

**FINDING OF SUITABILITY TO TRANSFER**

**SALE PARCEL II - CAPEHART**

**NAVAL ACTIVITY PUERTO RICO  
CEIBA, PUERTO RICO**



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**December 2007**

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# **FINDING OF SUITABILITY TO TRANSFER SALE PARCEL II - CAPEHART NAVAL ACTIVITY PUERTO RICO**

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## **1.0 PURPOSE**

This Finding of Suitability to Transfer (FOST) summarizes how the requirements and notifications for hazardous substances, petroleum products, and other regulated material on the property have been satisfied, and documents my determination, as the responsible Department of Defense (DoD) component official, that certain real property and associated improvements known as Sale Parcel II - Capehart (Subject Property) at Naval Activity Puerto Rico (NAPR), Ceiba, Puerto Rico, are environmentally suitable for deed transfer. This decision is based primarily on my review of information contained in two of the documents listed in Exhibit A (References) – CERFA Identification of Uncontaminated Property, Former Naval Station Roosevelt Roads, Puerto Rico (the CERFA Report; Navy, 2006b), and Phase I/II Environmental Condition of Property Report, Former Naval Station Roosevelt Roads, Ceiba, Puerto Rico (the ECP Report; Navy, 2005). Factors leading to this decision and other pertinent information related to property transfer requirements are stated below.

## **2.0 DESCRIPTION OF PROPERTY**

NAPR was formerly known as Naval Station Roosevelt Roads (NSRR) until it ceased operation as an active Naval Station on March 31, 2004, at which point it was designated NAPR to serve as the caretaker of the real property associated with NSRR and to assist in the transfer of the property. NAPR is located on the east coast of Puerto Rico adjacent to the municipality of Ceiba. The Subject Property consists of approximately 495 acres located in the southeast section of the installation, and is primarily comprised of residential neighborhoods. Additional facilities include a high school, community center, medical clinics, storage buildings and various recreational facilities. Exhibits B, C, and D provide a vicinity map, parcel maps from the Draft Report, Parcel Map for the Disposal of Naval Activity Puerto Rico (GMI, 2005), and a boundary survey map, respectively. The Subject Property is comprised of Sub-Parcels 8, 10, 14, 15 and 16, as shown in Exhibit C.

Seven of the eight former NSRR housing communities are located on the Subject Property. The Final Asbestos Inspection Report for Military Family Housing, Naval Activity Puerto Rico, Ceiba, Puerto Rico (Baker, 2005a) provides the following information for these housing areas:

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- Algodones – 2, 3, and 4-Bedroom (BR) Apartment Style Units; constructed 1960; renovated 1991
- Caribe Breeze – 2, 3, and 4-BR Duplex Units; constructed 1974; renovated 2001-2003
- Cascajo Point – 2, 3, and 4-BR Single Family Houses; constructed 1960; renovated 1998-2001
- Coast Guard – 3 and 4-BR Single Family Houses; constructed 1960; renovated 1989-1992
- FDR Drive – 3-BR Single Family Houses; constructed 1960; renovated 1999-2000
- Manatee Bay – 2, 3, and 4-BR Single Family Houses; constructed 1960; renovated 2001-2003
- Mangrove Manor – 2, 3, and 4-BR Single Family Houses; constructed 1960; renovated 1989-1992

The housing units are concrete-framed buildings with concrete or ceramic exterior finishes. Interior walls are painted gypsum board and concrete. In addition to the housing units described above, there are approximately 46 other numbered buildings, structures, and facilities on the Subject Property (not including multiple pavilions at Community Beach). Table 1 (Exhibit E) provides their facility number, former user, name or description, area, and year of construction.

**3. PAST USE AND PROPOSED REUSE**

The Subject Property has been used as a military installation since its acquisition and development by the Navy in the 1940s. The Environmental Condition of Property (ECP) Report states that most of the arable land on what is now NAPR was previously used for sugar cane cultivation and cattle grazing. No significant industrial facilities or environmental concerns were identified with respect to activities conducted on the former NSRR prior to Navy ownership. The Navy has used the Subject Property for residential and ancillary purposes only.

The *Naval Station Roosevelt Roads Reuse Plan* (CBRE et al, 2004) developed by the Puerto Rico Department of Economic Development and Commerce (acting as the Local Redevelopment Authority) anticipates future use of the Subject Property as residential with ancillary uses including reuse of the high school and gymnasium. The Subject Property will be sold via public auction to the highest qualified bidder.

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**4. ENVIRONMENTAL FINDINGS**

All available information concerning the past storage, release, or disposal of hazardous substances and/or petroleum products on NAPR, as collected through record searches, aerial photographs, personnel interviews, and on-site visual inspections, is contained in the ECP Report. The following summarizes the findings as they relate to the Subject Property and the corresponding Condition of Property Classification assigned to the real property to be transferred.

**A. Hazardous Substance Contamination**

There is nothing in the records that indicates any hazardous substance has been released or disposed of on the Subject Property, and the ECP investigation did not discover any radioactive materials at the medical clinics, nor any environmental issues associated with medical waste. There was once a satellite hazardous waste accumulation area for lab packs associated with Building 2200 (High School). The storage area was no longer in use at the time of the ECP inspection.

**B. Petroleum Contamination**

According to the ECP Report, there was one underground storage tank (UST) formerly located on the Subject Property. UST 1513 was a 280-gallon diesel fuel tank associated with Building 1513, a sewage lift station. The UST was removed in August 1996, as shown on Table 2 in Exhibit E. The ECP Report also documented three operational aboveground storage tanks (ASTs) used for storage of diesel fuel for sewage lift station standby generators on the Subject Property. One of these, AST 1972, replaced UST 1513. These ASTs are also listed in Table 2. According to the ECP Report, any contaminated soils identified during past replacement of tanks were excavated and disposed of off NSRR property, and the replaced tanks were closed in accordance with Title 40 Code of Federal Regulations (CFR) Part 280. The records do not indicate there have been any spills or releases associated with UST 1513 or the ASTs on the Subject Property, nor any other releases or instances of disposal of petroleum products or their derivatives.

**C. Condition of Property Classification**

The ECP Report divided all property at NAPR into parcels, and classified them into one of the three following categories:

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- **Category 1** – Areas where no known or documented releases, or disposal of hazardous substances or petroleum products or their derivatives has occurred, including no migration of these substances from adjacent areas.
- **Category 2** – Areas where the release, disposal, or migration, or some combination thereof, of hazardous substances, or petroleum products or their derivatives has occurred, but at concentrations that do not require a removal or remedial action, or all remedial actions necessary to protect human health and the environment have been taken.
- **Category 3** – Areas where a confirmed or suspected release, disposal, or migration, or some combination thereof, of hazardous substances, or petroleum products or their derivatives has occurred, but required investigation and/or response actions have not yet been initiated or are ongoing.

These categories are derived from the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Community Environmental Response Facilitation Act (CERFA) and the American Society for Testing and Materials (ASTM) Standard Practice for Conducting Environmental Baseline Surveys (ASTM Standard D 6008-96), which further incorporates ASTM D 5746-98 (2002) Standard Classification of Environmental Condition of Property Area Types for Defense Base Closure and Realignment Facilities.

CERFA stipulates that the federal government must identify “uncontaminated property” scheduled for transfer, and defines this as “...real property on which no hazardous substances and no petroleum products or their derivatives were known to have been released, or disposed of” [(Section 9620(h)(4)(A)]. In accordance with the property condition classification guidelines discussed above, the Navy classified the Subject Property as Category 1 uncontaminated property. Following its review of the CERFA Report, the Puerto Rico Environmental Quality Board (EQB) concurred with this classification and provided a concurrence statement (Exhibit F) in the Final CERFA Report on 11 August 2006.

### **D. Other Environmental Aspects**

#### **1. Munitions and Explosives of Concern**

The records do not indicate ordnance handling, storage, or disposal activities have ever been conducted on the Subject Property.

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2. Asbestos-Containing Materials

An asbestos-containing material (ACM) inspection of military family housing in the eight NAPR residential communities was performed in January and February 2005 in anticipation of property transfer. According to the June 2005 Final Asbestos Inspection Report for Military Family Housing, Naval Activity Puerto Rico, Ceiba, Puerto Rico (Baker, 2005a), NAPR housing was reportedly constructed between 1960 and 1975. Twenty-seven of the housing units in the Manatee Bay community are of original construction and the remaining 935 NAPR units were renovated to varying degrees beginning in 1989. Renovation of some of the units included removal of ACM.

While ACM was identified in all of the residential communities on the Subject Property, no friable, accessible, and damaged (FAD) ACM hazards were identified in the housing units that were inspected. Not all units in NAPR housing were inspected. Instead, a representative number of units were inspected in each housing community. Detailed information about the units inspected and the materials identified and sampled during the asbestos inspection, including summary tables, location drawings, photographs and laboratory reports is included in the report. The report text (without appendices) is included in Exhibit G of this FOST.

According to the June 2005 Final Asbestos Inspection Report for Naval Activity Puerto Rico, Ceiba, Puerto Rico (Baker, 2005b), ACM was identified in 6 of the 26 non-housing facilities inspected on the Subject Property, as summarized in Table 3 of Exhibit E. No FAD ACM hazards were identified in any of the facilities. Detailed information about the materials identified and sampled during the asbestos inspection, including summary tables, location drawings, photographs and laboratory reports, is included in the report. The report text (without appendices) is included in Exhibit G of this FOST.

If renovation of housing units is scheduled following transfer, a more comprehensive ACM inspection should be conducted to attempt to identify hidden ACM (e.g., behind walls, above ceilings, etc.) that would not have been identified during the non-destructive, baseline asbestos study. Furthermore, the possibility remains for the presence of undiscovered ACM associated with underground utilities and miscellaneous building materials at NAPR. While this potential ACM does not pose a hazard to site users, future demolition and/or subsurface work performed by the transferee could result in FAD ACM

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hazards. Thus, the transferee will be required to use best management practices during any future renovation/demolition activities or underground utility work, and to comply with all applicable laws relating to ACM management in order to ensure future protection of human health and the environment.

3. Lead-Based Paint

A lead-based paint (LBP) inspection and risk assessment of military family housing at NAPR was performed in conjunction with the ACM inspection described above. According to the June 2005 *Final Lead-Based Paint Inspection/Risk Assessment Report for Military Family Housing, Naval Activity Puerto Rico, Ceiba, Puerto Rico* (Baker, 2005c), NAPR housing was reportedly constructed between 1960 and 1975. Twenty-seven of the housing units in the Manatee Bay community are of original construction and the remaining 935 NAPR units were renovated to varying degrees beginning in 1989. Renovation of some of the units included removal of LBP.

In accordance with U.S. Department of Housing and Urban Development regulations, the Navy is required to inspect and assess NAPR housing for LBP and LBP hazards and disclose the results to the next owner. Because the housing units were constructed in 1960 and later, LBP hazards are not required to be abated before the sale of the properties. LBP hazards were identified in the Algodones, Coast Guard, Manatee Bay, and Mangrove Manor housing communities only, and included deteriorated LBP on various components and slightly elevated lead in dust on floors. Hazards related to friction surfaces, impact surfaces, chewable surfaces, and soil were not identified in these communities. No LBP hazard of any type was identified in the Caribe Breeze, Cascajo Point, or FDR Drive communities. Not all units in NAPR housing were inspected. Instead, a representative number of units were inspected in each housing community. Detailed information about the inspection and risk assessment methodologies, units inspected and the materials identified and sampled during the LBP inspection, including summary tables, location drawings, photographs, laboratory reports, and LBP control options is included in the report. (Baker, 2005c) The report text (without appendices) is included in Exhibit G of this FOST.



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The NAPR facilities list (Exhibit E, Table 1) indicates the majority of the non-housing buildings, structures and facilities on the Subject Property were constructed prior to 1978, the year in which LBP was banned for consumer use. These facilities, which were not included in the military family housing LBP survey, and any others built before 1978 are presumed to contain LBP.

A Lead-Based Paint Hazards Advisory Statement, Exhibit H to this FOST, will be provided to the transferee for execution at the time of transfer.

#### 4. Polychlorinated Biphenyls

Only one polychlorinated biphenyl (PCB) containing-transformer remains at NAPR. The transformer, located in Building 386, is not on the Subject Property. All other PCB-contaminated transformers and equipment were removed from the former NSRR prior to 1998. Due to the age of the majority of facilities and the size of the station, it is possible that PCB-contaminated fluorescent light ballasts and other minor PCB sources may be present on NAPR. There is nothing in the records to indicate PCBs were ever stored or disposed of on the Subject Property.

#### 5. Radon

According to the U.S. Geological Survey Open-File Report 93-292-K, Preliminary Geologic Radon Potential Assessment of Puerto Rico (USGS, 1993), the Commonwealth of Puerto Rico exhibits generally low indoor radon levels, and a survey of radon concentrations of offices, housing units, schools and other buildings was conducted by the DoD between 1989 and 1992 on federal military reservations in Puerto Rico, including the former NSRR. Indoor radon levels ranged from 0.0 to 1.9 picoCuries/Liter (pCi/L), well below the current U.S. Environmental Protection Agency (EPA) residential indoor radon screening action level of 4 pCi/L. The majority of the reservations, including NAPR, are situated on coastal plains, so the low indoor radon levels were not unexpected.

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6. Threatened and Endangered Species

As shown on the individual parcel maps in Exhibit C, both sea turtle habitat and breeding habitat and nesting/foraging palms for the endangered yellow-shouldered blackbird have been identified on the Subject Property. The Commonwealth of Puerto Rico has committed to zone the property in a manner that will implement the planning, development, maintenance, mitigation and use requirements described on the parcel maps.

In accordance with the Endangered Species Act, the Navy developed a Biological Assessment (BA) for the former NSRR in 2006 to assess the potential impact on any federally protected species from the disposal of NSRR. Given the protection measures addressed in detail in the *Biological Assessment for the Disposal of Naval Station Roosevelt Roads/Naval Activity Puerto Rico Final Report* (Navy, 2006a), the Navy has determined that the disposal of the former NSRR and transfer of the property to future owners is not likely to adversely affect federally-listed species and would not result in adverse modification of designated critical habitat within the project area. The U.S. Fish and Wildlife Service concurred with this determination in a letter dated April 7, 2006.

**5.0 REQUIREMENTS APPLICABLE TO PROPERTY TRANSFER**

**A. NEPA Compliance**

In accordance with National Environmental Policy Act (NEPA) requirements, an Environmental Assessment and Finding of No Significant Impact (FONSI) have been prepared and executed in connection with the planned disposal and reuse of NAPR. The FONSI was signed on April 10, 2007.

**B. Hazardous Substance Notice**

In accordance with Section 120(h)(3)(A)(i) of CERCLA, all deeds transferring federal property must provide notice as to those hazardous substances which it is known, based on a complete search of agency files, were stored for one year or more, released or disposed on the Subject Property in excess of those reportable quantities specified under Title 40 CFR Part 373, and all response actions taken to date to address any such releases or disposals. No hazardous

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substances are known to have been stored or released on the Subject Property in excess of their respective reportable quantities, thus, no deed notice is required in this instance.

**C. CERCLA Covenant**

In accordance with CERCLA Section 120(h)(4)(D)(i), the deed transferring the Subject Property shall contain a covenant warranting that any response action or corrective action found to be necessary after the date of transfer shall be conducted by the United States.

**D. CERCLA Access Clause**

In accordance with CERCLA Section 120(h)(4)(D)(ii), the deed transferring the Subject Property shall contain a clause granting to the United States, its officers, agents, employees, contractors, and subcontractors the right to enter upon the transferred property in any case that remedial or corrective action is found to be necessary after the date of transfer. The right to enter to be set forth shall include the right to conduct annual physical inspections, tests, investigations, long term monitoring, 5-year reviews, and surveys, including, where necessary, drilling, test pitting, boring, and other similar activities. Such right shall also include the right to construct, operate, maintain, or undertake any other response or remedial action as required or necessary, including, but not limited to, monitoring wells, pumping wells, and treatment facilities. The United States retains the authority to enter to conduct investigations on adjacent parcels as well as the parcel subject to the transfer. These access rights are in addition to those granted to Federal, state, and local authorities under applicable environmental laws and regulations.

**E. Land and Groundwater Restrictions**

The Navy will transfer all of the Subject Property without restrictions.

**F. Environmental Compliance Agreements / Permits / Orders**

On January 29, 2007, the U.S. Department of the Navy and EPA voluntarily entered into a Resource Conservation and Recovery Act (RCRA) Section 7003 Administrative Order on Consent (Consent Order; EPA, 2007). The Consent Order set out the Navy's RCRA corrective action obligations and replaced the 1994 RCRA permit as the document memorializing these obligations concerning NAPR. Although there are no RCRA solid waste management units or

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areas of concern on the Subject Property, certain RCRA obligations defined in the Consent Order apply to the Subject Property including notification and additional work requirements for newly discovered releases, other notification requirements, and record retention requirements. There are no other environmental compliance agreements, permits, or orders associated with the Subject Property.

**G. Notification to Regulatory Agencies / Public**

In accordance with DoD guidance, EPA Region 2 and the Puerto Rico EQB have been advised of the proposed transfer of the Subject Property, and copies of the ECP Report and Draft FOST were provided to those agencies for review and comment. Two comments were received from EPA. Those comments and Navy responses are provided in Exhibit I. The ECP Report was made available for public review upon finalization. Copies of all transfer documentation will be made available to EPA and EQB representatives upon request after execution of the same.

**6.0 SUITABILITY DETERMINATION**

NOW THEREFORE, based on my review of the information contained in this FOST and in the ECP and CERFA Reports, I have determined that the Subject Property is presently suitable for deed transfer for unrestricted reuse.

1 / 3 / 08  
Date

James E. Anderson  
JAMES E. ANDERSON  
Director  
BRAC Program Management Office Southeast  
North Charleston, South Carolina

## **Exhibit A**

## **References**

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**REFERENCES**

Baker, 2005a. (Michael Baker Jr., Inc.) *Final Asbestos Inspection Report for Military Family Housing, Naval Activity Puerto Rico, Ceiba, Puerto Rico*. Moon Township, Pennsylvania. June 2005.

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Baker, 2005c. (Michael Baker Jr., Inc.) *Final Lead-Base Paint Inspection/Risk Assessment Report for Military Family Housing, Naval Activity Puerto Rico, Ceiba, Puerto Rico*. Moon Township, Pennsylvania. June 2005.

CBRE et al, 2004. (CB Richard Ellis Consulting, Cooper Robertson & Parnters, Moffatt & Nichol, Puerto Rico Management & Economic Consultants, Inc.) *Naval Station Roosevelt Roads Reuse Plan*. December 2004.

EPA, 2007. (U.S. Environmental Protection Agency) *RCRA § 7003 Administrative Order on Consent, In the Matter of United States, The Department of the Navy, Naval Activity Puerto Rico, formerly Naval Station Roosevelt Roads, Puerto Rico, EPA Docket No. RCRA-02-2007-7301*. January 2007.

GMI, 2005. (Geo-Marine, Inc.) *Draft Report, Parcel Map for the Disposal of Naval Activity Puerto Rico*. Hampton, Virginia. September 2005.

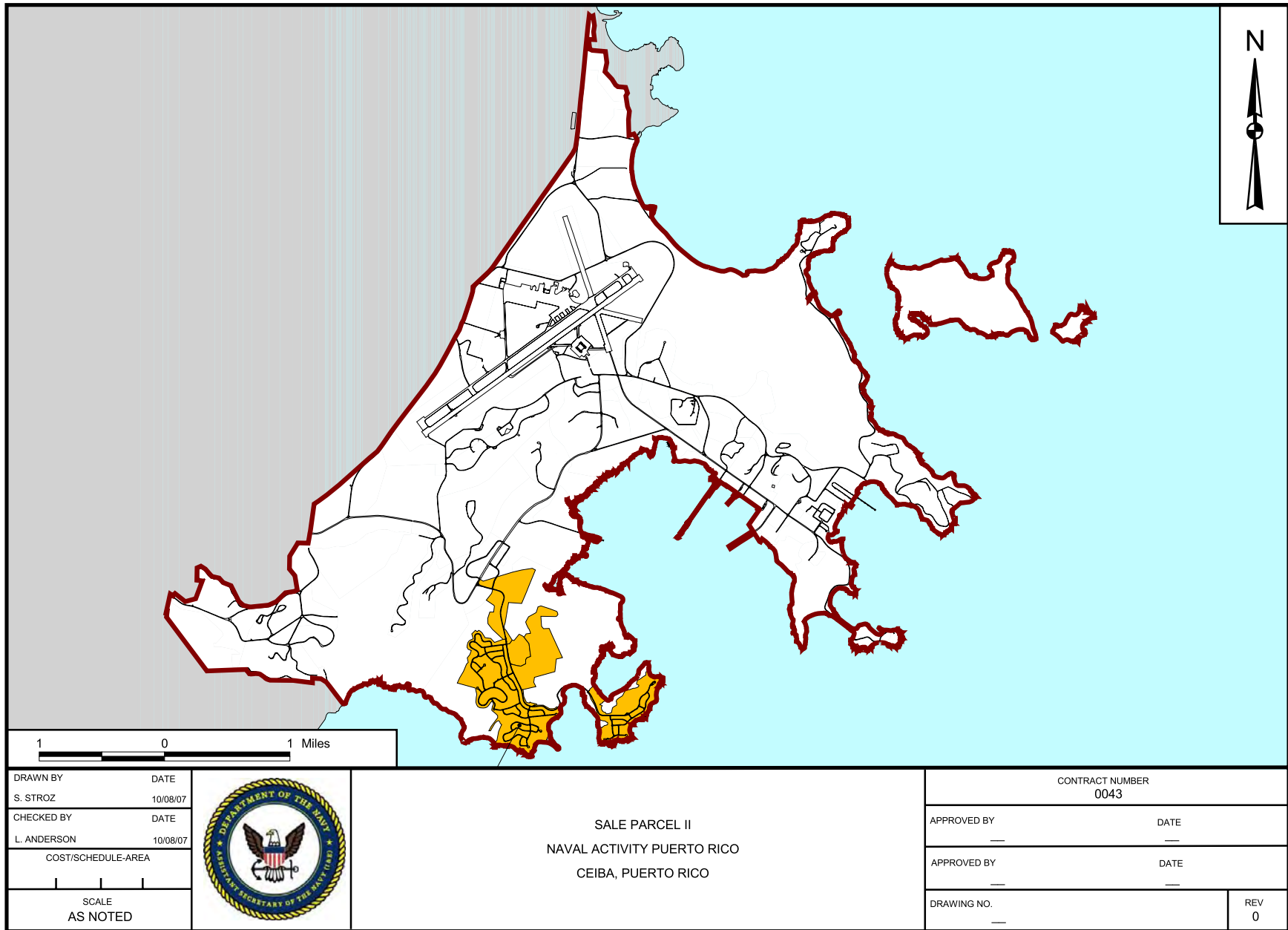
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Navy, 2006b. (Department of the Navy, Base Realignment and Closure Program Management Office Southeast) *CERFA Identification of Uncontaminated Property, Former Naval Station Roosevelt Roads, Puerto Rico*. North Charleston, South Carolina, April 27, 2006.

