endangered species permit to conduct such surveys.
5. No trimming or cutting of palms and trees between March 15 and August 30 except in an emergency (i.e., downed trees and palms from storms).
6. Survey for yellow-shouldered blackbird nests prior to any outdoor building maintenance activities between March 15 and August 30. Determine identity of any bird nest found. If a yellow-shouldered blackbird nest is found do not disturb, notify and consult with USFWS.
7. Before moving parked outdoor equipment (e.g., carts, vehicles) check for yellow-shouldered blackbird nests (March 15 to August 30). If a yellow-shouldered blackbird nest is located do not disturb, notify USFWS.

Note: The above conservation measures are applicable to all the parcels as noted in **Figure 4-3**.

Parcels: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 29, 30, 31, 32, 33, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68

Notice: If you are willing to comply with the general requirements and conservation measures listed above during the development and subsequent use of this parcel, you may proceed with the project. If you have any questions on the conservation measures, please consult with USFWS, Caribbean Field Office in Boquerón, Puerto Rico. Property owners that cannot adhere to the conservation measures must consult with USFWS to seek an Incidental Take Permit (ITP) under section 10(a)(1)(B) of the ESA. Be aware that the preparation of a Habitat Conservation Plan is required to apply for an ITP. Failure to comply with the identified general requirements and conservation measures may result in the violation of section 9 of the ESA. The USFWS has the authority to prosecute violations under ESA.

Table 6-4
Conservation Measures by Parcel for Listed Species on NAPR

Activity	Conservation Measure	Parcel Number																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Development Planning	Protect as many existing on site palms and trees, or forested habitat as possible in new development plans.	YSBB BOA	YSBB BOA	YSBB BOA	YSBB BOA		YSBB BOA	YSBB	YSBB BOA		YSBB BOA				YSBB BOA	YSBB	YSBB	YSBB
New Construction/Clearing	If forested suitable boa and/or yellow-shouldered blackbird habitat is proposed for clearing or alteration consult with USFWS a minimum of one year prior to planned project initiation. USFWS may require a survey conducted by qualified and experienced personnel prior to clearing to determine presence/absence of boas. A protocol to search and protect boas may be required by DNER and USFWS.	BOA	YSBB BOA	YSBB BOA	BOA	YSBB BOA	YSBB BOA	YSBB BOA	BOA	YSBB BOA	YSBB BOA	YSBB BOA	YSBB BOA	YSBB BOA	BOA			YSBB
Demolition/Remodeling	Schedule activity from September 1 through March 14 or conduct outdoor survey of building(s) (ledges, etc.) and nearby trees (within 50 m of the building) for yellow-shouldered blackbird nests prior to start date if the development activity is scheduled to occur between March 15 and August 30. Surveys should be conducted by qualified and experienced personnel. Consult with USFWS if a yellow-shouldered blackbird nest is found. Identify the need for an endangered species permit from DNER.		YSBB	YSBB				YSBB		YSBB					YSBB BOA	YSBB	YSBB	YSBB
Grounds Maintenance	No trimming or cutting of palms and trees between March 15 and August 30 except in an emergency (i.e., downed trees and palms from storms). Notify USFWS and DNER if a boa is found.	YSBB BOA	YSBB BOA	YSBB BOA	YSBB BOA	YSBB BOA	YSBB BOA	YSBB	YSBB BOA		YSBB	YSBB		YSBB	YSBB BOA	YSBB	YSBB	YSBB
Building Maintenance	Survey for yellow-shouldered blackbird nests prior to any outdoor building maintenance activities between March 15 and August 30. Determine identity of any bird nest found. Notify and consult with USFWS if a yellow-shouldered blackbird nest is found. Notify USFWS and DNER if a boa is found during maintenance activities.	BOA	YSBB BOA	YSBB BOA	YSBB BOA	YSBB BOA	YSBB BOA		YSBB BOA		YSBB BOA				YSBB BOA	YSBB	YSBB	YSBB
General Operations	Before moving parked outdoor equipment (e.g., carts, vehicles) check for yellow-shouldered blackbird nests (March 15 to August 30). Notify USFWS and DNER if a yellow-shouldered blackbird nest is located.		YSBB	YSBB				YSBB		YSBB					YSBB	YSBB	YSBB	YSBB
Property Sale/Lease	Notify buyer/lessee of all mitigation requirements (see above) and include mitigation with all legal documents.	YSBB BOA	YSBB BOA	YSBB BOA	YSBB BOA	YSBB BOA ST	YSBB BOA	YSBB	YSBB	YSBB								
Beach Development/Use	Implement all USFWS and Puerto Rico DNER lighting standards/requirements (includes parcels bordering the nesting area).					ST												
	Implement USFWS/ Puerto Rico DNER precautionary measures for sea turtles before, during, and after development activities.					ST												
	Establish a 50 m set back plus a 20 m buffer zone between any developed or undeveloped site and the land edge of the sea turtle nesting beach.					ST												
Conservation Zone	No development is allowed in Zone 9																	