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**Exhibit B**  
**Vicinity Map**





**Exhibit C**  
**Parcel Maps**

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**THREATENED AND ENDANGERED SPECIES CONSERVATION MEASURES—PARCEL 8**

**Common Name—Sale**

**Conveyance—Sale**

**Neighboring Parcel(s)—5, 6, 7, 9, 13-16**

**Yellow-shouldered Blackbird**

**GENERAL REQUIREMENTS**

- No development is allowed in Parcel 5, 7, 9, and 13 (Conservation).
- All development related activities (new construction, ground clearing, demolition/remodeling) adjacent to conservation parcels (5, 7, 9, and 13) should occur between September 1 and March 15 (non-breeding season) or be restricted to an area 50 m from the conservation parcel boundary from March 15-August 30 (breeding season).
- Notify U.S. Fish and Wildlife Service (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.

<b>Activity</b>	<b>Conservation Measures</b>
<b>Development Planning</b>	Save as many existing on site palms and trees as possible in new development plans.
<b>Demolition/Remodeling</b>	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 activity is scheduled to occur between March 15 and August 30. Consult with USFWS if a yellow-shouldered blackbird nest is found.
<b>Grounds Maintenance</b>	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).
<b>Building Maintenance</b>	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.
<b>General Operations</b>	Before moving parked outdoor equipment (e.g., light cars, carts, vehicles) check for yellow-shouldered blackbird nests (March 15-August 30). Notify USFWS if a yellow-shouldered blackbird nest is located.
<b>Property Sale/Lease</b>	Notify buyer/lessee of all mitigation requirements (see above) and include mitigation with all legal documents.

**Sea Turtle**

**GENERAL REQUIREMENTS**

- Consult with 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) and 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 and the land edge of a sea turtle nesting beach.

**Cobana Negra**

**GENERAL REQUIREMENTS**

- Consult with USFWS regarding any recreational development plans (e.g., hiking trails) in Parcel 5.

**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.

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**THREATENED AND ENDANGERED SPECIES CONSERVATION MEASURES—PARCEL 10**

**Common Name—Sale**

**Conveyance—Sale**

**Neighboring Parcel(s)—11, 12, 13**

**Yellow-shouldered Blackbird**

**GENERAL REQUIREMENTS**

- No development is allowed in Parcel 11, 12 and 13 (Conservation).
- All development related activities (new construction, ground clearing, demolition/remodeling) adjacent to conservation parcels (11, 12, and 13) between September 1 and March 15 (non-breeding season) or be restricted to an area 50 m from the conservation parcel boundary from March 15-August 30 (breeding season).
- 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.

<b>Activity</b>	<b>Conservation Measures</b>
<b>Development Planning</b>	Save as many existing on site palms and trees as possible in new development plans.
<b>New Construction/Clearing</b>	If undeveloped yellow-shouldered blackbird habitat is proposed for clearing consult with the USFWS a minimum of one year prior to planned project initiation.
<b>Demolition/Remodeling</b>	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 activity is scheduled to occur between March 15 and August 30. Consult with USFWS if a yellow-shouldered blackbird nest is found.
<b>Grounds Maintenance</b>	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).
<b>General Operations</b>	Before moving check moveable outdoor equipment (e.g., carts, vehicles) for yellow-shouldered blackbird nests from March 15-August 30. Notify USFWS if a yellow-shouldered blackbird nest is located.
<b>Property Sale/Lease</b>	Notify buyer/lessee of all mitigation requirements (see above) and include mitigation with all legal documents.

**Sea Turtle**

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

**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.



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**THREATENED AND ENDANGERED SPECIES CONSERVATION MEASURES—PARCEL 14**

**Common Name—Sale**

**Conveyance—Sale**

**Neighboring Parcel(s)—8, 13, 15, 16**

**Yellow-shouldered Blackbird**

**GENERAL REQUIREMENTS**

- No development is allowed in Parcel 13 and 16 (Conservation).
- All development related activities (new construction, ground clearing, demolition/remodeling) adjacent to conservation parcel 13 and 16 should occur between September 1 and March 15 (non-breeding season) or be restricted to an area 50 m from the parcel boundary from March 15-August 30 (breeding season).
- 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.

<b>Activity</b>	<b>Conservation Measures</b>
<b>Development Planning</b>	Save as many existing on site palms and trees as possible in new development plans.
<b>Demolition/Remodeling</b>	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 activity is scheduled to occur between March 15 and August 30. Consult with USFWS if a yellow-shouldered blackbird nest is found.
<b>Grounds Maintenance</b>	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).
<b>Building Maintenance</b>	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.
<b>General Operations</b>	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.
<b>Property Sale/Lease</b>	Notify buyer/lessee of all mitigation requirements (see above) and include mitigation with all legal documents.

**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.**









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**THREATENED AND ENDANGERED SPECIES CONSERVATION MEASURES—PARCEL 15**

**Common Name—Sale**

**Conveyance—Sale**

**Neighboring Parcel(s)—5, 8, 13, 14, 16**

**Yellow-shouldered Blackbird**

**GENERAL REQUIREMENTS**

- No development is allowed in Parcel 13 (Conservation).
- All development related activities (new construction, ground clearing, demolition/remodeling) adjacent to Parcel 13 should occur between September 1 and March 15 (non-breeding season) or be restricted to an area 50 m from the parcel boundary from March 15-August 30 (breeding season).
- 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.

<b>Activity</b>	<b>Conservation Measures</b>
<b>Development Planning</b>	Save as many existing on site palms and trees as possible in new development plans.
<b>Demolition/Remodeling</b>	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.
<b>Grounds Maintenance</b>	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).
<b>Building Maintenance</b>	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.
<b>General Operations</b>	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.
<b>Property Sale/Lease</b>	Notify buyer/lessee of all mitigation requirements (see above) and include mitigation with all legal documents.

**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 15

Common Name: Sale

Conveyance: Sale

Neighboring Parcel(s): 5, 8, 13,  
14, 16

### Legend

- Parcel
- Neighboring Parcel Boundaries
- Cleanup Status
  - Complete with Land Use Controls
  - Complete
  - Cleanup Remaining

August 18, 2005



1 inch equals 266 Feet

0 200 400 Feet



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**THREATENED AND ENDANGERED SPECIES CONSERVATION MEASURES—PARCEL 16**

**Common Name—Sale**

**Conveyance—Sale**

**Neighboring Parcel(s)—6, 8, 13, 15, 17, 25**

**Yellow-shouldered Blackbird**

**GENERAL REQUIREMENTS**

- No development is allowed in Parcel 1 and 5 (Conservation).
- All development related activities (new construction, ground clearing, demolition/remodeling) adjacent to conservation parcels (1, 5) should occur between September 1 and March 15 (non-breeding season) or be restricted to an area 50 m from the parcel boundary from March 15-August 30 (breeding season).
- Notify the U.S. Fish and Wildlife Service (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.

<b>Activity</b>	<b>Conservation Measures</b>
<b>Development Planning</b>	Save as many existing on site palms and trees as possible in new development plans.
<b>New Construction/Clearing</b>	If undeveloped yellow-shouldered blackbird habitat is proposed for clearing consult with USFWS a minimum of one year prior to planned project initiation.
<b>Demolition/Remodeling</b>	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.
<b>Grounds Maintenance</b>	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).
<b>Building Maintenance</b>	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.
<b>General Operations</b>	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.
<b>Property Sale/Lease</b>	Notify buyer/lessee of all mitigation requirements (see above) and include mitigation with all legal documents.

**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 16

Common Name: Sale

Conveyance: Sale

Neighboring Parcel(s): 6, 8, 13,  
15, 17, 25

### Legend

- Parcel
- Neighboring Parcel Boundaries
- Cleanup Status**
  - Complete with Land Use Controls
  - Complete
  - Cleanup Remaining

August 18, 2005



1 inch equals 399 Feet

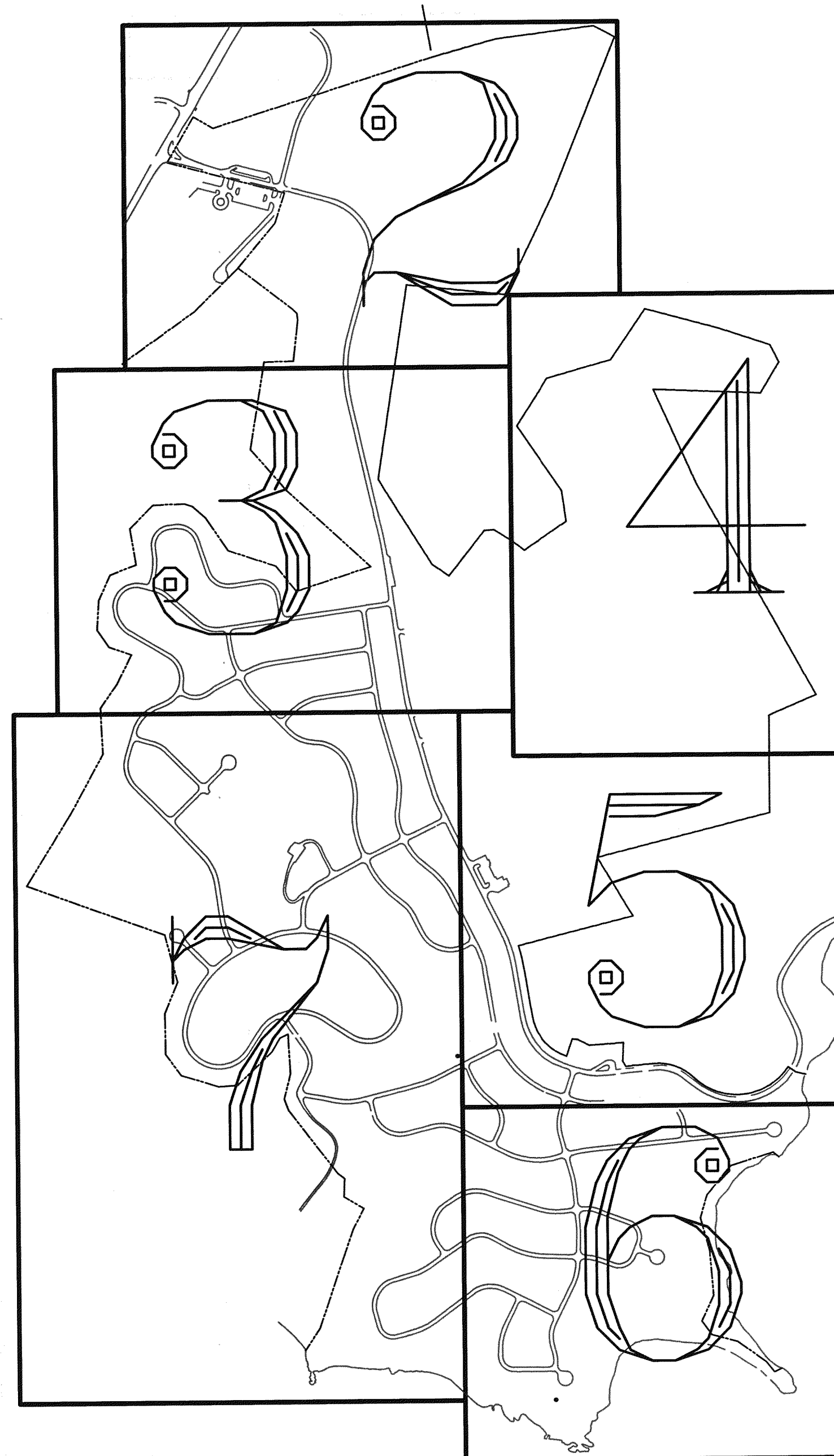
0 255 510 Feet



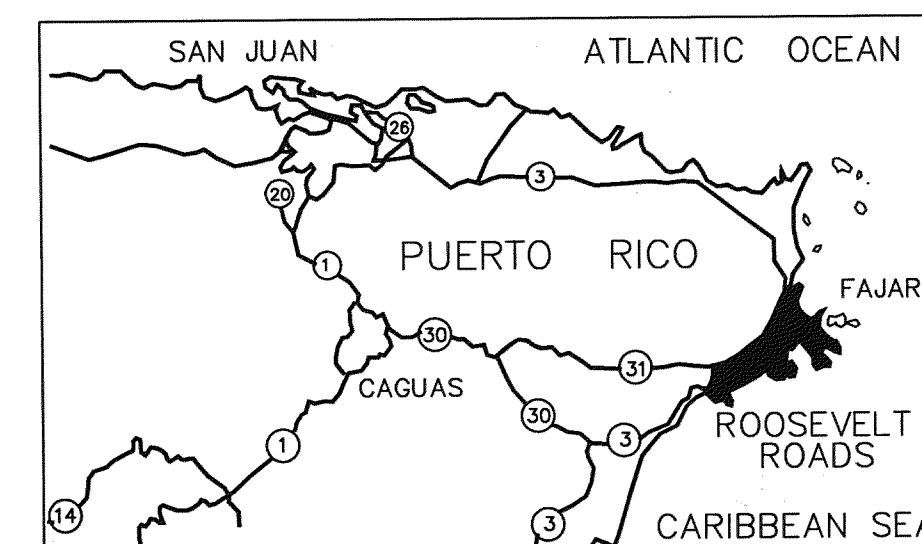
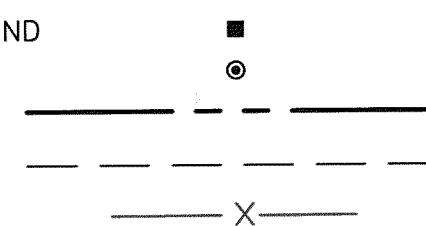
**Exhibit D**  
**Survey Map**



1. BOUNDARY SURVEY PREPARED BY TRANSMETS CORPORATION FROM FIELD DATA COLLECTED IN APRIL 2007. FIELD PROCEDURES, CALCULATIONS AND FINAL PLAT HAVE BEEN REVIEWED FOR CONTENT BY LUIS BERRIOS MONTES & ASSOCIATES OF VEGA BAJA, PUERTO RICO.
2. HORIZONTAL COORDINATES SHOWN HEREON ARE IN FEET AND REFER TO THE PUERTO RICO/VIRGIN ISLAND STATE PLANE COORDINATE SYSTEM, NAD 83 (1997 ADJUSTMENT). HORIZONTAL COORDINATES WERE DERIVED USING DUAL FREQUENCY GPS RECEIVERS AND ARE REFERENCED TO NATIONAL GEODETIC SURVEY MONUMENTS ANGEL (PID AB9997), FAJARDO (PID AB9834), HUMACAO 2 (PID AB9846) AND MT BRITTON (PID AB9835).
3. THE FOLLOWING PLATS AND DEEDS WERE USED TO ESTABLISH THE BOUNDARY LINES AS SHOWN ON THIS PLAT:
  - A) PLAT TITLED "UNITES STATES GOVERNMENT PROPERTY FORMER NAVAL STATION ROOSEVELT ROADS BOUNDARY REESTABLISHMENT SURVEY" PREPARED BY TRANSMETS CORPORATION AND LUIS BERRIOS MONTES. NAVFAC DRAWING No. 4522929; DATED FEBRUARY 15, 2005.
4. PLANIMETRIC DATA AND SHORELINE PROVIDED BY HOGGARD EURE ASSOCIATES PORTSMOUTH, VA. AERIAL SURVEY PERFORMED BY: AERO-DYNAMICS CORPORATION CHARLOTTE N.C. SURVEY FLOWN FEBRUARY 1998.
5. DUE TO THE SPECIALIZED USAGE OF THE SUBJECT PROPERTY, TERRESTRIAL-MARITIME REGULATIONS ARE INAPPLICABLE. AS A SINE QUA NON CONDITION, ALL FUTURE RECIPIENTS OF THIS SUBJECT PROPERTY BY SUBDIVISION, SHALL RECOGNIZE THE BOUNDARY OF THESE LANDS WITH REGARDS TO THE TERRESTRIAL-MARITIME ZONE REGULATIONS. THE PUBLIC ACCESS TO PROPERTY TRANSFERRED TO OTHER FEDERAL AGENCIES SHALL REMAIN STATUS QUO.
6. NOTE: THIS PLAT SHOWS EASEMENTS OF RECORD FOUND IN THE NAVY REAL ESTATE OFFICE. THIS PLAT MAY NOT SHOW ALL GRANTS OR EASEMENTS THAT COULD AFFECT SUBJECT PROPERTY.

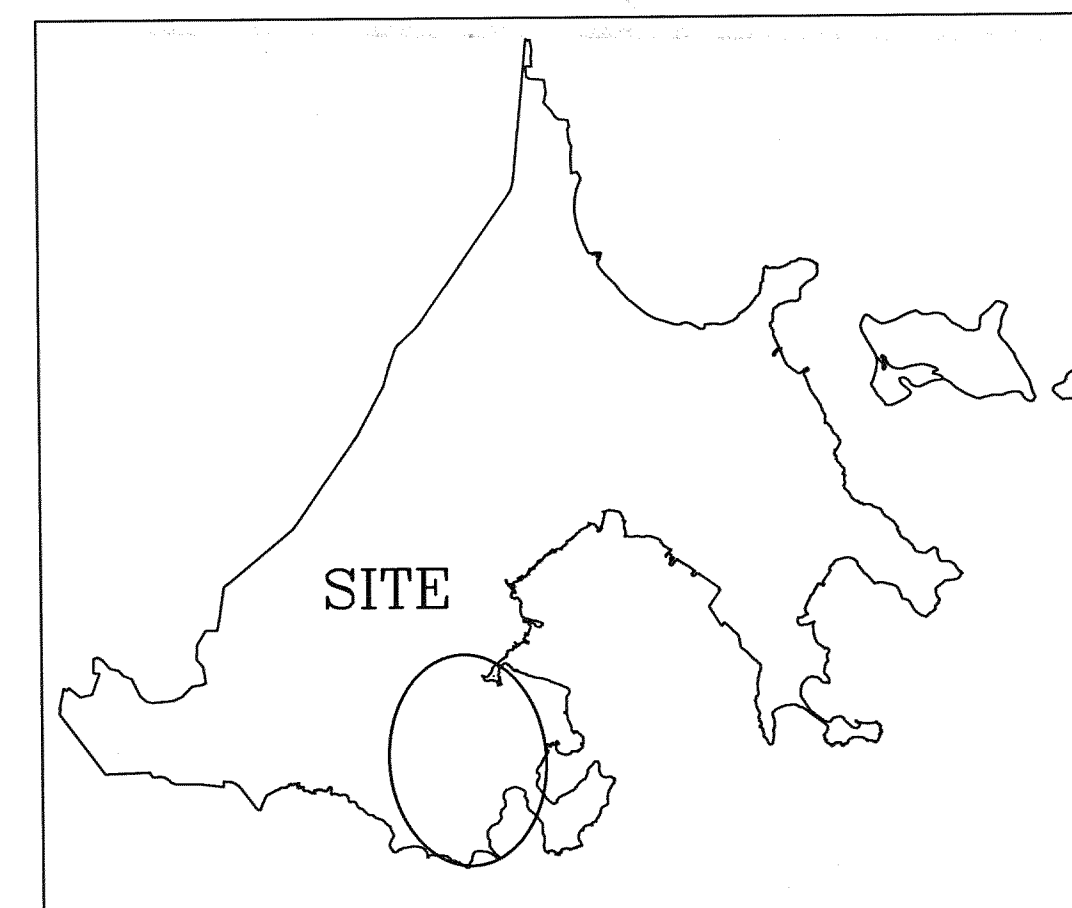


CONCRETE MONUMENT FOUND  
IRON ROD SET  
PROPERTY LINE  
EASEMENT LINE  
FENCE LINE



LOCATION MAP

NOT TO SCALE



NAVAL ACTIVITY PUERTO RICO

17,530,166.2 SQ.FT. OR 402.437 ACRES OR  
1,628,612.3 SQ.MT. OR 414.363 CUERDAS



I, LUIS BERRIOS MONTES, CERTIFY THAT THE INFORMATION THAT FOLLOWS REPRESENTS FAITHFULLY WHAT I FOUND PHYSICALLY ON THE GROUND AND/OR BY THE INVESTIGATIONS THAT HAD BEEN MADE BY ME.

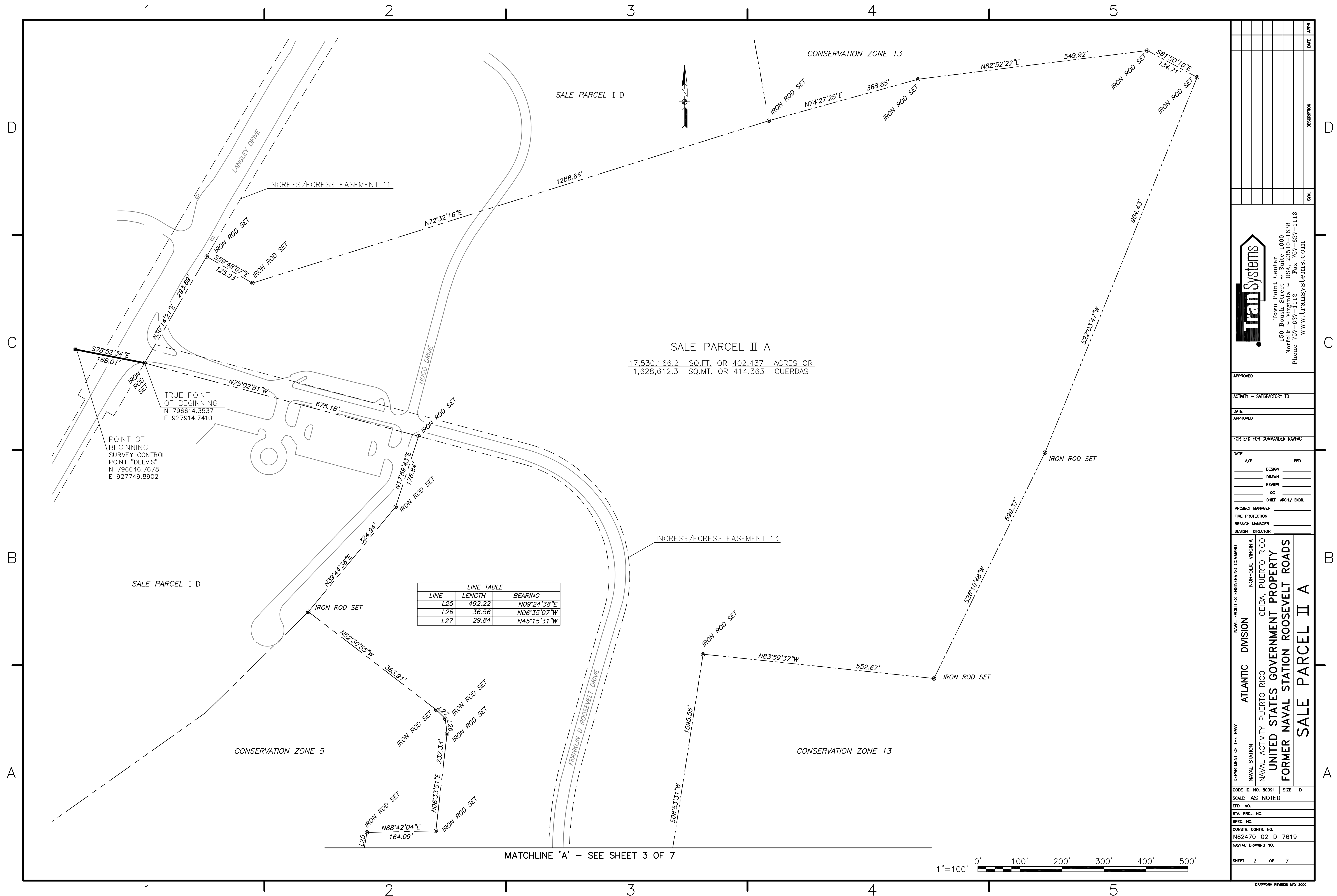
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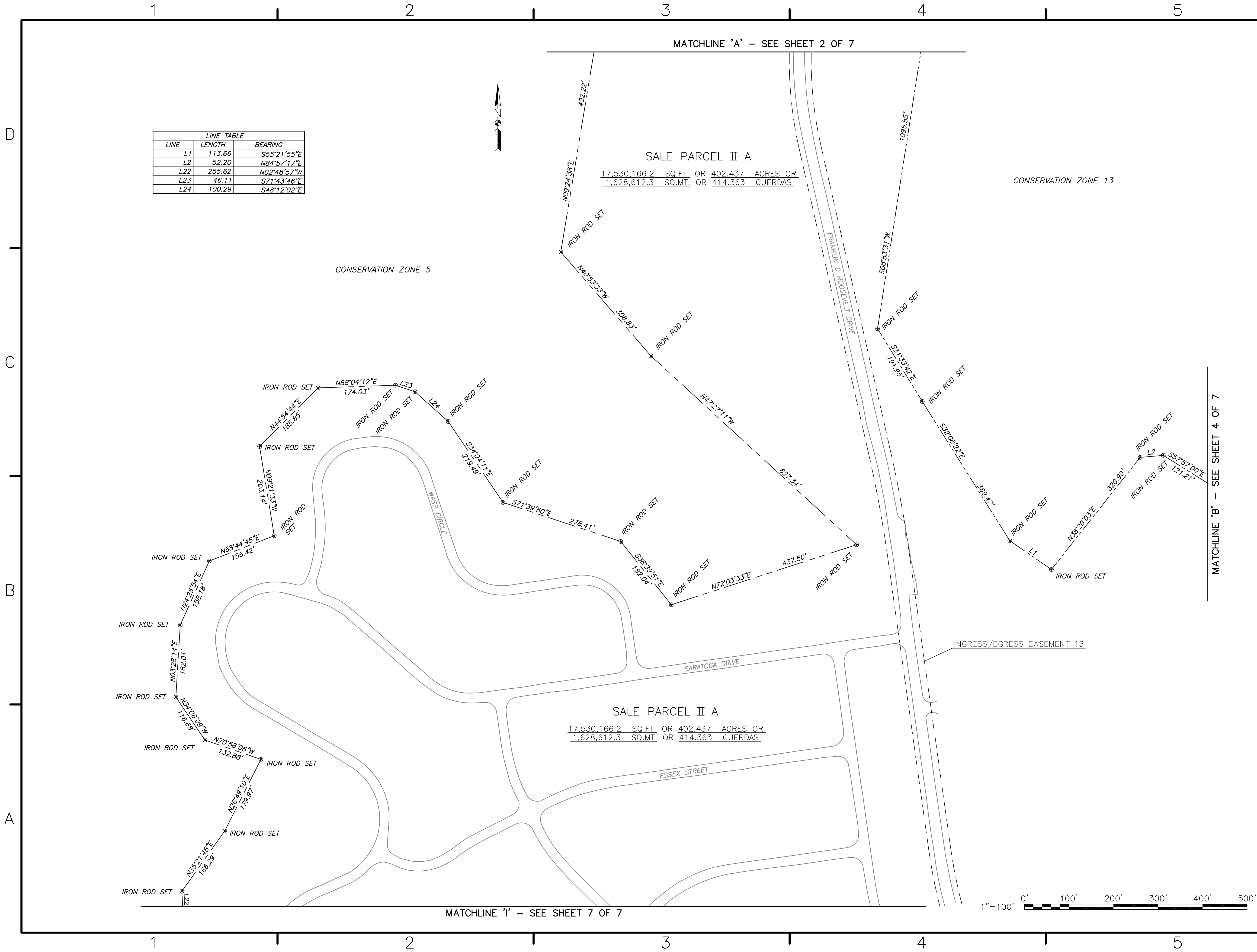
LUIS BERRIOS MONTES  
Surveyor License No. 8689

**LUIS BERRIOS MONTES**  
Agrimensor Lic. Num. 8689  
Beeper Num. 759-1255 Unidad 216-9991  
Tel. Oficina (787) 785-9342  
P. O. Box 4497 Vega Baja, P. R.

95 **Luis BERRIO MONTAÑA Y ASOCIADOS**  
AGROPECUARIOS  
CONSULTORES

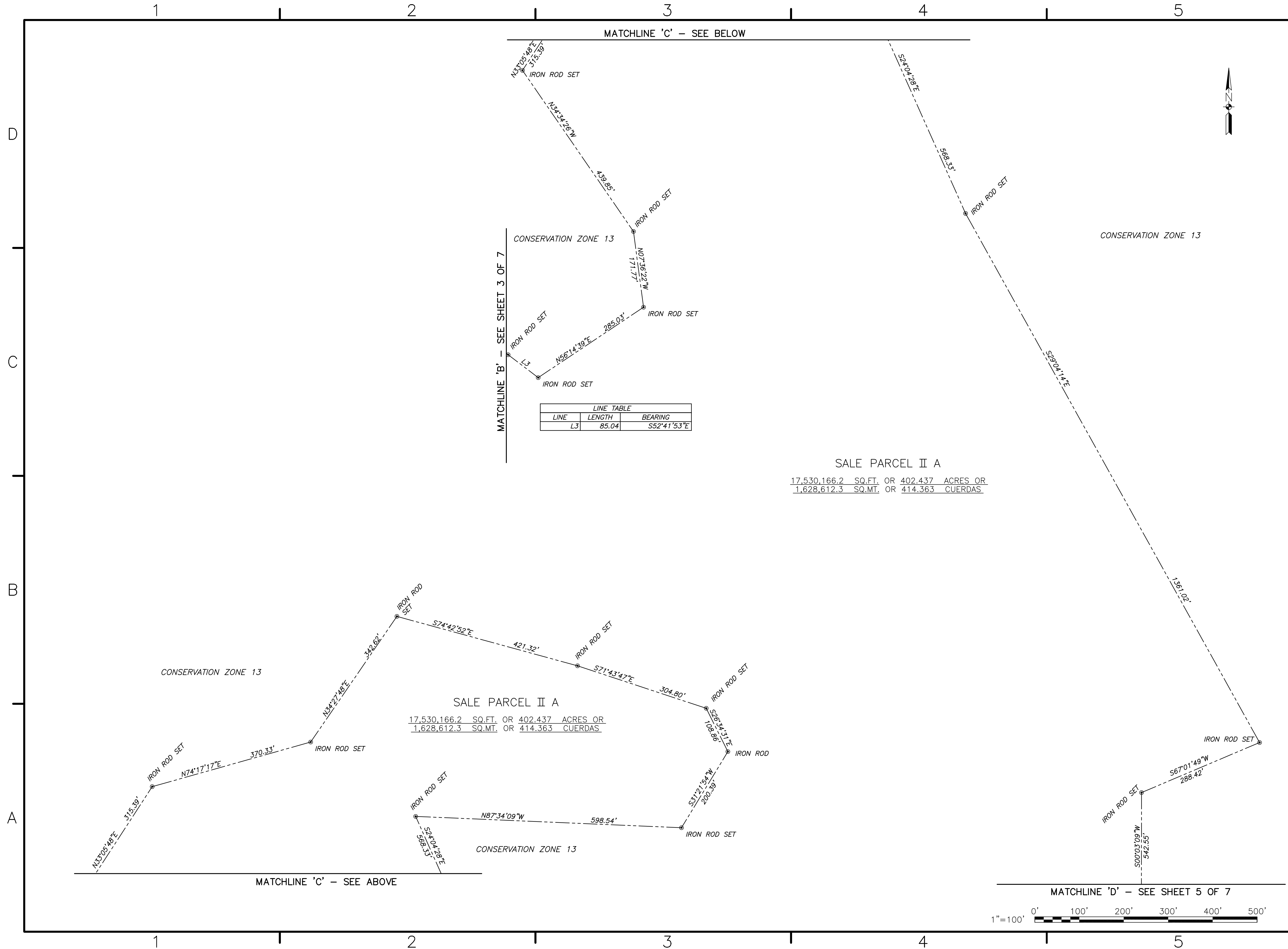
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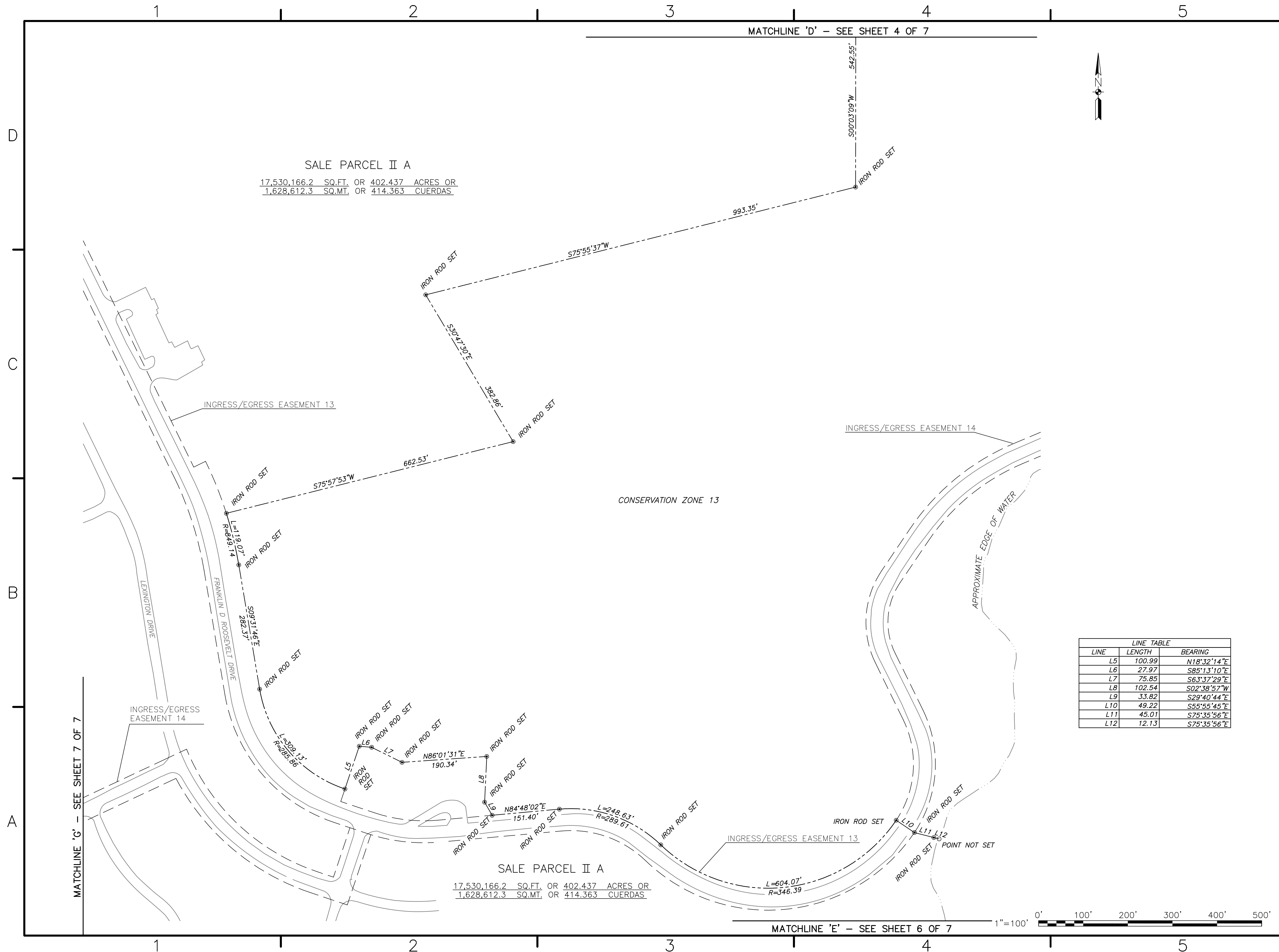




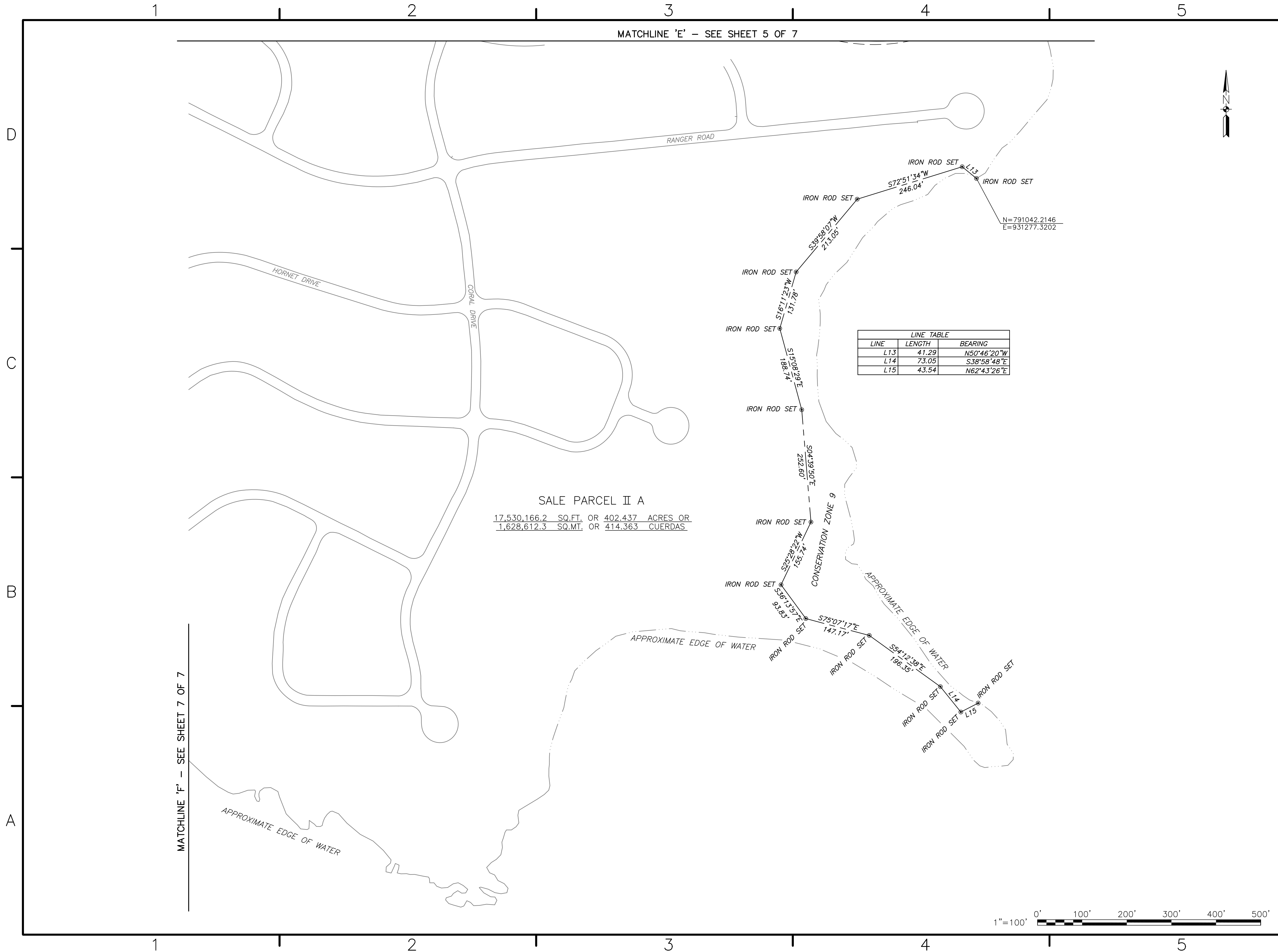
DATE		APPROVED
DESCRIPTION		
SYN		
<div><div>TranSystems</div><div>Town Point Center 150 Boush Street ~ Suite 1000 Norfolk ~ Virginia ~ USA, 23510-1638 Phone 757-627-1112 Fax 757-627-1113 www.transystems.com</div></div>		
APPROVED		
ACTIVITY - SATISFACTORY TO		
DATE		
APPROVED		
FOR EFD FOR COMMANDER NAVFAC		
DATE		
A/E	DESIGN	EFD
	DRAWN	
	REVIEW	
	QC	
	CHIEF ARCH/ ENGR.	
PROJECT MANAGER		
FIRE PROTECTION		
BRANCH MANAGER		
DESIGN DIRECTOR		
NAVAL FACILITIES ENGINEERING COMMAND		
ATLANTIC DIVISION		
NAVAL STATION		
NAVAL ACTIVITY PUERTO RICO		
CEIBA, PUERTO RICO		
UNITED STATES GOVERNMENT PROPERTY		
FORMER NAVAL STATION ROOSEVELT ROADS		
SALE PARCEL II A		
CODE ID. NO. 80081	SIZE	D
SCALE: AS NOTED		
EFD NO.		
STA. PROJ. NO.		
SPEC. NO.		
CONSTR. CONTR. NO.		
N62470-02-D-7619		
NAVFAC DRAWING NO.		
SHEET 3 OF 7		
DRAWING REVISION MAY 2000		