Table 6-4 (Continued)
Conservation Measures by Parcel for Listed Species on NAPR

Activity	Conservation Measure	Parcel Number																
		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Development Planning	Protect as many existing on site palms and trees, or forested habitat as possible in new development plans.	YSBB BOA	YSBB BOA	YSBB BOA	YSBB	YSBB BOA	YSBB	YSBB	YSBB BOA		YSBB BOA	BOA	YSBB BOA	YSBB BOA	YSBB BOA		YSBB	YSBB
New Construction/Clearing	If forested suitable boa and/or yellow-shouldered blackbird habitat is proposed for clearing or alteration consult with USFWS a minimum of one year prior to planned project initiation. USFWS may require a survey conducted by qualified and experienced personnel prior to clearing to determine presence/absence of boas. A protocol to search and protect boas may be required by DNER and USFWS.	YSBB	YSBB	YSBB BOA		BOA							YSBB		YSBB		YSBB	
Demolition/Remodeling	Schedule activity from September 1 through March 14 or conduct outdoor survey of building(s) (ledges, etc.) and nearby trees (within 50 m of the building) for yellow-shouldered blackbird nests prior to start date if the development activity is scheduled to occur between March 15 and August 30. Surveys should be conducted by qualified and experienced personnel. Consult with USFWS if a yellow-shouldered blackbird nest is found. Identify the need for an endangered species permit from DNER.	YSBB		YSBB					YSBB	YSBB	YSBB		YSBB		YSBB		YSBB	YSBB
Grounds Maintenance	No trimming or cutting of palms and trees between March 15 and August 30 except in an emergency (i.e., downed trees and palms from storms). Notify USFWS and DNER if a boa is found.	YSBB BOA	BOA	YSBB BOA	YSBB	YSBB BOA	YSBB	YSBB	YSBB BOA		YSBB BOA	BOA	YSBB BOA	YSBB BOA	YSBB BOA		YSBB	YSBB
Building Maintenance	Survey for yellow-shouldered blackbird nests prior to any outdoor building maintenance activities between March 15 and August 30. Determine identity of any bird nest found. Notify and consult with USFWS if a yellow-shouldered blackbird nest is found. Notify USFWS and DNER if a boa is found during maintenance activities.	YSBB BOA	BOA	YSBB BOA		BOA	YSBB	YSBB	YSBB BOA		YSBB BOA	BOA	YSBB BOA	YSBB BOA	YSBB BOA		YSBB	YSBB
General Operations	Before moving parked outdoor equipment (e.g., carts, vehicles) check for yellow-shouldered blackbird nests (March 15 to August 30). Notify USFWS and DNER if a yellow-shouldered blackbird nest is located.	YSBB		YSBB	YSBB	YSBB	YSBB	YSBB	YSBB		YSBB		YSBB		YSBB		YSBB	YSBB
Property Sale/Lease	Notify buyer/lessee of all mitigation requirements (see above) and include mitigation with all legal documents.	YSBB BOA	YSBB BOA	YSBB BOA	YSBB	YSBB BOA	YSBB	YSBB	YSBB BOA ST	YSBB ST	YSBB	YSBB ST	YSBB	YSBB	YSBB	YSBB	YSBB	YSBB
Beach Development/Use	Implement all USFWS and Puerto Rico DNER lighting standards/requirements (includes parcels bordering the nesting area.								ST	ST		ST						
	Implement USFWS/ Puerto Rico DNER precautionary measures for sea turtles before, during, and after development activities.								ST	ST		ST						
	Establish a 50 m set back plus a 20 m buffer zone between any developed or undeveloped site and the land edge of the sea turtle nesting beach.								ST	ST		ST						
Conservation Zone	No development is allowed in Zone 9																	