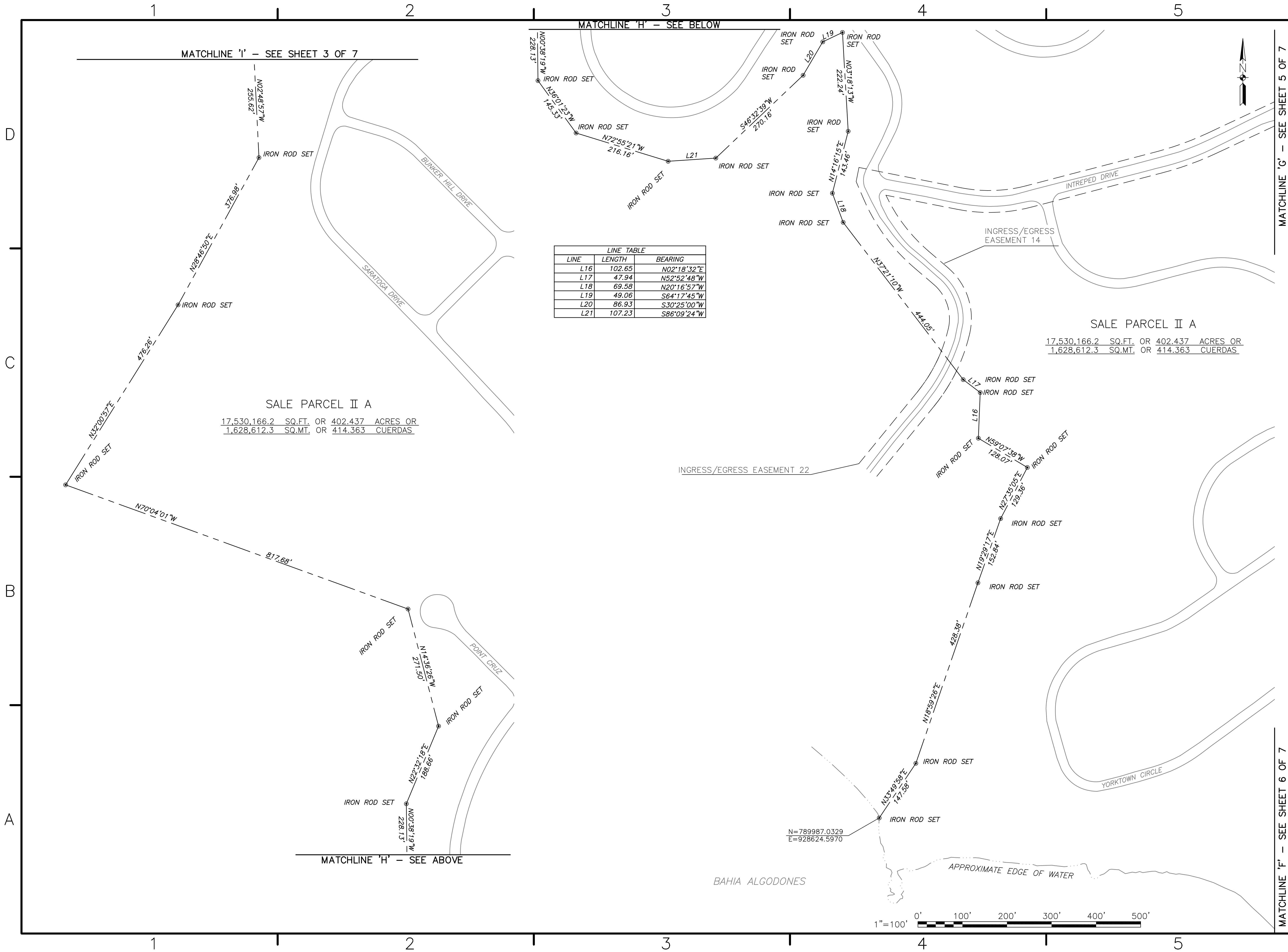
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DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND	
NAVAL STATION		NAVAL FACILITIES ENGINEERING COMMAND	
ATLANTIC DIVISION		NORFOLK, VIRGINIA	
NAVAL ACTIVITY PUERTO RICO		CEIBA, PUERTO RICO	
UNITED STATES GOVERNMENT PROPERTY		FORMER NAVAL STATION ROOSEVELT ROADS	
SALE PARCEL II A			
CODE ID. NO. 80081		SIZE D	
SCALE: AS NOTED			
EFD NO.			
STA. PROJ. NO.			
SPEC. NO.			
CONSTR. CONTR. NO.			
N62470-02-D-7619			
NAVFAC DRAWING NO.			
SHEET 5		OF 7	



DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND	
NAVAL STATION	ATLANTIC DIVISION	NAVAL FACILITIES ENGINEERING COMMAND	
NAVAL ACTIVITY PUERTO RICO		NORFOLK, VIRGINIA	
CEIBA, PUERTO RICO			
UNITED STATES GOVERNMENT PROPERTY			
FORMER NAVAL STATION ROOSEVELT ROADS			
SALE PARCEL II A			
CODE ID. NO. 80091		SIZE	D
SCALE: AS NOTED			
EFD NO.			
STA. PROJ. NO.			
SPEC. NO.			
CONSTR. CONTR. NO.			
N62470-02-D-7619			
NAVFAC DRAWING NO.			
SHEET 6		OF	7



LINE TABLE		
LINE	LENGTH	BEARING
L16	102.65	N02°18'32"E
L17	47.94	N52°52'48"W
L18	69.58	N20°16'57"W
L19	49.06	S64°17'45"W
L20	86.93	S30°25'00"W
L21	107.23	S86°09'24"W

APPROVED	
ACTIVITY - SATISFACTORY TO	
DATE APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
DESIGN	
DRAWN	
REVIEW	
QC	
CHEF	ARCH/ ENGR.
PROJECT MANAGER	
FIRE PROTECTION	
BRANCH MANAGER	
DESIGN DIRECTOR	
NAVAL FACILITIES ENGINEERING COMMAND	
ATLANTIC DIVISION	
NAVAL STATION	
NAVAL ACTIVITY PUERTO RICO	
CEIBA, PUERTO RICO	
UNITED STATES GOVERNMENT PROPERTY	
FORMER NAVAL STATION ROOSEVELT ROADS	
SALE PARCEL II A	
CODE ID. NO. 80081	SIZE D
SCALE: AS NOTED	
EFD NO.	
STA. PROJ. NO.	
SPEC. NO.	
CONSTR. CONTR. NO.	
N62470-02-D-7619	
NAVFAC DRAWING NO.	
SHEET 7 OF 7	



Town Point Center  
150 Boush Street ~ Suite 1000  
Norfolk ~ Virginia ~ USA, 23510-1638  
Phone 757-627-1112 Fax 757-627-1113  
www.transystems.com

DEPARTMENT OF THE NAVY  
NAVAL STATION  
NAVAL ACTIVITY PUERTO RICO  
CEIBA, PUERTO RICO  
UNITED STATES GOVERNMENT PROPERTY  
FORMER NAVAL STATION ROOSEVELT ROADS

SALE PARCEL II A

## **LEGAL DESCRIPTION FOR SALE PARCEL II A**

Beginning at a survey control point in the Ward of Guayacan, said point being a brass disk set in concrete. Said point also known as 'DELVIS' and having a northing of 796646.7678 and an easting of 927749.8902 noted as the Point of Beginning on the plat labeled "UNITED STATES GOVERNMENT PROPERTY FORMER NAVAL STATION ROOSEVELT ROADS SALE PARCEL II A". Thence S78°52'34"E 168.01' to an iron rod set, the True Point of Beginning, having a northing of 796614.3537 and an easting of 927914.7410:

Thence N30°14'21"E 293.69' to an iron rod set;  
Thence S59°48'07"E 125.93' to an iron rod set;  
Thence N72°32'16"E 1288.66' to an iron rod set;  
Thence N74°27'25"E 368.85' to an iron rod set;  
Thence N82°52'22"E 549.92' to an iron rod set;  
Thence S61°50'10"E 134.71' to an iron rod set;  
Thence S22°03'47"W 964.43' to an iron rod set;  
Thence S26°10'48"W 599.37' to an iron rod set;  
Thence N83°59'37"W 552.67' to an iron rod set;  
Thence S08°53'31"W 1095.55' to an iron rod set;  
Thence S31°33'42"E 191.95' to an iron rod set;  
Thence S32°08'22"E 369.47' to an iron rod set;  
Thence S55°21'55"E 113.66' to an iron rod set;  
Thence N38°20'03"E 320.99' to an iron rod set;  
Thence N84°57'17"E 52.20' to an iron rod set;  
Thence S57°57'00"E 121.21' to an iron rod set;  
Thence S52°41'53"E 85.04' to an iron rod set;  
Thence N56°14'39"E 285.03' to an iron rod set;  
Thence N07°36'22"W 171.77' to an iron rod set;  
Thence N34°34'26"W 439.85' to an iron rod set;  
Thence N33°05'48"E 315.39' to an iron rod set;  
Thence N74°17'17"E 370.33' to an iron rod set;  
Thence N34°27'48"E 342.62' to an iron rod set;  
Thence S74°42'52"E 421.32' to an iron rod set;  
Thence S71°43'47"E 304.80' to an iron rod set;  
Thence S26°34'31"E 108.86' to an iron rod set;  
Thence S31°21'54"W 200.39' to an iron rod set;  
Thence N87°34'09"W 598.54' to an iron rod set;  
Thence S24°04'28"E 568.33' to an iron rod set;  
Thence S29°04'14"E 1361.02' to an iron rod set;  
Thence S67°01'49"W 288.42' to an iron rod set;  
Thence S00°03'09"W 542.55' to an iron rod set;  
Thence S75°55'37"W 993.35' to an iron rod set;  
Thence S30°47'30"E 382.86' to an iron rod set;  
Thence S75°57'53"W 662.53' to an iron rod set;  
Thence following a curve to an iron rod set; with a long chord of 118.97', a chord bearing of S13°32'47"E,  
Radius= 849.14'  
Arc=119.07'  
Thence S09°31'46"E 282.37' to an iron rod set;  
Thence following a curve to an iron rod set; with a long chord of 294.29', a chord bearing of S40°30'35"E,  
Radius= 285.86'  
Arc=309.13'  
Thence N18°32'14"E 100.99' to an iron rod set;  
Thence S85°13'10"E 27.97' to an iron rod set;

Thence S63°37'29"E 75.85' to an iron rod set;  
Thence N86°01'31"E 190.34' to an iron rod set;  
Thence S02°38'57"W 102.54' to an iron rod set;  
Thence S29°40'44"E 33.82' to an iron rod set;  
Thence N84°48'02"E 151.40' to an iron rod set;  
Thence following a curve to an iron rod set; with a long chord of 241.06', a chord bearing of S70°36'19"E,

Radius= 289.61'

Arc=248.63'

Thence following a curve to an iron rod set; with a long chord of 530.38', a chord bearing of N84°01'47"E,

Radius= 346.39'

Arc=604.07'

Thence S55°55'45"E 49.22' to an iron rod set;

Thence S75°35'56"E 45.01' to an iron rod set;

Thence S75°35'56"E 12.13' to a point not set at the approximate edge of water of Ensenada Honda;

Thence South along the approximate edge of water of Ensenada Honda to an iron rod set having a northing of 791042.2146 and an easting of 931277.3202;

Thence N50°46'20"W 41.29' to an iron rod set;

Thence S72°51'34"W 246.04' to an iron rod set;

Thence S39°58'07"W 213.05' to an iron rod set;

Thence S16°11'23"W 131.78' to an iron rod set;

Thence S15°08'29"E 188.74' to an iron rod set;

Thence S04°39'50"E 252.60' to an iron rod set;

Thence S25°28'22"W 155.74' to an iron rod set;

Thence S36°13'57"E 93.83' to an iron rod set;

Thence S75°07'17"E 147.17' to an iron rod set;

Thence S54°12'38"E 196.35' to an iron rod set;

Thence S38°58'48"E 73.05' to an iron rod set;

Thence N62°43'26"E 43.54' to an iron rod set on the approximate edge of water of Ensenada Honda;

Thence Southeast along the approximate edge of water of Ensenada Honda;

Thence West along the approximate edge of water of Ensenada Honda;

Thence Southwest along the approximate edge of water of Ensenada Honda;

Thence Northwest along the approximate edge of water of Ensenada Honda to an iron rod set having a northing of 789987.0329 and an easting of 928624.5970;

Thence N33°49'58"E 147.58' to an iron rod set;

Thence N18°59'26"E 428.38' to an iron rod set;

Thence N19°29'17"E 152.84' to an iron rod set;

Thence N27°35'05"E 129.36' to an iron rod set;

Thence N59°07'38"W 128.07' to an iron rod set;

Thence N02°18'32"E 102.65' to an iron rod set;

Thence N52°52'48"W 47.94' to an iron rod set;

Thence N37°21'10"W 444.05' to an iron rod set;

Thence N20°16'57"W 69.58' to an iron rod set;

Thence N14°16'15"E 143.46' to an iron rod set;

Thence N03°18'13"W 222.24' to an iron rod set;

Thence S64°17'45"W 49.06' to an iron rod set;

Thence S30°25'00"W 86.93' to an iron rod set;

Thence S46°32'39"W 270.16' to an iron rod set;

Thence S86°09'24"W 107.23' to an iron rod set;

Thence N72°55'21"W 216.16' to an iron rod set;

Thence N36°01'23"W 145.33' to an iron rod set;

Thence N00°38'19"W 228.13' to an iron rod set;

Thence N22°32'18"E 188.66' to an iron rod set;

Thence N14°36'26"W 271.50' to an iron rod set;  
Thence N70°04'01"W 817.68' to an iron rod set;  
Thence N32°00'57"E 476.26' to an iron rod set;  
Thence N28°46'50"E 376.98' to an iron rod set;  
Thence N02°48'57"W 255.62' to an iron rod set;  
Thence N35°21'48"E 166.29' to an iron rod set;  
Thence N26°49'10"E 179.97' to an iron rod set;  
Thence N70°58'06"W 132.88' to an iron rod set;  
Thence N34°06'09"W 116.68' to an iron rod set;  
Thence N03°28'14"E 162.01' to an iron rod set;  
Thence N24°25'54"E 158.18' to an iron rod set;  
Thence N68°44'45"E 156.42' to an iron rod set;  
Thence N09°21'33"W 203.14' to an iron rod set;  
Thence N44°54'44"E 185.85' to an iron rod set;  
Thence N88°04'12"E 174.03' to an iron rod set;  
Thence S71°43'46"E 46.11' to an iron rod set;  
Thence S48°12'02"E 100.29' to an iron rod set;  
Thence S34°04'11"E 219.49' to an iron rod set;  
Thence S71°39'50"E 278.41' to an iron rod set;  
Thence S38°39'51"E 182.04' to an iron rod set;  
Thence N72°03'33"E 437.50' to an iron rod set;  
Thence N47°27'11"W 627.34' to an iron rod set;  
Thence N40°53'33"W 308.83' to an iron rod set;  
Thence N09°24'38"E 492.22' to an iron rod set;  
Thence N88°42'04"E 164.09' to an iron rod set;  
Thence N06°33'51"E 232.33' to an iron rod set;  
Thence N06°35'07"W 36.56' to an iron rod set;  
Thence N45°15'31"W 29.84' to an iron rod set;  
Thence N52°30'55"W 383.91' to an iron rod set;  
Thence N39°44'38"E 324.94' to an iron rod set;  
Thence N17°59'43"E 176.84' to an iron rod set;  
Thence N75°02'51"W 675.18' to an iron rod set, the True Point of Beginning.

Said parcel containing 17,530,166.2 square feet or 402.437 acres, which equates to 1,628,612.3 square meters or 414.363 cuerdas.

Said parcel is subject to the following easements as shown on plats titled "UNITED STATES GOVERNMENT PROPERTY FORMER NAVAL STATION ROOSEVELT ROADS EASEMENT 13" and "UNITED STATES GOVERNMENT PROPERTY FORMER NAVAL STATION ROOSEVELT ROADS EASEMENT 14" prepared by TranSystems Corporation and sealed by Luis Berrios Montes on XX, 2007.



1. BOUNDARY SURVEY PREPARED BY TRANSYSTEMS CORPORATION FROM FIELD DATA COLLECTED IN SEPTEMBER & DECEMBER 2006. FIELD PROCEDURES, CALCULATIONS AND FINAL PLAT HAVE BEEN REVIEWED FOR CONTENT BY LUIS BERRIOS MONTES & ASSOCIATES OF VEGA BAJA, PUERTO RICO.
2. HORIZONTAL COORDINATES SHOWN HEREON ARE IN FEET AND REFER TO THE PUERTO RICO/VIRGIN ISLAND STATE PLANE COORDINATE SYSTEM, NAD 83 (1997 ADJUSTMENT). HORIZONTAL COORDINATES WERE DERIVED USING DUAL FREQUENCY GPS RECEIVERS AND ARE REFERENCED TO NATIONAL GEODETIC SURVEY MONUMENTS ANGEL (PID AD9997), FAJARDO (PID AB9834), HUMACAO 2 (PID AB9846) AND MT BRITTON (PID AB9835).
3. THE FOLLOWING PLATS AND DEEDS WERE USED TO ESTABLISH THE BOUNDARY LINES AS SHOWN ON THIS PLAT:
  - A) PLAT TITLED "UNITES STATES GOVERNMENT PROPERTY FORMER NAVAL STATION ROOSEVELT ROADS BOUNDARY REESTABLISHMENT SURVEY" PREPARED BY TRANSYSTEMS CORPORATION AND LUIS BERRIOS MONTES.  
NAVFAC DRAWING No. 4522929; DATED FEBRUARY 15, 2005.
4. PLANIMETRIC DATA AND SHORELINE PROVIDED BY HOGGARD EURE ASSOCIATES PORTSMOUTH, VA. AERIAL SURVEY PERFORMED BY: AERO-DYNAMICS CORPORATION CHARLOTTE N.C. SURVEY FLOWN FEBRUARY 1998.
5. DUE TO THE SPECIALIZED USAGE OF THE SUBJECT PROPERTY, TERRESTRIAL-MARITIME REGULATIONS ARE INAPPLICABLE. AS A SINE QUA NON CONDITION, ALL FUTURE RECIPIENTS OF THIS SUBJECT PROPERTY BY SUBDIVISION, SHALL RECOGNIZE THE BOUNDARY OF THESE LANDS WITH REGARDS TO THE TERRESTRIAL-MARITIME ZONE REGULATIONS. THE PUBLIC ACCESS TO PROPERTY TRANSFERRED TO OTHER FEDERAL AGENCIES SHALL REMAIN STATUS QUO.
6. NOTE: THIS PLAT SHOWS EASEMENTS OF RECORD FOUND IN THE NAVY REAL ESTATE OFFICE. THIS PLAT MAY NOT SHOW ALL GRANTS OR EASEMENTS THAT COULD AFFECT SUBJECT PROPERTY.

CONCRETE MONUMENT FOUND  
IRON ROD SET  
PROPERTY LINE  
EASEMENT LINE

LINE TABLE		
LINE	LENGTH	BEARING
L1	72.71	S78°11'44"W
L2	86.69	S56°28'03"E
L9	254.40	N17°26'49"W
L10	46.37	N85°42'44"E
L11	48.91	N58°08'36"E

SALE PARCEL II B

<u>4,124,358.8</u>	SQ.FT.	OR	<u>94.682</u>	ACRES	OR
<u>383,167.0</u>	SQ.MT.	OR	<u>97.488</u>	CUERDAS	

POINT OF  
BEGINNING

---

SURVEY CONTROL  
POINT 'CASCAJO'  
N=792718.7899  
E=935655.9464/

TRUE POINT  
OF BEGINNING

IRON ROD SET  
N=792527.3349  
E=935656.4956



I, LUIS BERRIOS MONTES, CERTIFY THAT THE INFORMATION THAT FOLLOWS REPRESENTS FAITHFULLY WHAT I FOUND PHYSICALLY ON THE GROUND AND/OR BY THE INVESTIGATIONS THAT HAD BEEN MADE BY ME.

Date : 31/12/07

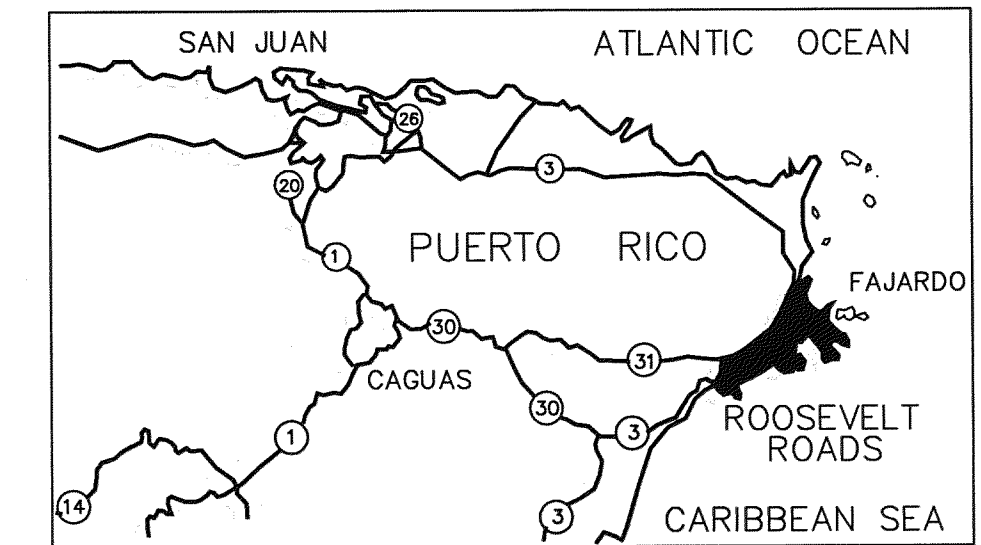
LUIS BERRIOS MONTES  
Surveyor License No. 8689

**LUIS BERRIOS MONTES**  
Agrimensor Lic. Num. 8689  
Beeper Num. 759-1255 Unidad 216-9995  
Tel. Oficina (787) 785-9342  
P. O. Box 4497 Vega Baja, P. R.

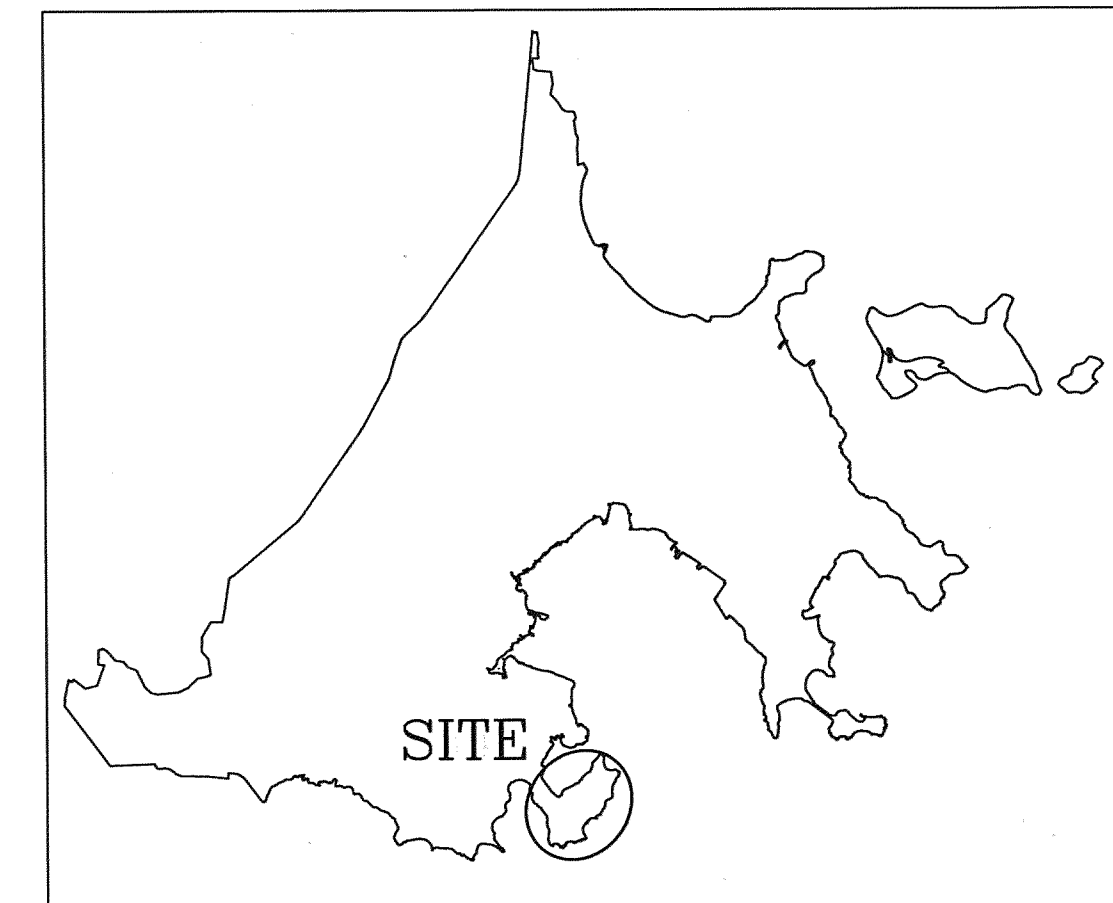
**Luis BERRIOS  
MONTES  
Y ASOCIADOS**  
AGRIMENSORES  
CONSULTORES

CODE ID. NO. 80091	SIZE D
SCALE: AS NOTED	
EFD NO.	
STA. PROJ. NO.	
SPEC. NO.	
CONSTR. CONTR. NO.	
N62470-02-D-7619	
NAVFAC DRAWING NO.	

SHEET 1 OF 2



LOCATION MAP  
NOT TO SCALE



NAVAL ACTIVITY PUERTO RICO  
NOT TO SCALE

**Tran Systems**  
Town Point Center  
150 Boush Street ~ Suite 1000  
Norfolk ~ Virginia ~ USA, 23510-1611  
Phone 757-627-1112 Fax 757-627-1113  
[www.transystems.com](http://www.transystems.com)

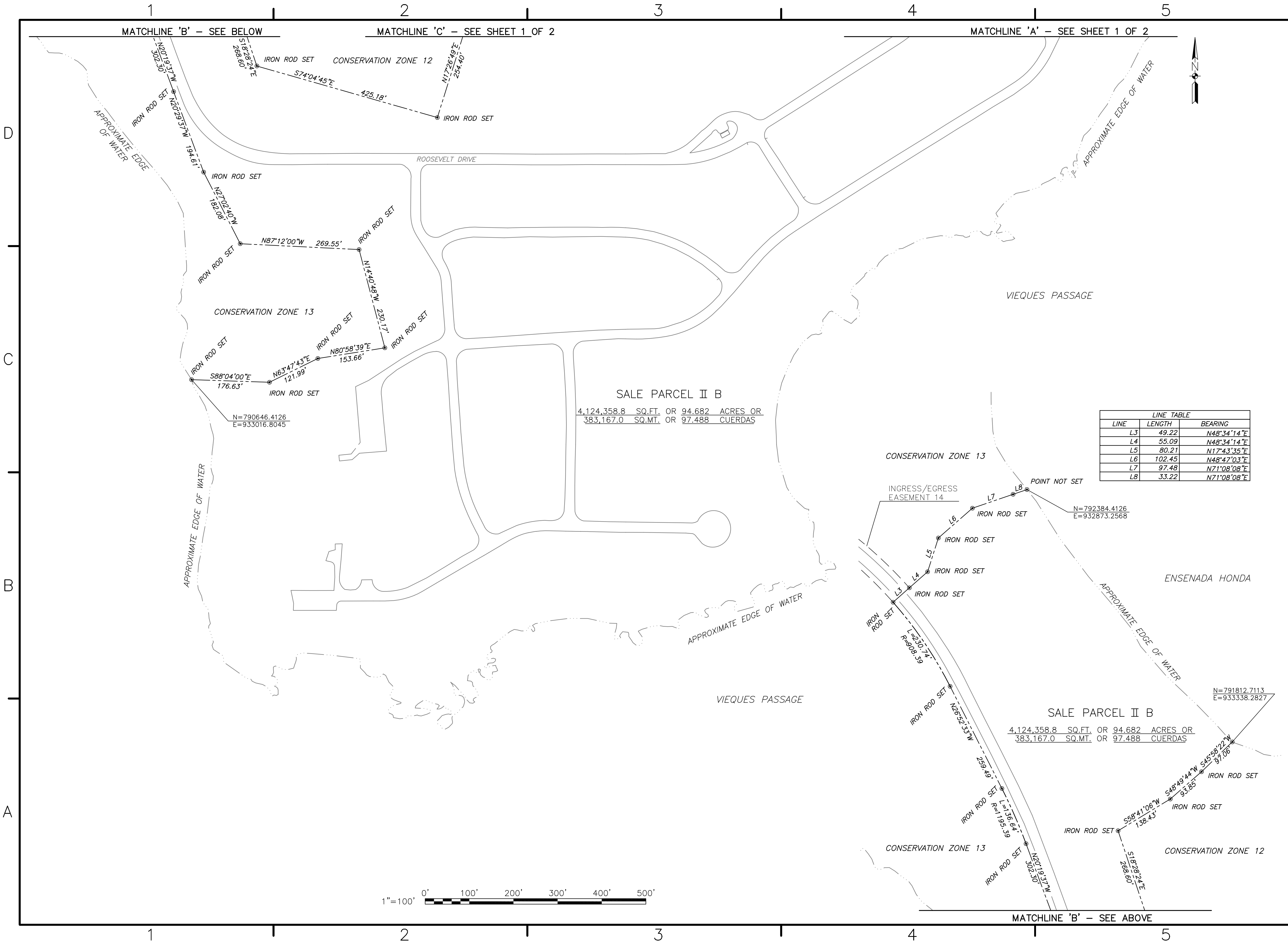
APPROVED		
ACTIVITY - SATISFACTORY TO		
DATE		
APPROVED		
FOR EFD FOR COMMANDER NAVFAC		
DATE		
A/E		EFD
_____	DESIGN	_____
_____	DRAWN	_____
_____	REVIEW	_____
_____	QC	_____
_____	CHIEF	ARCH./ ENGR.
PROJECT MANAGER		
FIRE PROTECTION		
BRANCH MANAGER		
DESIGN DIRECTOR		

DEPARTMENT OF THE NAVY	ATLANTIC	DIVISION	NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION	NAVAL ACTIVITY PUERTO RICO	CEIBA, PUERTO RICO	NORFOLK, VIRGINIA
<p>UNITED STATES GOVERNMENT PROPERTY</p> <p>FORMER NAVAL STATION ROOSEVELT ROADS</p> <p><b>SALE PARCEL II B</b></p>			

CODE ID. NO. 80091	SIZE D
SCALE: AS NOTED	
EFD NO.	
STA. PROJ. NO.	
SPEC. NO.	
CONSTR. CONTR. NO.	
N62470-02-D-7619	
NAVFAC DRAWING NO.	
SHEET 1	OF 2

DRAWING REVISION MAY 2000





LINE TABLE		
LINE	LENGTH	BEARING
L3	49.22	N48°34'14"E
L4	55.09	N48°34'14"E
L5	80.21	N17°43'35"E
L6	102.45	N48°47'03"E
L7	97.48	N71°08'08"E
L8	33.22	N71°08'08"E

TRANS SYSTEMS

Town Point Center  
150 Boush Street ~ Suite 1000  
Norfolk ~ Virginia ~ USA, 23510-1638  
Phone 757-627-1112 Fax 757-627-1113  
www.transsystems.com

APPROVED

ACTIVITY - SATISFACTORY TO

DATE APPROVED

FOR EFD FOR COMMANDER NAVFAC

DATE

A/E

DESIGN

DRAWN

REVIEW

QC

CHEF ARCH/ ENGR.

PROJECT MANAGER

FIRE PROTECTION

BRANCH MANAGER

DESIGN DIRECTOR

NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

NAVAL STATION

NAVAL ACTIVITY PUERTO RICO

CEIBA, PUERTO RICO

NORFOLK, VIRGINIA

UNITED STATES GOVERNMENT PROPERTY

FORMER NAVAL STATION ROOSEVELT ROADS

SALE PARCEL II B

CODE ID. NO. 80081

SIZE D

SCALE: AS NOTED

EFD NO.

STA. PROJ. NO.

SPEC. NO.

CONSTR. CONTR. NO.

N62470-02-D-7619

NAVFAC DRAWING NO.

SHEET 2 OF 2

DATE

DESCRIPTION

SNA

APPR

DRAWN

REVISION MAY 2000

## **LEGAL DESCRIPTION FOR SALE PARCEL II B**

Beginning at a survey control point in the Ward of Guayacan, said point being a brass disk set in concrete. Said point also known as 'CASCAJO' and having a northing of 792718.7899 and an easting of 935655.9464 noted as the Point of Beginning on the plat labeled "UNITED STATES GOVERNMENT PROPERTY FORMER NAVAL STATION ROOSEVELT ROADS SALE PARCEL II B". Thence S00°09'52"E 191.46' to an iron rod set on the approximate edge of water of Ensenada Honda, the True Point of Beginning, having a northing of 792527.3349 and an easting of 935656.4956:

Thence S78°11'44"W 72.71' to an iron rod set;

Thence S39°17'10"W 197.50' to an iron rod set;

Thence S08°35'07"W 554.83' to an iron rod set;

Thence S56°28'03"E 86.69' to an iron rod set on the approximate edge of water of Ensenada Honda having a northing of 791763.1020 and an easting of 935449.7085;

Thence Southwest along the approximate edge of water of Vieques Passage;

Thence West along the approximate edge of water of Vieques Passage;

Thence North along the approximate edge of water to an iron rod set having a northing of 790646.4126 and an easting of 933016.8045

Thence S88°04'00"E 176.63' to an iron rod set

Thence N63°47'43"E 121.99' to an iron rod set;

Thence N80°58'39"E 153.66' to an iron rod set;

Thence N14°40'48"W 230.17' to an iron rod set;

Thence N87°12'00"W 269.55' to an iron rod set;

Thence N27°02'40"W 182.08' to an iron rod set;

Thence N20°29'37"W 194.61' to an iron rod set;

Thence N20°19'37"W 302.30' to an iron rod set;

Thence following a curve to an iron rod set; with a long chord of 136.56', a chord bearing of N23°36'05"W,

Radius= 1195.39'

Arc=136.64'

Thence N26°52'33"W 259.49' to an iron rod set;

Thence following a curve to an iron rod set; with a long chord of 230.12', a chord bearing of N34°09' 10"W,

Radius= 908.39'

Arc=230.74'

Thence N48°34'14"E 49.22' to an iron rod set;

Thence N48°34'14"E 55.09' to an iron rod set;

Thence N17°43'35"E 80.21' to an iron rod set;

Thence N48°47'03"E 102.45' to an iron rod set;

Thence N71°08'08"E 97.48' to an iron rod set;

Thence N71°08'08"E 33.22' to a point not set on the approximate edge of water of Ensenada Honda having a northing of 792384.4126 and an easting of 932873.2568;

Thence Southeast along the approximate edge of water of Ensenada Honda to an iron rod set having a northing of 791812.7113 and an easting of 933338.2827;

Thence S45°58'22"W 97.06' to an iron rod set;

Thence S48°49'44"W 93.85' to an iron rod set;

Thence S58°41'06"W 138.43' to an iron rod set;

Thence S18°28'24"E 268.60' to an iron rod set;

Thence S74°04'45"E 425.18' to an iron rod set;

Thence N17°26'49"E 254.40' to an iron rod set;

Thence N56°30'28"E 110.37' to an iron rod set;

Thence N07°44'44"E 276.03' to an iron rod set;

Thence N36°34'58"E 234.19' to an iron rod set;

Thence N55°30'53"E 337.29' to an iron rod set;

Thence N68°31'23"E 538.98' to an iron rod set;

Thence N03°56'03"E 232.44' to an iron rod set;

Thence N47°51'06"E 344.84' to an iron rod set;  
Thence N57°17'07"E 199.60' to an iron rod set;  
Thence S21°52'30"E 192.18' to an iron rod set;  
Thence S79°06'21"E 190.07' to an iron rod set;  
Thence N85°42'44"E 46.37' to an iron rod set;  
Thence N58°08'36"E 48.91' to an iron rod set on the approximate edge of water of Ensenada Honda;  
Thence East along the approximate edge of water of Ensenada Honda;  
Thence South along the approximate edge of water of Ensenada Honda to the True Point of Beginning.

Said parcel containing 4,124,358.8 square feet or 94.682 acres, which equates to 383,167.0 square meters or 97.488 cuerdas.

## **Exhibit E**

### **Tables**

TABLE 1

**NAVAL ACTIVITY PUERTO RICO  
SALE PARCEL II FOST  
NON-HOUSING FACILITIES LIST  
PAGE 1 of 2**

Facility #	Former User	Name	Area	Unit	Yr Built
673	-	MAINTENANCE STORAGE BLDG	-	-	-
793	HSG	HOUSING OFFICE	6400	SF	1966
884	PWD	SEWAGE PUMP STATION	280	SF	1959
885	HSG	TEMP LODGING	8638	SF	1960
886	NAVY CAMPUS	NAVY CAMPUS	7918	SF	1960
888	HOSP	MEDICAL CLINICS (EIP/MDO)	10583	SF	1960
968	PWD	SEWAGE PUMPING STA(CAPEHART)	280	SF	1959
1022	-	-	-	-	-
1028	HSG	SNACK BAR BY HOUSING POOL	276	SF	-
1073	PWD	BUS SHLTR FDR DR (HSG)	140	SF	1962
1075	PWD	BUS SHLTR/CASCAJO OFFCRS HSG	190	SF	1962
1303	MWR	PLAYING FIELD BASEBALL	-	-	1961
1316	HSG	PLAYGROUND	-	-	-
1469	MWR	EM SWIM POOL/PUMP/FLTR HSE	592	SF	1960
1471	PWD	SEWAGE PUMPING STA CAPEHART	360	SF	1959
1513	PWD	SEWAGE LIFT STATION/TOILET	170	SF	1959
1577	MWR	BATHROOM-SNACK BAR EM POOL	1056	SF	1962
1581	PWD	BUS SHLTR BY COMM CTR	140	SF	1962
1583	MWR	OFFICERS SW POOL BATHOUSE	396	SF	1963
1660	HSG	YOUTH CENTER	1800	SF	-
1698	PWD	CAPEHART CARPENTRY SHOP	1600	SF	1970
1746	AFWTF	LIGHT TOWER CABRAS ISLAND	-	-	-
1755	HSG	HOUSING MAINTENANCE SHOP	4000	SF	1971
1756	HSG	HOUSING STORAGE/WHSE	8000	SF	1974
1800	MWR	TENNIS COURT	1600	SF	1974
1811	HSG	COMMUNITY CENTER	5029	SF	1977
1916	PWD	SEWAGE LIFT/ALGODONES APTS.	64	SF	1978
1917	PWD	SEWAGE LIFT/TURNKEY HSG.	64	SF	1978
1918	MWR	SOFTBALL FIELD (ALGODONES)	-	-	1971
1919	HSG	PUBLIC TOILET	-	-	-
1920	PWD	STANDBY GEN BY BLDG #1471	224	SF	1977
1923	-	TOILET NEXT TO PUMP HOUSE 1513	-	-	-
1924	PWD	SEWAGE PUMP ST	64	SF	1971
1940	PWD	SUBSTA BY FUEL TKS 56A/56B	-	-	1976
1942	MWR	REC GRNDS COMM BEACH	4256	SF	1978
2170	MWR	COMMUNITY BEACH HEADS	390	SF	1984
2200	ACSS	ACSS HIGH SCHOOL	10961	SF	1960
2203	PWD	SWGE LIFT STA BY B# 1811	-	-	1987
2221	MWR	MALE/FEM HEAD AT BALLFIELD	75	SF	1986
2223	MWR	COMM. BEACH BALLFLD B&DUGOUT	-	-	1986

**TABLE 1**

**NAVAL ACTIVITY PUERTO RICO  
SALE PARCEL II FOST  
NON-HOUSING FACILITIES LIST  
PAGE 2 of 2**

<b>Facility #</b>	<b>Former User</b>	<b>Name</b>	<b>Area</b>	<b>Unit</b>	<b>Yr Built</b>
2237	MWR	CONCESS STGECOM BCH BALLFL	144	SF	1986
2251	MWR	ADDTNL STGE B1811	336	SF	1987
2295	ACSS	ACSS HIGH SCHOOL GYM	-	-	1960
2305	MWR	YOUTH CENTER	7611	SF	1990
2378	MWR	SWIM POOL FILTER HOSE	144	SF	1978
2382	PWD	SWGE PUMP STATION	450	SF	1995

List based on 2003 NAPR base map (Base map - PREnew 11-2003.pdf), July 2001 Building Utilization List, List of Buildings To Be Inspected For Asbestos from June 2005 Asbestos Inspection Report, and field verification by NAPR personnel.

- Information not available or unknown

ACSS      Antilles Consolidated School System  
AFWTF    Atlantic Fleet Weapons Training Facility  
HOSP     Hospital  
HSG      Housing  
MWR      Morale, Welfare and Recreation  
PWD      Public Works Department

**TABLE 2**

**NAVAL ACTIVITY PUERTO RICO  
SALE II PARCEL FOST  
AST AND UST LIST**

<b>Number</b>	<b>Type</b>	<b>Location or User</b>	<b>Capacity</b>	<b>Material Stored</b>	<b>Year Installed</b>	<b>Year Removed</b>
1920	AST (Vaulted)	PWD	500	Diesel	-	Active
1972	AST (Vaulted)	PWD	250	Diesel	-	Active
2406	AST (Vaulted)	PWD	550	Diesel	-	Active
1513	Former UST	1513/PWD	280	Diesel	-	1996

- Information not available or unknown

TABLE 3

**NAVAL ACTIVITY PUERTO RICO  
SALE PARCEL II FOST  
NON-HOUSING ASBESTOS-CONTAINING MATERIAL INSPECTION RESULTS**

Facility #	Name	ACM Identified	Comments
673	MAINTENANCE STORAGE BLDG	NI	
793	HOUSING OFFICE	Y	No FAD ACM
884	SEWAGE PUMP STATION	N	
885	TEMP LODGING	Y	No FAD ACM
886	NAVY CAMPUS	N	
888	MEDICAL CLINICS (EIP/MDO)	Y	No FAD ACM
968	SEWAGE PUMPING STA(CAPEHART)	Y	No FAD ACM
1022	-	NI	
1028	SNACK BAR BY HOUSING POOL	NI	
1073	BUS SHLTR FDR DR (HSG)	N	
1075	BUS SHLTR/CASCAJO OFFCRS HSG	N	
1303	PLAYING FIELD BASEBALL	NI	
1316	PLAYGROUND	NI	
1469	EM SWIM POOL/PUMP/FLTR HSE	NI	
1471	SEWAGE PUMPING STA CAPEHART	N	
1513	SEWAGE LIFT STATION/TOILET	NI	
1577	BATHROOM-SNACK BAR EM POOL	N	
1581	BUS SHLTR BY COMM CTR	N	
1583	OFFICERS SW POOL BATHOUSE	N	
1660	YOUTH CENTER	NI	
1698	CAPEHART CARPENTRY SHOP	N	
1746	LIGHT TOWER CABRAS ISLAND	NI	
1755	HOUSING MAINTENANCE SHOP	Y	No FAD ACM
1756	HOUSING STORAGE/WHSE	N	
1800	TENNIS COURT	NI	
1811	COMMUNITY CENTER	Y	No FAD ACM
1916	SEWAGE LIFT/ALGODONES APTS.	N	
1917	SEWAGE LIFT/TURNKEY HSG.	N	
1918	SOFTBALL FIELD (ALGODONES)	NI	
1919	PUBLIC TOILET	NI	
1920	STANDBY GEN BY BLDG #1471	N	
1923	TOILET NEXT TO PUMP HOUSE 1513	NI	
1924	SEWAGE PUMP ST	N	
1940	SUBSTA BY FUEL TKS 56A/56B	NI	
1942	REC GRNDS COMM BEACH	NI	
2170	COMMUNITY BEACH HEADS	N	
2200	ACSS HIGH SCHOOL	NI	
2203	SWGE LIFT STA BY B# 1811	NI	
2221	MALE/FEM HEAD AT BALLFIELD	N	
2223	COMM. BEACH BALLFLD B&DUGOUT	NI	
2237	CONCESS STGECOM BCH BALLFL	N	
2251	ADDTNL STGE B1811	N	
2295	ACSS HIGH SCHOOL GYM	NI	
2305	YOUTH CENTER	N	
2378	SWIM POOL FILTER HOSE	NI	
2382	SWGE PUMP STATION	N	

**Notes:** Y = Yes  
N = No  
NI = Not Inspected  
Hazard = friable, accessible and damaged (FAD) asbestos-containing material (ACM)

**Source:** Final Asbestos Inspection Report for Naval Activity Puerto Rico, Ceiba, Puerto Rico (Baker, June 2005)



**Exhibit F**

**CERFA Concurrence**

**CERFA Identification of Uncontaminated Property  
Former Naval Station Roosevelt Roads, Puerto Rico**

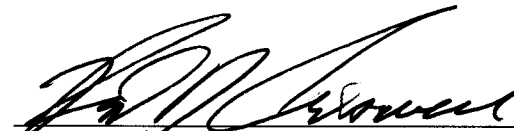
Accordingly, this CERFA Uncontaminated Property Report reflects final site categorizations that may differ from those presented in the Final ECP report.