Table 6-4 (Continued)
Conservation Measures by Parcel for Listed Species on NAPR

Activity	Conservation Measure	Parcel Number																
		35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
Development Planning	Protect as many existing on site palms and trees, or forested habitat as possible in new development plans.	YSBB	YSBB	YSBB	YSBB BOA	YSBB BOA	YSBB BOA	YSBB	YSBB	YSBB	YSBB BOA	YSBB BOA	YSBB	YSBB	YSBB	YSBB BOA	YSBB	YSBB
New Construction/Clearing	If forested suitable boia and/or yellow-shouldered blackbird habitat is proposed for clearing or alteration consult with USFWS a minimum of one year prior to planned project initiation. USFWS may require a survey conducted by qualified and experienced personnel prior to clearing to determine presence/absence of boas. A protocol to search and protect boas may be required by DNER and USFWS.	YSBB	YSBB	YSBB	YSBB BOA	YSBB	YSBB	YSBB	YSBB	YSBB	YSBB BOA	YSBB BOA	YSBB	YSBB		YSBB BOA		YSBB
Demolition/Remodeling	Schedule activity from September 1 through March 14 or conduct outdoor survey of building(s) (ledges, etc.) and nearby trees (within 50 m of the building) for yellow-shouldered blackbird nests prior to start date if the development activity is scheduled to occur between March 15 and August 30. Surveys should be conducted by qualified and experienced personnel. Consult with USFWS if a yellow-shouldered blackbird nest is found. Identify the need for an endangered species permit from DNER.	YSBB			YSBB		YSBB	YSBB	YSBB	YSBB				YSBB		YSBB	YSBB	YSBB
Grounds Maintenance	No trimming or cutting of palms and trees between March 15 and August 30 except in an emergency (i.e., downed trees and palms from storms). Notify USFWS and DNER if a boia is found.	YSBB			YSBB BOA	YSBB BOA	YSBB BOA	YSBB	YSBB	YSBB	YSBB BOA	YSBB BOA	YSBB		YSBB	YSBB BOA	YSBB	YSBB
Building Maintenance	Survey for yellow-shouldered blackbird nests prior to any outdoor building maintenance activities between March 15 and August 30. Determine identity of any bird nest found. Notify and consult with USFWS if a yellow-shouldered blackbird nest is found. Notify USFWS and DNER if a boia is found during maintenance activities.	YSBB			YSBB BOA	BOA	YSBB BOA	YSBB	YSBB	YSBB	YSBB BOA	BOA			YSBB	BOA	YSBB	YSBB
General Operations	Before moving parked outdoor equipment (e.g., carts, vehicles) check for yellow-shouldered blackbird nests (March 15 to August 30). Notify USFWS and DNER if a yellow-shouldered blackbird nest is located.				YSBB		YSBB	YSBB	YSBB	YSBB				YSBB	YSBB	YSBB	YSBB	YSBB
Property Sale/Lease	Notify buyer/lessee of all mitigation requirements (see above) and include mitigation with all legal documents.	YSBB ST	YSBB		YSBB BOA ST	YSBB BOA ST	YSBB BOA	YSBB	YSBB ST	YSBB BOA	YSBB BOA	YSBB ST	YSBB BOA ST	YSBB BOA ST	YSBB BOA	YSBB ST	YSBB	YSBB
Beach Development/Use	Implement all USFWS and Puerto Rico DNER lighting standards/requirements (includes parcels bordering the nesting area).	ST			ST	ST			ST			ST	ST	ST		ST		
	Implement USFWS/ Puerto Rico DNER precautionary measures for sea turtles before, during, and after development activities.	ST			ST	ST			ST			ST	ST	ST		ST		
	Establish a 50 m set back plus a 20 m buffer zone between any developed or undeveloped site and the land edge of the sea turtle nesting beach.	ST			ST	ST			ST			ST	ST	ST		ST		
Conservation Zone	No development is lowed in Zone 9																	