In summary, all NAPR property not otherwise identified as sites belonging to Categories 2 or 3 are classified as "CERFA Clean" (i.e. uncontaminated) as defined in CERFA [§9620 (h)(4)(A)]. The bulk of the NAPR acreage is classified as such. Of the approximately 8,400 acres of NSRR property, about 7,000 acres have been identified as "CERFA Clean" (i.e., Category 1). Figure 1 depicts the results of this classification.

Included in the CERFA Clean classification are a total of 14 SWMUs. Ten of these SWMUs were identified by EPA in the 1994 RCRA Part B permit, and an additional four sites were identified by the ECP. All 14 of these sites were originally identified based on a suspected release or disposal activity, but subsequent investigations determined that no release or disposal activity occurred. EPA has indicated their concurrence with this determination in the draft §7003 Order on Consent by designating each of these sites as having achieved "corrective action complete without controls" designation. The SWMUs and ECP sites designated as CERFA Clean are SWMUs 5, 15, 20, 21, 22, 47, 48, 49, 50, 52, 63 (ECP 9), 64 (ECP 10), 65 (ECP 11), and 66 (ECP 12). These sites are presented in Table 1.

The remaining property has been classified as Category 2 or 3 and as such is not qualified for designation as CERFA Clean.


**Submitted**

  
\_\_\_\_\_  
R. DAVID CRISWELL, P. E.  
BRAC Environmental Coordinator

4/27/06  
Date

**Concurrence**

Concurrence with CERFA Identification of Uncontaminated Property is indicated by signature below. This concurrence applies only to the identification of "CERFA Clean" (i.e. uncontaminated) property, identified in this document as ECP Category 1.

  
\_\_\_\_\_  
Carlos Lopez Freytes, President  
Environmental Quality Board  
Commonwealth of Puerto Rico

8/11/06  
Date

**Exhibit G**

**Asbestos Inspection Reports  
and  
Lead-Based Paint Inspection/Risk Assessment Report**

Final  
**Asbestos Inspection Report**  
for  
Military Family Housing  
Naval Activity Puerto Rico  
Ceiba, Puerto Rico

Contract N62472-01-D-1440 • Project Number 15 • June 2005



Prepared by  
**Michael Baker Jr., Inc.**

**Baker**

**ChallengeUs.**

Under Contract with  
**Department of the Navy**  
**Naval Facilities Engineering Command**  
Engineering Field Activity, Northeast





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Table K	ACMs Identified by Address for Manatee Bay
Table L	ACMs Identified by Address for Mangrove Manor

### Following Text

Table 1	Summary of Homogeneous Materials (for each housing community)
Table 2	Summary of Identified ACM (for each housing community)

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## **EXECUTIVE SUMMARY**

The US Navy Engineering Field Activity Northeast (EFANE) contracted Baker to perform an asbestos-containing material (ACM) inspection of military family housing at Naval Activity Puerto Rico (NAPR), located near Ceiba, Puerto Rico. The work was performed so that the federal government can transfer the properties. The Navy is considered the owner of all properties referenced in this report. The work was performed in accordance with the Scope of Work: Lead-Based Paint Inspection and Risk Assessment, and Asbestos Survey for Residential Property Transfer, dated September 9, 2004, under Contract Number N62472-01-D-1440. Field work for the project was performed from January 5, 2005 to February 11, 2005.

NAPR housing was reportedly constructed between 1960 and 1975 and contains 962 two, three, and four-bedroom apartment style, duplex, and single-family housing units. NAPR housing consists of eight communities: Algodones, Caribe Breeze, Cascajo Point, Coast Guard, FDR Drive, Manatee Bay, Mangrove Manor, and Rainbow Hill. Twenty-seven of the housing units in Manatee Bay are of original construction, while the remaining 935 units were renovated to varying degrees beginning in 1989. The square footage of the units ranges from 1023 to 2105 square feet. The concrete-framed buildings have concrete or ceramic exterior finishes. Interior walls are painted gypsum board and concrete. The units are generally in good condition.

Table A below summarizes the renovation history for the communities, as provided by the housing office manager.

<b>Table A. Renovation History for NAPR Housing</b>				
<b>Address of Units Inspected</b>	<b>Style of Housing</b>	<b>Date of Const.</b>	<b>Date(s) of Renov.</b>	<b>Description of Renovation</b>
<b>Algodones</b>				
889C, 889E, 889F, 889G, 889H, 891A, 891D, 893B, 893C, 895A, 895B, 895C, 897A, 897B, 897D, 897F, 897G, 897H, and 899B	Two, Three, and Four Bedroom Apartment-Style Units	1960	1991	<ul style="list-style-type: none"> <li>● Installation of carpeting</li> <li>● Remodel bathrooms and kitchens</li> <li>● Replace doors and windows</li> </ul>
<b>Caribe Breeze</b>				
1A, 2C, 5B, 6B, 10D, 11A, 15A, 16B, 17C, 20A, 20B, 21B, 25C, 25A, 28A, 31B, 34B, 35A, 37A, 38B, 39C, 43B, and 47A American Circle 92A Saratoga Road 1B and 4B Point Cruz	Two, Three, and Four Bedroom Duplex Units	1974	2001 - 2003	<ul style="list-style-type: none"> <li>● Remove LBP and ACM</li> <li>● Repaint all walls inside and outside</li> <li>● Replace vinyl floor tile with ceramic tile</li> <li>● Replace A/C ductwork and central A/C units</li> <li>● Upgrade electrical systems</li> <li>● Replace entrance doors</li> <li>● Reconfigure outside storage areas and A/C mechanical rooms</li> <li>● Replace kitchen cabinets</li> <li>● Replace bathroom fixtures and tiles</li> <li>● Reconfigure master bedrooms and bathroom</li> <li>● Replace windows</li> <li>● Install ceiling fans</li> </ul> Replace carpeting in upstairs of 2-bedroom units
<b>Cascado Point</b>				
6, 11, 16, 21, 24, 30, and 31 FDR Drive 6 Bataan Drive 5 and 14 San Jacinto Road 4, 7, and 13 Cowrens Drive 4, 5, 13, 14, 19, 26, 29, 30, and 43 Monterey Road 2, 5, 12, and 14 Cabot Lake	Two, Three and Four Bedroom Single Family Houses	1960	1998 - 2001	<ul style="list-style-type: none"> <li>● Remove LBP and ACM</li> <li>● Construct screened-in porches</li> <li>● Repaint all walls inside and outside</li> <li>● Replace vinyl floor tile with ceramic tile</li> <li>● Replace A/C ductwork and central A/C units</li> <li>● Upgrade electrical systems</li> <li>● Replace kitchen cabinets</li> <li>● Remodel laundry areas</li> <li>● Replace bathroom fixtures and tiles</li> <li>● Reconfigure master bedrooms and bathroom</li> <li>● Install ceiling fans</li> </ul>
<b>Coast Guard</b>				
1675, 1676, 1677, 1678, 1679, and 1680 Intrepid Street	Three and Four Bedroom Single Family Houses	1960	1989 - 1992	<ul style="list-style-type: none"> <li>● Replace floors tiles</li> <li>● Replace kitchen cabinets</li> <li>● Install central A/C</li> <li>● Replace aluminum jealousy windows with French type glass louvered windows</li> </ul>

<b>Table A. Renovation History for NAPR Housing</b>				
<b>Address of Units Inspected</b>	<b>Style of Housing</b>	<b>Date of Const.</b>	<b>Date(s) of Renov.</b>	<b>Description of Renovation</b>
<b>FDR Drive</b>				
1, 3, and 5 FDR Drive	Three Bedroom Single Family Houses	1960	1999 - 2000	<ul style="list-style-type: none"> <li>● Remove LBP and ACM</li> <li>● Replace carpeting</li> <li>● Repaint all walls inside and outside</li> <li>● Replace A/C ductwork</li> <li>● Reconfigure mechanical room</li> <li>● Upgrade electrical systems</li> <li>● Replace kitchen floors and cabinets</li> <li>● Remodel bathrooms including replace bathroom fixtures ( not 1 FDR)</li> <li>● Install ceiling fans</li> </ul>
<b>Manatee Bay</b>				
6 and 7 Intrepid Street 8, 11, 20, 36, 38, 49, 52, and 60 Ranger Road 2 and 20 Hancock Circle 4 and 15 Coral Sea Drive 3 and 18 Franklin Drive 8, 19, and 26 Hornet Road 3, 11, 21, 32, and 35 Yorktown Circle 67, 74, and 81 Lexington Drive	Two, Three and Four Bedroom Single Family Houses	1960	2001 - 2003	<ul style="list-style-type: none"> <li>● Remove LBP and ACM</li> <li>● Construct screened-in porches</li> <li>● Repaint all walls inside and outside</li> <li>● Replace vinyl floor tile with ceramic tile</li> <li>● Replace A/C ductwork and central A/C units</li> <li>● Upgrade electrical systems</li> <li>● Reconfigure kitchens and replace kitchen cabinets</li> <li>● Remodel laundry areas</li> <li>● Replace bathroom fixtures and tiles</li> <li>● Reconfigure master bedrooms and bathroom</li> <li>● Install ceiling fans</li> </ul>
<b>Mangrove Manor</b>				
11, 12, 19, 20, 31, 38, 50, 68, and 82 Saratoga Road 2, 11, and 17 Essex Drive 6 Ticonderoga Street 18, 25, 34, 41, and 54 Enterprise Drive 9, 26, 33, 46, and 47 Lexington Drive 6, 15, and 32 Wasp Circle 7 Bunker Hill Road	Two, Three and Four Bedroom Single Family Houses	1960	1989 - 1992	<ul style="list-style-type: none"> <li>● Same as Coast Guard</li> </ul>
<b>Rainbow Hill</b>				
2A, 4A, 4B, 5B, 7A, 8A, 10C, 13B, 14B, 15B, 16A, 18A, 19C, 20B, 22B, 23A, 24A, 27A, 28B, 29B, 32A, 33B, 34A, and 36A Nimitz Drive	Two, Three, and Four Bedroom Duplex and Apartment-Style Units	1975	1998 - 2001	<ul style="list-style-type: none"> <li>● Same as Caribe Breeze</li> </ul>

Base Realignment and Closure (BRAC) policy considers ACM to be a hazard when it meets all three of the following conditions: friable, accessible, and damaged. ACM hazards were not identified in the housing units that were inspected. Per the Scope of Work, Baker did not conduct walk-through inspections of all units of NAPR housing to identify ACMs and ACM hazards. Therefore, additional ACMs and ACM hazards may be present in NAPR housing. Table B below summarizes the ACMs that were identified at each housing community. No ACMs were identified at Rainbow Hill.

<b>Table B. ACMs Identified at NAPR Housing</b>		
<b>Material</b>	<b>Location</b>	<b>Approximate Percent of Units with ACMs*</b>
<b>Algodones</b>		
Vinyl Floor Tile, 9" x 9" tan with brown streaks	LR/ DR, Hall 1, BR1, BR2, and BR3	47%
Floor Adhesive, under 9" x 9" tan with brown streaks vinyl floor tile	LR/ DR, Hall 1, BR1, BR2, and BR3	47%
Vinyl Floor Tile, 9" x 9" gray with black streaks	BR1 and BR2	42%
Floor Adhesive, under 9" x 9" gray with black streaks vinyl floor tile	BR1 and BR2	42%
<b>Caribe Breeze</b>		
Tan/Black Floor Adhesive, under 1' x 1' tan mottled vinyl floor tile	BR1, BR2, BR3, BR4, ST2, ST3, Hall 1, Hall 2, Stair, Laundry, Kitchen, LR/DR	43%
Yellow/Black Floor Adhesive, under 1' x 1' gray mottled vinyl floor tile	BR1, BR2, BR3, BR4, ST2, ST3, Hall 1, Hall 2, Stair, Laundry, Kitchen, LR/DR	57%
<b>Cascajo Point</b>		
Yellow/Black Floor Adhesive, under 1' x 1' tan mottled vinyl floor tile	BR1, BR2, BR3, BR4, LR, DR, LR-P, Hall, Laundry, and Kitchen	100%
<b>Coast Guard</b>		
Black Floor Adhesive, under 1' x 1' brown with white and red streaks vinyl floor tile	LR, DR, Kitchen, Hall, BR1, BR2, BR3, and BR4	66%
<b>FDR Drive</b>		
Floor Adhesive, under 1' x 1' brown with red streaks vinyl floor tile	LR/DR	33%
Vinyl Floor Tile, 9" x 9" gray with white streaks	BR1, BR2, BR3, Hall, and LR/DR	66%
Floor Adhesive, under 9" x 9" gray with white streaks vinyl floor tile	BR1, BR2, BR3, Hall, and LR/DR	66%
Floor Adhesive, under 1' x 1' tan mottled vinyl floor tile	BR1, BR2, BR3, and Hall	33%
Vinyl Floor Tile, 1' x 1' brown with tan streaks	LR/DR	33%
<b>Manatee Bay</b>		
Vinyl Floor Tile, 1' x 1' yellow mottled	LR, DR, Kitchen, Hall, BR1, BR2, and BR3	3%
Black Floor Adhesive, under 1' x 1' yellow mottled and 1' x 1' brown with orange and white stripes vinyl floor tiles	LR, DR, Kitchen, Hall, BR1, BR2, and BR3	7%
<b>Mangrove Manor</b>		
Vinyl Floor Tile, 1' x 1' brown mottled	LR, DR, Kitchen, Hall, BR1, BR2, BR3, and BR4	33%
Black Floor Adhesive, under 1' x 1' brown mottled, 1' x 1' white with brown streaks, 1' x 1' light brown mottled, 1' x 1' brown with light brown streaks, 1' x 1' brown with white streaks, 1' x 1' white with gray specks, and 1' x 1' white with black streaks vinyl floor tiles	LR, DR, Kitchen, Hall, BR1, BR2, BR3, and BR4	88%
Vinyl Floor Tile, 1' x 1' brown with light brown streaks	LR, DR, Kitchen, Hall, BR1, BR2, BR3, and BR4	4%
Vinyl Floor Tile, 1' x 1' white with black streaks	LR, DR, Kitchen, Hall, BR1, BR2, BR3, and BR4	7%
Vinyl Floor Tile, 1' x 1' tan mottled	LR, DR, Kitchen, Hall, BR1, BR2, BR3, and BR4	7%
Black Floor Adhesive, under 1' x 1' tan mottled and 1' x 1' white mottled vinyl floor tiles	LR, DR, Kitchen, Hall, BR1, BR2, BR3, and BR4	11%
Vinyl Floor Tile, 1' x 1' white mottled	LR, DR, Kitchen, Hall, BR1, BR2, BR3, and BR4	4%
Sink Coating, black	Kitchen	96%

\*For NAPR Housing, percentages are based on a representative number of units inspected for ACM; not all units in NAPR Housing were inspected. A complete ACM inspection of all NAPR Housing units is recommended to verify actual quantities and conditions.



If renovation or demolition of housing units is scheduled, a more comprehensive ACM inspection should be conducted to attempt to identify hidden ACM (e.g., behind walls, above ceilings, etc.) that would not have been identified during this non-destructive, baseline study. Also, prior to renovation or demolition, ACM removal and disposal activities must be completed in accordance with EPA, Puerto Rico OSHA, Puerto Rico EQB, and other applicable federal and local regulations.

## **1.0 INTRODUCTION**

The US Navy Engineering Field Activity Northeast (EFANE) contracted Baker to perform an asbestos-containing material (ACM) inspection of military family housing at Naval Activity Puerto Rico (NAPR), located near Cieba, Puerto Rico. The work was performed so that the federal government can transfer the properties. The Navy is considered the owner of all properties referenced in this report. The work was performed in accordance with the Scope of Work: Lead-Based Paint Inspection and Risk Assessment, and Asbestos Survey for Residential Property Transfer, dated September 9, 2004, under Contract Number N62472-01-D-1440. Field work for the project was performed from January 5, 2005 to February 11, 2005.

The body of the report is followed by the following appendices that contain supporting data:

- Appendix A contains copies of training certificates for the Baker and Environmental Development and Sustainability, Inc. (EDS) Baker subcontractor) staff who conducted the investigation and the certificates of accreditation for the laboratories that conducted sample analysis.
- Appendix B contains an NAPR map that shows the location of each of the housing communities and a floor plan for each type of housing unit that was inspected.
- Appendix C contains analytical laboratory reports for bulk material samples.
- Appendix D contains photographs pertinent to the ACM inspection. These photographs are also included on a CD that accompanies this report.

While preparing this report, Baker consulted the following regulations, guidance documents and policies:

- 29 CFR 1926.1101 - OSHA Asbestos Construction Standard
- 40 CFR 763 - Asbestos Hazard Emergency Response Act (AHERA) and Asbestos School Hazard Reauthorization Act (ASHARA) as Amended
- 40 CFR 61, Subpart M – National Emissions Standards for Hazardous Air Pollutants (NESHAPS)

- Puerto Rico Environmental Quality Board Regulation for the Control of Atmospheric Pollution, Rules 102, 422, and 501
- 41 CFR 101-47 – General Services Administration Federal Property Management Regulations: Utilization and Disposal of Real Property
- 15 United States Code 2680, 2681 and 2688 -Toxic Substances Control Act
- Department of Defense (DoD) Base Realignment and Closure Act (BRAC) Policy on Asbestos, Lead Paint and Radon Policies at BRAC Properties (October 31, 1994)
- EPA 560/5-85-030a – *Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials*

### 1.1 Housing Community Overview

NAPR housing was reportedly constructed between 1960 and 1975 and contains 962 two, three, and four-bedroom apartment style, duplex, and single-family units. NAPR housing consists of eight communities: Algodones, Caribe Breeze, Cascajo Point, Coast Guard, FDR Drive, Manatee Bay, Mangrove Manor, and Rainbow Hill. Twenty-seven of the housing units in Manatee Bay are of original construction, while the remaining 935 units were renovated beginning in 1989. The square footage of the units ranges from 1023 to 2105 square feet. The concrete-framed buildings have concrete or ceramic exterior finishes. Interior walls are painted gypsum board and concrete. The units are generally in good condition.

Table C below summarizes the renovation history for the communities, as provided by the housing office manager.

Table C. Renovation History for NAPR Housing				
Address of Units Inspected	Style of Housing	Date of Const.	Date(s) of Renov.	Description of Renovation
Algodones				
889C, 889E, 889F, 889G, 889H, 891A, 891D, 893B, 893C, 895A, 895B, 895C, 897A, 897B, 897D, 897F, 897G, 897H, and 899B	Two, Three, and Four Bedroom Apartment-Style Units	1960	1991	<ul style="list-style-type: none"> <li>• Installation of carpeting</li> <li>• Remodel bathrooms and kitchens</li> <li>• Replace doors and windows</li> </ul>

Table C. Renovation History for NAPR Housing				
Address of Units Inspected	Style of Housing	Date of Const.	Date(s) of Renov.	Description of Renovation
Caribe Breeze				
1A, 2C, 5B, 6B, 10D, 11A, 15A, 16B, 17C, 20A, 20B, 21B, 25C, 25A, 28A, 31B, 34B, 35A, 37A, 38B, 39C, 43B, and 47A American Circle 92A Saratoga Road 1B and 4B Point Cruz	Two, Three, and Four Bedroom Duplex Units	1974	2001 - 2003	<ul style="list-style-type: none"> <li>● Remove LBP and ACM</li> <li>● Repaint all walls inside and outside</li> <li>● Replace vinyl floor tile with ceramic tile</li> <li>● Replace A/C ductwork and central A/C units</li> <li>● Upgrade electrical systems</li> <li>● Replace entrance doors</li> <li>● Reconfigure outside storage areas and A/C mechanical rooms</li> <li>● Replace kitchen cabinets</li> <li>● Replace bathroom fixtures and tiles</li> <li>● Reconfigure master bedrooms and bathroom</li> <li>● Replace windows</li> <li>● Install ceiling fans</li> </ul> Replace carpeting in upstairs of 2-bedroom units
Cascajo Point				
6, 11, 16, 21, 24, 30, and 31 FDR Drive 6 Bataan Drive 5 and 14 San Jacinto Road 4, 7, and 13 Cowrens Drive 4, 5, 13, 14, 19, 26, 29, 30, and 43 Monterey Road 2, 5, 12, and 14 Cabot Lake	Two, Three and Four Bedroom Single Family Houses	1960	1998 - 2001	<ul style="list-style-type: none"> <li>● Remove LBP and ACM</li> <li>● Construct screened-in porches</li> <li>● Repaint all walls inside and outside</li> <li>● Replace vinyl floor tile with ceramic tile</li> <li>● Replace A/C ductwork and central A/C units</li> <li>● Upgrade electrical systems</li> <li>● Replace kitchen cabinets</li> <li>● Remodel laundry areas</li> <li>● Replace bathroom fixtures and tiles</li> <li>● Reconfigure master bedrooms and bathroom</li> <li>● Install ceiling fans</li> </ul>
Coast Guard				
1675, 1676, 1677, 1678, 1679, and 1680 Intrepid Street	Three and Four Bedroom Single Family Houses	1960	1989 - 1992	<ul style="list-style-type: none"> <li>● Replace floors tiles</li> <li>● Replace kitchen cabinets</li> <li>● Install central A/C</li> <li>● Replace aluminum jealously windows with French type glass louvered windows</li> </ul>
FDR Drive				
1, 3, and 5 FDR Drive	Three Bedroom Single Family Houses	1960	1999 - 2000	<ul style="list-style-type: none"> <li>● Remove LBP and ACM</li> <li>● Replace carpeting</li> <li>● Repaint all walls inside and outside</li> <li>● Replace A/C ductwork</li> <li>● Reconfigure mechanical room</li> <li>● Upgrade electrical systems</li> <li>● Replace kitchen floors and cabinets</li> <li>● Remodel bathrooms including replace bathroom fixtures ( not 1 FDR)</li> <li>● Install ceiling fans</li> </ul>

<b>Table C. Renovation History for NAPR Housing</b>				
<b>Address of Units Inspected</b>	<b>Style of Housing</b>	<b>Date of Const.</b>	<b>Date(s) of Renov.</b>	<b>Description of Renovation</b>
<b>Manatee Bay</b>				
6 and 7 Intrepid Street 8, 11, 20, 36, 38, 49, 52, and 60 Ranger Road 2 and 20 Hancock Circle 4 and 15 Coral Sea Drive 3 and 18 Franklin Drive 8, 19, and 26 Hornet Road 3, 11, 21, 32, and 35 Yorktown Circle 67, 74, and 81 Lexington Drive	Two, Three and Four Bedroom Single Family Houses	1960	2001 - 2003	<ul style="list-style-type: none"> <li>● Remove LBP and ACM</li> <li>● Construct screened-in porches</li> <li>● Repaint all walls inside and outside</li> <li>● Replace vinyl floor tile with ceramic tile</li> <li>● Replace A/C ductwork and central A/C units</li> <li>● Upgrade electrical systems</li> <li>● Reconfigure kitchens and replace kitchen cabinets</li> <li>● Remodel laundry areas</li> <li>● Replace bathroom fixtures and tiles</li> <li>● Reconfigure master bedrooms and bathroom</li> <li>● Install ceiling fans</li> </ul>
<b>Mangrove Manor</b>				
11, 12, 19, 20, 31, 38, 50, 68, and 82 Saratoga Road 2, 11, and 17 Essex Drive 6 Ticonderoga Street 18, 25, 34, 41, and 54 Enterprise Drive 9, 26, 33, 46, and 47 Lexington Drive 6, 15, and 32 Wasp Circle 7 Bunker Hill Road	Two, Three and Four Bedroom Single Family Houses	1960	1989 - 1992	<ul style="list-style-type: none"> <li>● Same as Coast Guard</li> </ul>
<b>Rainbow Hill</b>				
2A, 4A, 4B, 5B, 7A, 8A, 10C, 13B, 14B, 15B, 16A, 18A, 19C, 20B, 22B, 23A, 24A, 27A, 28B, 29B, 32A, 33B, 34A, and 36A Nimitz Drive	Two, Three, and Four Bedroom Duplex and Apartment-Style Units	1975	1998 - 2001	<ul style="list-style-type: none"> <li>● Same as Caribe Breeze</li> </ul>

Floor plans of each type of housing unit are included in Appendix B, and exterior photographs are presented in Appendix D.



## **2.0 ASBESTOS-CONTAINING MATERIAL INSPECTION**

### **2.1 Regulatory Background**

In the 1970s and 1980s, the EPA banned the use of asbestos-containing spray-on materials, molded and wet applied asbestos, asbestos-containing thermal system insulation, and asbestos in acoustical or decorative applications. As of 1989, the EPA planned to ban the use of asbestos in other products. The ban was originally designed to be put into place in three phases; however, in 1991 the EPA ban was repealed. Because of the repeal, only the first stage of the ban was implemented. Products included in the first phase of the ban were felt products and asbestos cement products.

Several federal regulations pertain to managing ACMs. AHERA, 40 CFR 763 Subpart E, is perhaps the most well known asbestos regulation. The EPA developed AHERA to protect children in the United States from deteriorating ACMs in school buildings. AHERA was enacted in 1986 and required school systems to identify ACMs in all of their school buildings. AHERA also required school systems to develop management plans for the ACMs identified in schools and established reporting and record keeping requirements for educational authorities. Although AHERA is applicable only to schools, many of the accreditation requirements and sampling methodologies established by

the act have been incorporated into the asbestos inspection industry's procedures. ASHARA requires individuals working in public or commercial buildings to be AHERA accredited if they are performing ACM abatement projects, supervising ACM abatement projects, designing ACM abatement projects, or inspecting building for ACMs. The EPA NESHAPS requires inspections for ACM prior to renovation or demolition of structures, except for residential buildings with four or fewer dwelling units. NESHAPS contains work practice and disposal requirements for regulated ACM, which is defined as ACM that is friable or that is likely to become friable during renovation or demolition activities. The definition of a friable material is one that can be crushed, pulverized, or reduced to powder under hand pressure when dry. The definition of a non-friable material is one that cannot be crushed, pulverized, or reduced to powder under hand pressure when dry.

The Puerto Rico Environmental Quality Board (EQB) regulates ACM inspection, management, removal, and disposal activities. The majority of the regulations are found in the EQB's Regulation for the Control of Atmospheric Pollution Rules 102, 422, and 501. The rules require permits, notifications, training, and work plan submissions to EQB, among other items.

OSHA developed the Occupational Exposure to Asbestos regulation to help protect workers from asbestos hazards. The regulation defined Class I through IV asbestos work, established asbestos exposure limits, and implemented asbestos worker protection requirements. Unlike the EPA's regulations, the OSHA regulation was specifically written to protect workers rather than the public. The Puerto Rico Occupational Safety and Health Administration has adopted the federal standard.

Baker reviewed the Federal Property Management Regulations 41 CFR 101-47.304-13 and BRAC policy to identify regulations and guidelines for transferring properties with ACMs. Based on the review of the information, the Navy is required to disclose all knowledge of ACMs at NAPR Housing to any bidders or transferees. This report should be given to parties interested in NAPR Housing and will serve as the disclosure vehicle. As stated in the Federal Property Management Regulations, any bidders on NAPR Housing should be provided with a "Notice of the Presence of Asbestos—Warning!". The notice can be found in 41 CFR 101-47.304-13.

## **2.2     Methodology**

Baker was unable to obtain any previous ACM reports for the housing communities. It is not known if previous ACM surveys were conducted.

Baker conducted the asbestos inspection in accordance with AHERA, ASHARA and OSHA asbestos regulations. AHERA-accredited asbestos inspectors identified building materials that could contain asbestos. Building materials were then grouped into homogeneous materials. Homogeneous materials are defined as building materials similar in appearance and texture. The asbestos inspectors then collected representative bulk material samples from each homogeneous material in general accordance with AHERA guidelines. Insulation materials that appeared to be composed of fiberglass were not considered potential (i.e., suspect) ACM. For each homogeneous material, the material description, location(s), approximate quantity, friability, condition, accessibility, and potential for damage were recorded.

In accordance with the Scope of Work, the number of samples for each homogeneous material was based on the quantity of homogeneous material present throughout the inspected housing units, as follows:

- $\leq 1000$  square feet – 3 samples
- $\leq 5000$  square feet – 5 samples
- $> 5000$  square feet – 7 samples

Sample results from a homogeneous material represent the asbestos content for the homogeneous material throughout each particular housing community, regardless of the sample locations.

As per the scope of work, Baker sampled wallboard and associated joint compound as a composite material. The results are reported for individual layers as well as for the composite material.

Bulk building material samples were sent to Schneider Labs for analysis using polarized light microscopy with dispersion staining. Schneider Labs is accredited for asbestos analysis through the National Voluntary Laboratory Accreditation Program (NVLAP). Homogeneous materials were analyzed until a positive identification of asbestos was made or until all samples of the material were determined to contain less than or equal to 1 percent asbestos. Samples found to contain detectable, but less than 1 percent asbestos, were further analyzed by point count methodology to more accurately define their asbestos content. Quality Control (QC) samples, one per 10 bulk samples, were collected in accordance with the Scope of Work and were analyzed by RJ Lee Group, Inc., another NVLAP accredited laboratory. QC sample results were generally consistent with bulk sample results. However, where conflicting lab results were indicated (i.e., one lab found the material to contain greater than 1 percent asbestos and the other did not), the material was considered to be ACM. Laboratory reports are included in Appendix C. Inspector and laboratory certifications are included in Appendix A.

### **2.3 Selecting Units for Inspections**

Per the Scope of Work, ACM inspections were performed in 19 of 32 Algodones housing units, 26 of 136 Caribe Breeze housing units, 26 of 139 Cascajo Point housing units, all six Coast Guard housing units, all three FDR Drive housing units, 26 of 262 Manatee Bay housing units, 27 of 275 Mangrove Manor housing units, and 24 of 88 Rainbow Hill housing units. NAPR Housing units selected for ACM inspection were chosen randomly. Units selected for ACM inspection are listed in Table D below. All units were vacant at the time of the inspections.

Table D. Units Selected for ACM Inspection at NAPR Housing	
Address	Date Inspected
Algodones	
889C	February 1, 2005
889E	February 1, 2005
889F	February 2, 2005
889G	February 2, 2005
889H	February 7, 2005
891A	February 3, 2005
891D	February 3, 2005
893B	February 3, 2005
893C	February 4, 2005
895A	February 4, 2005
895B	February 4, 2005
895C	February 4, 2005
897A	February 7, 2005
897B	February 2, 2005
897D	February 2, 2005
897F	February 2, 2005
897G	February 2, 2005
897H	February 2, 2005
899B	February 1, 2005
Caribe Breeze	
1A American Circle	January 5, 2005
2C American Circle	January 9, 2005
5B American Circle	January 7, 2005
6B American Circle	January 7, 2005
10D American Circle	January 10, 2005
11A American Circle	January 10, 2005
15A American Circle	January 10, 2005
16B American Circle	January 10, 2005
17C American Circle	January 11, 2005
20A American Circle	January 11, 2005
20B American Circle	January 11, 2005
21B American Circle	January 12, 2005
24C American Circle	January 12, 2005
25A American Circle	January 12, 2005
28A American Circle	January 12, 2005
31B American Circle	January 12, 2005
34B American Circle	January 13, 2005
35A American Circle	January 13, 2005
37A American Circle	January 13, 2005
38B American Circle	January 14, 2005
39C American Circle	January 14, 2005

Table D. Units Selected for ACM Inspection at NAPR Housing	
Address	Date Inspected
Caribe Breeze	
43B American Circle	January 14, 2005
47A American Circle	January 17, 2005
1B Point Cruz	January 17, 2005
4B Point Cruz	January 17, 2005
92A Saratoga Drive	January 17, 2005
Cascaio Point	
6 Bataan Drive	January 20, 2005
4 Cowrens Drive	January 21, 2005
7 Cowrens Drive	January 24, 2005
13 Cowrens Drive	January 24, 2005
6 FDR Drive	January 20, 2005
11 FDR Drive	January 20, 2005
16 FDR Drive	January 20, 2005
21 FDR Drive	January 20, 2005
24 FDR Drive	January 20, 2005
30 FDR Drive	January 21, 2005
31 FDR Drive	January 21, 2005
4 Monterey Road	January 26, 2005
5 Monterey Road	January 26, 2005
13 Monterey Road	January 26, 2005
14 Monterey Road	January 27, 2005
19 Monterey Road	January 27, 2005
26 Monterey Road	January 27, 2005
29 Monterey Road	January 27, 2005
30 Monterey Road	January 27, 2005
43 Monterey Road	January 27, 2005
5 San Jacinto Road	January 27, 2005
14 San Jacinto Road	January 25, 2005
Coast Guard	
1675 Intrepid Street	January 31, 2005
1676 Intrepid Street	January 31, 2005
1677 Intrepid Street	February 1, 2005
1678 Intrepid Street	February 5, 2005
1679 Intrepid Street	February 5, 2005
1680 Intrepid Street	January 31, 2005
FDR Drive	
1 FDR Drive	January 19, 2005
3 FDR Drive	January 21, 2005
5 FDR Drive	January 19, 2005
Manatee Bay	
4 Coral Sea Drive	January 12, 2005
15 Coral Sea Drive	January 12, 2005
3 Franklyn Drive	January 12, 2005
18 Franklyn Drive	January 12, 2005
2 Hancock Circle	January 11, 2005
20 Hancock Circle	January 11, 2005

Table D. Units Selected for ACM Inspection at NAPR Housing	
Address	Date Inspected
Manatee Bay	
8 Hornet Road	January 13, 2005
19 Hornet Road	January 13, 2005
26 Hornet Road	January 13, 2005
6 Intrepid Street	January 6, 2005
7 Intrepid Street	January 7, 2005
67 Lexington Drive	January 18, 2005
74 Lexington Drive	January 18, 2005
81 Lexington Drive	January 18, 2005
8 Ranger Road	January 7, 2005
11 Ranger Road	January 7, 2005
20 Ranger Road	January 10, 2005
36 Ranger Road	January 11, 2005
38 Ranger Road	January 10, 2005
49 Ranger Road	January 10, 2005
52 Ranger Road	January 10, 2005
60 Ranger Road	January 11, 2005
3 Yorktown Circle	January 14, 2005
11 Yorktown Circle	January 14, 2005
21 Yorktown Circle	January 14, 2005
32 Yorktown Circle	January 14, 2005
35 Yorktown Circle	January 17, 2005
Mangrove Manor	
7 Bunker Hill Road	January 27, 2005
18 Enterprise Drive	January 24, 2005
25 Enterprise Drive	January 24, 2005
34 Enterprise Drive	January 24, 2005
41 Enterprise Drive	January 25, 2005
54 Enterprise Drive	January 25, 2005
2 Essex Drive	January 21, 2005
11 Essex Drive	January 21, 2005
17 Essex Drive	January 21, 2005
9 Lexington Drive	January 25, 2005
26 Lexington Drive	January 26, 2005
33 Lexington Drive	January 26, 2005
46 Lexington Drive	January 26, 2005
47 Lexington Drive	January 26, 2005
6 Ticonderoga Road	January 24, 2005
11 Saratoga Road	January 19, 2005
12 Saratoga Road	January 19, 2005
19 Saratoga Road	January 19, 2005
20 Saratoga Road	January 19, 2005
31 Saratoga Road	January 20, 2005
38 Saratoga Road	January 20, 2005
50 Saratoga Road	January 20, 2005
68 Saratoga Road	January 20, 2005

Table D. Units Selected for ACM Inspection at NAPR Housing	
Address	Date Inspected
Mangrove Manor	
82 Saratoga Road	January 21, 2005
6 Wasp Circle	January 26, 2005
15 Wasp Circle	January 27, 2005
32 Wasp Circle	January 27, 2005
Rainbow Hill	
2A Nimitz Drive	January 27, 2005
4A Nimitz Drive	January 28, 2005
4B Nimitz Drive	January 28, 2005
5B Nimitz Drive	January 28, 2005
7A Nimitz Drive	January 28, 2005
8A Nimitz Drive	January 28, 2005
10C Nimitz Drive	January 31, 2005
13B Nimitz Drive	January 31, 2005
14B Nimitz Drive	January 31, 2005
15B Nimitz Drive	January 31, 2005
16A Nimitz Drive	February 1, 2005
18A Nimitz Drive	February 1, 2005
19C Nimitz Drive	February 1, 2005
20B Nimitz Drive	February 1, 2005
22B Nimitz Drive	February 2, 2005
23A Nimitz Drive	February 2, 2005
24A Nimitz Drive	February 2, 2005
27A Nimitz Drive	February 2, 2005
28B Nimitz Drive	February 3, 2005
29B Nimitz Drive	February 3, 2005
32A Nimitz Drive	February 3, 2005
33B Nimitz Drive	February 3, 2005
34A Nimitz Drive	February 4, 2005
36A Nimitz Drive	February 4, 2005

## 2.4 Disclaimer

Baker was contracted to perform an ACM inspection of NAPR Housing that would meet the requirements of an Operations and Maintenance Program for ACMs. As such, the inspection was not destructive and did not involve breaking into pipe chases, interstitial spaces or other inaccessible building areas. Therefore, ACMs may exist within inaccessible building areas. The presence or absence of ACMs applies only to materials sampled on the dates of the field visit. It should be noted that conditions might change due to vandalism, deterioration, or maintenance activities. Ongoing monitoring by the owner or transferee is necessary. If additional materials suspected of containing



asbestos are identified during renovation or demolition activities, they should be assumed to be ACMs or should be sampled and analyzed before being disturbed.

## 2.5 Summary of Asbestos-Containing Materials

By definition, an ACM contains greater than 1 percent asbestos. Table E below lists the ACMs identified within NAPR Housing by community. Note that additional ACMs may be present in the communities. ACMs were not identified in Rainbow Hill. Floor plans of typical units are presented in Appendix B. For a complete listing of the materials tested for asbestos, refer to Table 1 (for each housing community) following the text of this report.

<b>Table E. ACMs Identified at NAPR Housing</b>		
<b>Material</b>	<b>Location</b>	<b>Approximate Percent of Units with ACMs*</b>
<b>Algodones</b>		
Vinyl Floor Tile, 9" x 9" tan with brown streaks	LR/ DR, Hall 1, BR1, BR2, and BR3	47%
Floor Adhesive, under 9" x 9" tan with brown streaks vinyl floor tile	LR/ DR, Hall 1, BR1, BR2, and BR3	47%
Vinyl Floor Tile, 9" x 9" gray with black streaks	BR1 and BR2	42%
Floor Adhesive, under 9" x 9" gray with black streaks vinyl floor tile	BR1 and BR2	42%
<b>Caribe Breeze</b>		
Tan/Black Floor Adhesive, under 1' x 1' tan mottled vinyl floor tile	BR1, BR2, BR3, BR4, ST2, ST3, Hall 1, Hall 2, Stair, Laundry, Kitchen, LR/DR	43%
Yellow/Black Floor Adhesive, under 1' x 1' gray mottled vinyl floor tile	BR1, BR2, BR3, BR4, ST2, ST3, Hall 1, Hall 2, Stair, Laundry, Kitchen, LR/DR	57%
<b>Cascajo Point</b>		
Yellow/Black Floor Adhesive, under 1' x 1' tan mottled vinyl floor tile	BR1, BR2, BR3, BR4, LR, DR, LR-P, Hall, Laundry, and Kitchen	100%
<b>Coast Guard</b>		
Black Floor Adhesive, under 1' x 1' brown with white and red streaks vinyl floor tile	LR, DR, Kitchen, Hall, BR1, BR2, BR3, and BR4	66%
<b>FDR Drive</b>		
Floor Adhesive, under 1' x 1' brown with red streaks vinyl floor tile	LR/DR	33%
Vinyl Floor Tile, 9" x 9" gray with white streaks	BR1, BR2, BR3, Hall, and LR/DR	66%
Floor Adhesive, under 9" x 9" gray with white streaks vinyl floor tile	BR1, BR2, BR3, Hall, and LR/DR	66%
Floor Adhesive, under 1' x 1' tan mottled vinyl floor tile	BR1, BR2, BR3, and Hall	33%
Vinyl Floor Tile, 1' x 1' brown with tan streaks	LR/DR	33%

Table E. ACMs Identified at NAPR Housing		
Material	Location	Approximate Percent of Units with ACMs*
Manatee Bay		
Vinyl Floor Tile, 1' x 1' yellow mottled	LR, DR, Kitchen, Hall, BR1, BR2, and BR3	3%
Black Floor Adhesive, under 1' x 1' yellow mottled and 1' x 1' brown with orange and white stripes vinyl floor tiles	LR, DR, Kitchen, Hall, BR1, BR2, and BR3	7%
Mangrove Manor		
Vinyl Floor Tile, 1' x 1' brown mottled	LR, DR, Kitchen, Hall, BR1, BR2, BR3, and BR4	33%
Black Floor Adhesive, under 1' x 1' brown mottled, 1' x 1' white with brown streaks, 1' x 1' light brown mottled, 1' x 1' brown with light brown streaks, 1' x 1' brown with white streaks, 1' x 1' white with gray specks, and 1' x 1' white with black streaks vinyl floor tiles	LR, DR, Kitchen, Hall, BR1, BR2, BR3, and BR4	88%
Mangrove Manor		
Vinyl Floor Tile, 1' x 1' brown with light brown streaks	LR, DR, Kitchen, Hall, BR1, BR2, BR3, and BR4	4%
Vinyl Floor Tile, 1' x 1' white with black streaks	LR, DR, Kitchen, Hall, BR1, BR2, BR3, and BR4	7%
Vinyl Floor Tile, 1' x 1' tan mottled	LR, DR, Kitchen, Hall, BR1, BR2, BR3, and BR4	7%
Black Floor Adhesive, under 1' x 1' tan mottled and 1' x 1' white mottled vinyl floor tiles	LR, DR, Kitchen, Hall, BR1, BR2, BR3, and BR4	11%
Vinyl Floor Tile, 1' x 1' white mottled	LR, DR, Kitchen, Hall, BR1, BR2, BR3, and BR4	4%
Sink Coating, black	Kitchen	96%

Table 2 (for each housing community) following the text of this report provides additional details on the ACMs that were identified, including asbestos content, friability, and total quantities for the housing units that were inspected. Tables F through L, following Table E, list the ACMs identified by housing unit address. Appendix D contains photographs of the identified ACMs. A CD that includes these photographs accompanies this report.