Table 6-4 (Continued)
Conservation Measures by Parcel for Listed Species on NAPR

Activity	Conservation Measure	Parcel Number																
		52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68
Development Planning	Protect as many existing on site palms and trees, or forested habitat as possible in new development plans.	YSBB	YSBB	YSBB	YSBB	YSBB BOA	YSBB		YSBB BOA			YSBB BOA	YSBB BOA	YSBB BOA				
New Construction/Clearing	If forested suitable boa and/or yellow-shouldered blackbird habitat is proposed for clearing or alteration consult with USFWS a minimum of one year prior to planned project initiation. USFWS may require a survey conducted by qualified and experienced personnel prior to clearing to determine presence/absence of boas. A protocol to search and protect boas may be required by DNER and USFWS.		YSBB	YSBB	YSBB	YSBB BOA	YSBB	YSBB BOA	YSBB BOA	YSBB	YSBB	YSBB BOA	YSBB BOA	YSBB BOA	YSBB BOA	YSBB BOA	YSBB BOA	YSBB BOA
Demolition/Remodeling	Schedule activity from September 1 through March 14 or conduct outdoor survey of building(s) (ledges, etc.) and nearby trees (within 50 m of the building) for yellow-shouldered blackbird nests prior to start date if the development activity is scheduled to occur between March 15 and August 30. Surveys should be conducted by qualified and experienced personnel. Consult with USFWS if a yellow-shouldered blackbird nest is found. Identify the need for an endangered species permit from DNER.	YSBB	YSBB	YSBB	YSBB		YSBB		YSBB				YSBB	YSBB				
Grounds Maintenance	No trimming or cutting of palms and trees between March 15 and August 30 except in an emergency (i.e., downed trees and palms from storms). Notify USFWS and DNER if a boa is found.	YSBB							YSBB		YSBB				BOA			
Building Maintenance	Survey for yellow-shouldered blackbird nests prior to any outdoor building maintenance activities between March 15 and August 30. Determine identity of any bird nest found. Notify and consult with USFWS if a yellow-shouldered blackbird nest is found. Notify USFWS and DNER if a boa is found during maintenance activities.	YSBB	YSBB	YSBB		YSBB			YSBB BOA		YSBB		YSBB BOA	BOA	YSBB BOA			
General Operations	Before moving parked outdoor equipment (e.g., carts, vehicles) check for yellow-shouldered blackbird nests (March 15 to August 30). Notify USFWS and DNER if a yellow-shouldered blackbird nest is located.	YSBB	YSBB	YSBB	YSBB		YSBB		YSBB				YSBB		YSBB			
Property Sale/Lease	Notify buyer/lessee of all mitigation requirements (see above) and include mitigation with all legal documents.	YSBB	YSBB	YSBB	YSBB	YSBB BOA ST	YSBB ST	YSBB BOA	YSBB BOA ST		YSBB BOA	YSBB BOA	YSBB BOA	YSBB BOA	YSBB ST	YSBB BOA ST	YSBB BOA ST	YSBB BOA ST
Beach Development/Use	Implement all USFWS and Puerto Rico DNER fighting standards/requirements (includes parcels bordering the nesting area).					ST	ST		ST	ST	ST	ST	ST	ST	ST	ST	ST	ST
	Implement USFWS/ Puerto Rico DNER precautionary measures for sea turtles before, during, and after development activities.					ST	ST		ST	ST	ST	ST	ST	ST	ST	ST	ST	ST
	Establish a 50 m set back plus a 20 m buffer zone between any developed or undeveloped site and the land edge of the sea turtle nesting beach.					ST	ST		ST	ST	ST	ST	ST	ST	ST	ST	ST	ST
Conservation Zone	No development is allowed in Zone 9																	

Legend:

- BOA = Puerto Rican or Virgin Islands Boa
- ST = Sea Turtles (Green, Hawksbill, Leatherback, and Loggerhead)
- YSBB = Yellow-shouldered Blackbird

Acronyms and Abbreviations

ACM	asbestos-containing material
AFRC	Armed Forces Reserve Center
AOC	area of concern
AQCR	Air-Quality Control Region
ARPA	Archaeological Resources Protection Act
AST	aboveground storage tank
BEQ	bachelor enlisted quarters
BLS	Bureau of Labor Statistics
BMP	best management practice
BRAC	Base Realignment and Closure
C&D	construction and demolition
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	<i>Code of Federal Regulations</i>
CoC	constituent of concern
CMS	Corrective Measures Study
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Plan
DoD	Department of Defense
DRMO	Defense Reutilization and Marketing Office
EA	Environmental Assessment
EBS	Environmental Baseline Survey
ECP	environmental condition of property
EIS	Environmental Impact Statement
EO	Executive Order
FEMA	Federal Emergency Management Agency
FNSI	Finding of No Significant Impact
ft ²	square feet
GCR	General Conformity Rule
HARPP	Historic Archaeological Resources Protection Plan
IMA-ARO	Installation Management Agency, Army Reserve Office
IMC-AR	Installation Management Command, Army Reserve
IRP	Installation Restoration Program
kV	kilovolt
LBP	lead-based paint
LEED	Leadership in Energy and Environmental Design
LRA	Local Redevelopment Authority
MEC	munitions and explosives of concern
MNA	monitored natural attenuation
NAGPRA	Native Americans Grave Protection and Repatriation Act
NAPR	Naval Activity Puerto Rico
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NSRR	Naval Activity Roosevelt Roads
OMS	organization maintenance shop
PCB	polychlorinated biphenyls

PRARNG	Puerto Rico Army National Guard
PRASA	Puerto Rico Aqueduct and Sewer Authority
PREPA	Puerto Rico Electric Power Authority
PX	post exchange
RBC	risk-based concentration
RCRA	Resource Conservation and Recovery Act
ROI	Region of Influence
SEAL	Sea, Air, Land (Navy special forces)
SHPO	State Historic Preservation Officer
SWMU	solid waste management unit
TSCA	Toxic Substances Control Act
USEPA	United States Environmental Protection Agency
UST	underground storage tank
WWTP	wastewater treatment plant