**Table F. ACMs Identified by Address for Algodones**

<b>Unit</b>	<b>Material</b>	<b>Material No.</b>	<b>Comment</b>	<b>Condition</b>
889C Algodones	Vinyl Floor Tile (9" X 9" Tan With Brown Streaks)	006	The Adhesive For This Material Is Material #007.	Undamaged
	Floor Adhesive (Black, Under 9" X 9" Tan With Brown Streaks Vinyl Floor Tile)	007	This Is The Adhesive For Material #006.	Undamaged
889G Algodones	See Initial Entry for Material #006	006	The Adhesive For This Material Is Material #007.	Undamaged
	See Initial Entry for Material #007	007	This Is The Adhesive For Material #006.	Undamaged
	Vinyl Floor Tile (9" X 9" Gray With Black Streaks)	010	The Adhesive For This Material Is Material #010. This Material Is Located Below The Existing Carpet.	Undamaged
	Floor Adhesive (Black, Under 9" X 9" Gray With Black Streaks Vinyl Floor Tile)	011	This Is The Adhesive For Material #010.	Undamaged
889H Algodones	See Initial Entry for Material #006	006	The Adhesive For This Material Is Material #007.	Undamaged
	See Initial Entry for Material #007	007	This Is The Adhesive For Material #006.	Undamaged
	See Initial Entry for Material #010	010	The Adhesive For This Material Is Material #010. This Material Is Located Below The Existing Carpet.	Undamaged
	See Initial Entry for Material #011	011	This Is The Adhesive For Material #010.	Undamaged
891D Algodones	See Initial Entry for Material #006	006	The Adhesive For This Material Is Material #007.	Undamaged
	See Initial Entry for Material #007	007	This Is The Adhesive For Material #006.	Undamaged
	See Initial Entry for Material #010	010	The Adhesive For This Material Is Material #010. This Material Is Located Below The Existing Carpet.	Undamaged
	See Initial Entry for Material #011	011	This Is The Adhesive For Material #010.	Undamaged
893C Algodones	See Initial Entry for Material #006	006	The Adhesive For This Material Is Material #007.	Undamaged
	See Initial Entry for Material #007	007	This Is The Adhesive For Material #006.	Undamaged
	See Initial Entry for Material #010	010	The Adhesive For This Material Is Material #010. This Material Is Located Below The Existing Carpet.	Undamaged
	See Initial Entry for Material #011	011	This Is The Adhesive For Material #010.	Undamaged
895C Algodones	See Initial Entry for Material #006	006	The Adhesive For This Material Is Material #007.	Undamaged
	See Initial Entry for Material #007	007	This Is The Adhesive For Material #006.	Undamaged
	See Initial Entry for Material #010	010	The Adhesive For This Material Is Material #010. This Material Is Located Below The Existing Carpet.	Undamaged
	See Initial Entry for Material #011	011	This Is The Adhesive For Material #010.	Undamaged
897D Algodones	See Initial Entry for Material #006	006	The Adhesive For This Material Is Material #007.	Undamaged
897D Algodones	See Initial Entry for Material #007	007	This Is The Adhesive For Material #006.	Undamaged
	See Initial Entry for Material #010	010	The Adhesive For This Material Is Material #010. This Material Is Located Below The Existing Carpet.	Undamaged
	See Initial Entry for Material #011	011	This Is The Adhesive For Material #010.	Undamaged
897G Algodones	See Initial Entry for Material #006	006	The Adhesive For This Material Is Material #007.	Undamaged
	See Initial Entry for Material #007	007	This Is The Adhesive For Material #006.	Undamaged
	See Initial Entry for Material #010	010	The Adhesive For This Material Is Material #010. This Material Is Located Below The Existing Carpet.	Undamaged
	See Initial Entry for Material #011	011	This Is The Adhesive For Material #010.	Undamaged
897H Algodones	See Initial Entry for Material #006	006	The Adhesive For This Material Is Material #007.	Undamaged
	See Initial Entry for Material #007	007	This Is The Adhesive For Material #006.	Undamaged
	See Initial Entry for Material #010	010	The Adhesive For This Material Is Material #010. This Material Is Located Below The Existing Carpet.	Undamaged
	See Initial Entry for Material #011	011	This Is The Adhesive For Material #010.	Undamaged

**Table G. ACMs Identified by Address for Caribe Breeze**

Unit	Material	Material No.	Comment	Condition
10D American Circle	Floor Adhesive (Yellow With Black Residual, Under 1' X 1' Gray Mottled Vinyl Floor Tile)	008	This Is The Adhesive For Material #007.	Undamaged
11A American Circle	Floor Adhesive (Tan With Black Residual, Under 1' X 1' Tan Mottled Vinyl Floor Tile)	002	This Is The Adhesive For Material #001.	Undamaged
15A American Circle	See Initial Entry for Material #002.	002	This Is The Adhesive For Material #001.	Undamaged
16B American Circle	See Initial Entry for Material #008.	008	This Is The Adhesive For Material #007.	Undamaged
17C American Circle	See Initial Entry for Material #008.	008	This Is The Adhesive For Material #007.	Undamaged
1A American Circle	See Initial Entry for Material #002.	002	This Is The Adhesive For Material #001.	Undamaged
1B Point Cruz	See Initial Entry for Material #008.	008	This Is The Adhesive For Material #007.	Undamaged
20A American Circle	See Initial Entry for Material #002.	002	This Is The Adhesive For Material #001.	Undamaged
20B American Circle	See Initial Entry for Material #008.	008	This Is The Adhesive For Material #007.	Undamaged
21B American Circle	See Initial Entry for Material #008.	008	This Is The Adhesive For Material #007.	Undamaged
24C American Circle	See Initial Entry for Material #008.	008	This Is The Adhesive For Material #007.	Undamaged
25A American Circle	See Initial Entry for Material #002.	002	This Is The Adhesive For Material #001.	Undamaged
28A American Circle	See Initial Entry for Material #002.	002	This Is The Adhesive For Material #001.	Undamaged
2C American Circle	See Initial Entry for Material #008.	008	This Is The Adhesive For Material #007.	Undamaged
31B American Circle	See Initial Entry for Material #008.	008	This Is The Adhesive For Material #007.	Undamaged
34B American Circle	See Initial Entry for Material #008.	008	This Is The Adhesive For Material #007.	Undamaged
35A American Circle	See Initial Entry for Material #002.	002	This Is The Adhesive For Material #001.	Undamaged
37A American Circle	See Initial Entry for Material #002.	002	This Is The Adhesive For Material #001.	Undamaged
38B American Circle	See Initial Entry for Material #008.	008	This Is The Adhesive For Material #007.	Undamaged
39C American Circle	See Initial Entry for Material #008.	008	This Is The Adhesive For Material #007.	Undamaged
43B American Circle	See Initial Entry for Material #008.	008	This Is The Adhesive For Material #007.	Undamaged
47A American Circle	See Initial Entry for Material #002.	002	This Is The Adhesive For Material #001.	Undamaged
4B Point Cruz	See Initial Entry for Material #002.	002	This Is The Adhesive For Material #001.	Undamaged
5B American Circle	See Initial Entry for Material #008.	008	This Is The Adhesive For Material #007.	Undamaged
6B American Circle	See Initial Entry for Material #008.	008	This Is The Adhesive For Material #007.	Undamaged
92A Saratoga Road	See Initial Entry for Material #002.	002	This Is The Adhesive For Material #001.	Undamaged

Table H. ACMs Identified by Address for Cascajo Point

Unit	Material	Material No.	Comment	Condition
11 FDR Drive	Floor Adhesive (Yellow With Black Residual, Under Tan 1' X 1' Mottled Vinyl Floor Tile)	003	This Is The Adhesive For Material #002.	Undamaged
12 Cabot Lake	See Initial Entry for Material #003	003		Undamaged
13 Cowrens Drive	See Initial Entry for Material #003	003		Undamaged
13 Monterey Road	See Initial Entry for Material #003	003		Undamaged
14 Cabot Lake	See Initial Entry for Material #003	003		Undamaged
14 Monterey Road	See Initial Entry for Material #003	003		Undamaged
14 San Jacinto Road	See Initial Entry for Material #003	003		Undamaged
16 FDR Drive	See Initial Entry for Material #003	003		Undamaged
19 Monterey Road	See Initial Entry for Material #003	003		Undamaged
2 Cabot Lake	See Initial Entry for Material #003	003		Undamaged
21 FDR Drive	See Initial Entry for Material #003	003		Undamaged
26 Monterey Road	See Initial Entry for Material #003	003		Undamaged
29 Monterey Road	See Initial Entry for Material #003	003		Undamaged
30 FDR Drive	See Initial Entry for Material #003	003		Undamaged
30 Monterey Road	See Initial Entry for Material #003	003		Undamaged
31 FDR Drive	See Initial Entry for Material #003	003		Undamaged
4 Cowrens Drive	See Initial Entry for Material #003	003		Undamaged
4 Monterey Road	See Initial Entry for Material #003	003		Undamaged
43 Monterey Road	See Initial Entry for Material #003	003		Undamaged
5 Cabot Lake	See Initial Entry for Material #003	003		Undamaged
5 Monterey Road	See Initial Entry for Material #003	003		Undamaged
5 San Jacinto Road	See Initial Entry for Material #003	003		Undamaged
6 Bataan Drive	See Initial Entry for Material #003	003		Undamaged
6 FDR Drive	See Initial Entry for Material #003	003		Undamaged
7 Cowrens Drive	See Initial Entry for Material #003	003		Undamaged

**Table I. ACMs Identified by Address for Coast Guard**

<b>Unit</b>	<b>Material</b>	<b>Material No.</b>	<b>Comment</b>	<b>Condition</b>
1675 Intrepid Street	Floor Adhesive (Black, Under 1' X 1' Brown With White And Red Streaks Vinyl Floor Tile)	007	This Is The Adhesive For Material #006.	Undamaged
1677 Intrepid Street	See Initial Entry for Material #007	007		Undamaged
1678 Intrepid Street	See Initial Entry for Material #007	007		Undamaged
1679 Intrepid Street	See Initial Entry for Material #007	007		Undamaged

**Table J. ACMs Identified by Address for FDR Drive**

Unit	Material	Material No.	Comment	Condition
1 FDR Drive	Vinyl Floor Tile (9" X 9" Gray With White Streaks)	006	The Adhesive For This Material Is Material #007. This Material Is Located Below The Existing Carpet.	Undamaged
	Floor Adhesive (Black, Under 9" X 9" Gray With White Streaks Vinyl Floor Tile)	007	This Is The Adhesive For Material #006.	Undamaged
3 FDR Drive	Floor Adhesive (Black, Under 1' X 1' Tan Mottled Vinyl Floor Tile)	009	This Is The Adhesive For Material #007.	Undamaged
	Vinyl Floor Tile (1' X 1' Brown With Tan Streaks)	011	The Adhesive For This Material Is Material #012. This Material Is Located Below The Existing Carpet.	Undamaged
5 FDR Drive	Floor Adhesive (Black, Under 1' X 1' Brown With Red Streaks Vinyl Floor Tile)	005	This Is The Adhesive For Material #004.	Undamaged
	Vinyl Floor Tile (9" X 9" Gray With White Streaks)	006	The Adhesive For This Material Is Material #007. This Material Is Located Below The Existing Carpet.	Undamaged
	Floor Adhesive (Black, Under 9" X 9" Gray With White Streaks Vinyl Floor Tile)	007	This Is The Adhesive For Material #006.	Undamaged



**Table K. ACMs Identified by Address for Manatee Bay**

Unit	Material	Material No.	Comment	Condition
6 Intrepid Street	Vinyl Floor Tile (1' X 1' Yellow Mottled)	001	The Adhesive For This Material Is Material #002.	Damaged
	Floor Adhesive (Black, Under 1' X 1' Yellow Mottled And 1' X 1' Brown With White And Orange Stripes Vinyl Floor Tile)	002	This Is The Adhesive For Materials #001 And #005.	Damaged
7 Intrepid Street	Floor Adhesive (Black, Under 1' X 1' Yellow Mottled And 1' X 1' Brown With White And Orange Stripes Vinyl Floor Tile)	002	This Is The Adhesive For Materials #001 And #005.	Damaged

Table L. ACMs Identified by Address for Mangrove Manor

Unit	Material	Material No.	Comment	Condition
11 Essex Drive	Floor Adhesive (Black, Under 1' X 1' Brown Mottled, 1' X 1' White With Brown Streaks, 1' X 1' White With Black Streaks, 1' X 1' White With Gray Specks, 1' X 1' Brown With Light Brown Streaks, 1' X 1' Brown With White Streaks, And 1' X 1' Light Brown Mottled Vinyl Floor Tiles)	002	This Is The Adhesive For Materials #001, #005, #006, #007, #008, #009, And #010.	Undamaged
	Sink Coating (Black)	004		Undamaged
11 Saratoga Road	Vinyl Floor Tile (1' X 1' Brown Mottled)	001	The Adhesive For This Material Is Material #002.	Undamaged
	See Initial Entry for Material #002	002		Undamaged
	Sink Coating (Black)	004		Undamaged
12 Saratoga Road	See Initial Entry for Material #002	002		Undamaged
	Sink Coating (Black)	004		Undamaged
15 Wasp Drive	See Initial Entry for Material #002	002		Undamaged
	Sink Coating (Black)	004		Undamaged
17 Essex Drive	Vinyl Floor Tile (1' X 1' Brown Mottled)	001	The Adhesive For This Material Is Material #002.	Undamaged
	See Initial Entry for Material #002	002		Undamaged
	Sink Coating (Black)	004		Undamaged
18 Enterprise Drive	Vinyl Floor Tile (1' X 1' Brown Mottled)	001	The Adhesive For This Material Is Material #002.	Undamaged
	See Initial Entry for Material #002	002		Undamaged
	Sink Coating (Black)	004		Undamaged
19 Saratoga Road	See Initial Entry for Material #002	002		Undamaged
	Sink Coating (Black)	004		Undamaged
	Vinyl Floor Tile (1' X 1' Brown With Light Brown Streaks)	007	The Adhesive For This Material Is Material #002.	Undamaged
2 Essex Drive	See Initial Entry for Material #002	002		Undamaged
	Sink Coating (Black)	004		Undamaged
20 Saratoga Road	See Initial Entry for Material #002	002		Undamaged
	Sink Coating (Black)	004		Undamaged
25 Enterprise Drive	Sink Coating (Black)	004		Undamaged
	Vinyl Floor Tile (1' X 1' Tan Mottled)	011	The Adhesive For This Material Is Material #012.	Damaged
	Floor Adhesive (Black, Under 1' X 1' Tan Mottled And 1' X 1' White Mottled Vinyl Floor Tile)	012	This Is The Adhesive For Material #011.	Damaged
26 Lexington Drive	See Initial Entry for Material #002	002		Undamaged
	Sink Coating (Black)	004		Undamaged
31 Saratoga Road	See Initial Entry for Material #002	002		Undamaged
	Sink Coating (Black)	004		Undamaged
32 Wasp Drive	See Initial Entry for Material #002	002		Undamaged
	Sink Coating (Black)	004		Undamaged

Table L. ACMs Identified by Address for Mangrove Manor

Unit	Material	Material No.	Comment	Condition
33 Lexington Drive	Vinyl Floor Tile (1' X 1' Brown Mottled)	001	The Adhesive For This Material Is Material #002.	Undamaged
	See Initial Entry for Material #002	002		Undamaged
34 Enterprise Drive	Sink Coating (Black)	004		Undamaged
	Floor Adhesive (Black, Under 1' X 1' Tan Mottled And 1' X 1' White Mottled Vinyl Floor Tile)	012	This Is The Adhesive For Material #011.	Damaged
	Vinyl Floor Tile (1' X 1' White Mottled)	013	The Adhesive For This Material Is Material #012.	Damaged
38 Saratoga Road	See Initial Entry for Material #002	002		Undamaged
	Sink Coating (Black)	004		Undamaged
41 Enterprise Drive	Vinyl Floor Tile (1' X 1' Brown Mottled)	001	The Adhesive For This Material Is Material #002.	Undamaged
	See Initial Entry for Material #002	002		Undamaged
	Sink Coating (Black)	004		Undamaged
46 Lexington Drive	Sink Coating (Black)	004		Undamaged
	Vinyl Floor Tile (1' X 1' Tan Mottled)	011	The Adhesive For This Material Is Material #012.	Damaged
	Floor Adhesive (Black, Under 1' X 1' Tan Mottled And 1' X 1' White Mottled Vinyl Floor Tile)	012	This Is The Adhesive For Material #011.	Damaged
47 Lexington Drive	Vinyl Floor Tile (1' X 1' Brown Mottled)	001	The Adhesive For This Material Is Material #002.	Undamaged
	See Initial Entry for Material #002	002		Undamaged
	Sink Coating (Black)	004		Undamaged
50 Saratoga Road	See Initial Entry for Material #002	002		Undamaged
	Sink Coating (Black)	004		Undamaged
54 Enterprise Drive	See Initial Entry for Material #002	002		Undamaged
	Sink Coating (Black)	004		Undamaged
6 Ticonderoga Street	Vinyl Floor Tile (1' X 1' Brown Mottled)	001	The Adhesive For This Material Is Material #002.	Undamaged
	See Initial Entry for Material #002	002		Undamaged
	Sink Coating (Black)	004		Undamaged
6 Wasp Drive	See Initial Entry for Material #002	002		Undamaged
	Sink Coating (Black)	004		Undamaged
	Vinyl Floor Tile (1' X 1' White With Black Streaks)	010	The Adhesive For This Material Is Material #002.	Undamaged
68 Saratoga Road	See Initial Entry for Material #002	002		Undamaged
	Sink Coating (Black)	004		Undamaged
7 Bunker Hill Road	Vinyl Floor Tile (1' X 1' Brown Mottled)	001	The Adhesive For This Material Is Material #002.	Undamaged
	See Initial Entry for Material #002	002		Undamaged
	Sink Coating (Black)	004		Undamaged
82 Saratoga Road	See Initial Entry for Material #002	002		Undamaged
	Sink Coating (Black)	004		Undamaged
	Vinyl Floor Tile (1' X 1' White With Black Streaks)	010	The Adhesive For This Material Is Material #002.	Undamaged
9 Lexington Drive	Vinyl Floor Tile (1' X 1' Brown Mottled)	001	The Adhesive For This Material Is Material #002.	Undamaged
	See Initial Entry for Material #002	002		Undamaged
	Sink Coating (Black)	004		Undamaged

## **2.6     Summary of Hazards**

Base Realignment and Closure (BRAC) policy considers an ACM to be a hazard when it meets all three of the following conditions: friable, accessible, and damaged. No ACM hazards were identified in the 158 NAPR Housing units that were inspected. Per the Scope of Work, Baker did not conduct walk-through inspections of all NAPR Housing units to identify ACMs and ACM hazards. Therefore, additional ACMs and ACM hazards may be present at NAPR Housing.

If renovation or demolition of housing units is scheduled, a more comprehensive ACM inspection should be conducted to attempt to identify hidden ACM (e.g., behind walls, above ceilings, etc.) that would not have been identified during this non-destructive, baseline study. Also, prior to renovation or demolition, ACM removal and disposal activities must be completed in accordance with EPA, Puerto Rico OSHA, Puerto Rico EQB, and other applicable federal and local regulations.

Final  
**Asbestos Inspection Report**  
for  
Naval Activity Puerto Rico  
Ceiba, Puerto Rico  
Volume 1 of 7  
(Text and Appendices A through D)

Contract N62472-01-D-1440 • Project Number 14 • June 2005



Prepared by  
**Michael Baker Jr., Inc.**

**Baker**

**ChallengeUs.**

Under Contract with  
**Department of the Navy**  
**Naval Facilities Engineering Command**  
Engineering Field Activity, Northeast



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## **EXECUTIVE SUMMARY**

The US Navy Engineering Field Activity Northeast (EFANE) contracted Baker to perform an asbestos-containing material (ACM) inspection of 546 buildings at Naval Activity Puerto Rico (NAPR), located near Ceiba, Puerto Rico. An inspection of military family housing at NAPR was conducted simultaneously and is documented in a companion Baker report, Asbestos Inspection Report, Military Family Housing, for Naval Activity Puerto Rico, dated June 2005. The work was performed so that the federal government can transfer the properties. The Navy is considered the owner of all properties referenced in this report. The work was performed in accordance with the Scope of Work: Asbestos Survey, Naval Activity Puerto Rico, dated September 9, 2004, under Contract Number N62472-01-D-1440. Field work for the project was performed from December 1, 2004 to February 15, 2005.

The years of construction for the buildings at NAPR were not readily available. The buildings were predominantly vacant at the time of the inspections, and had served various purposes, including, but not limited to, dormitory-style housing, offices, and warehouses. The construction of the buildings varied widely, and sizes ranged from approximately 35 square feet to 131,000 square feet. The condition of the buildings ranged from poor to good.

Baker and NAPR staff were unable to locate 14 of the buildings, and three could not be accessed due to lack of keys, impassable access roads, or safety issues. In addition, 13 buildings had been removed according to NAPR staff and/or observation. Six buildings were inspected as a part of the simultaneously conducted housing inspections. A summary of this information is presented in Table B in Section 2.2.

A total of 2,006 homogeneous materials were identified during this investigation. Of those, 317 were found by laboratory analysis to be ACM, and five were assumed to be ACM due to access or safety issues that precluded sampling. The ACMs that were identified are presented in the building-specific sections of the report, which are included in Appendix E.

Base Realignment and Closure (BRAC) policy considers ACM to be a hazard when it meets all three of the following conditions: friable, accessible, and damaged. Several ACM hazards were identified in the buildings. Table A below summarizes those hazards.

<b>Table A. ACM Hazards Identified</b>		
<b>Building Number</b>	<b>Material</b>	<b>Quantity</b>
31	Pipe Insulation	2 lf
296	Pipe Insulation	20 lf
426	Duct Insulation	34 sf
598	Pipe Insulation	6 lf
1686	Pipe and Fitting Insulation	1 lf

Recommendations include the following: 1) The ACM hazards identified should be remedied prior to transfer of the properties. 2) The information on the presence and location of all ACMs should be communicated to the property transferee. 3) If renovation or demolition of buildings is scheduled, a more comprehensive ACM inspection should be conducted to attempt to identify hidden ACM (e.g., behind walls, above ceilings, etc.) that would not have been identified during this non-destructive, baseline study. Also, prior to renovation or demolition, ACM removal and disposal activities must be completed in accordance with EPA, Puerto Rico OSHA, Puerto Rico EQB, and other applicable federal and local regulations.

## **1.0 INTRODUCTION**

The US Navy Engineering Field Activity Northeast (EFANE) contracted Baker to perform an asbestos-containing material (ACM) inspection of 546 buildings at Naval Activity Puerto Rico (NAPR), located near Ceiba, Puerto Rico. An inspection of military family housing at NAPR was conducted simultaneously and is documented in a companion Baker report, Asbestos Inspection Report, Military Family Housing, for Naval Activity Puerto Rico, dated June 2005. The work was performed so that the federal government can transfer the properties. The Navy is considered the owner of all properties referenced in this report. The work was performed in accordance with the Scope of Work: Asbestos Survey, Naval Activity Puerto Rico, dated September 9, 2004, under Contract Number N62472-01-D-1440. Field work for the project was performed from December 1, 2004 to February 11, 2005.

The body of the report is followed by the following appendices that contain supporting data:

- Appendix A contains copies of training certificates for the Baker and Environmental Development and Sustainability, Inc. (EDS, Baker subcontractor) staff who conducted the investigation and the certificates of accreditation for the laboratories that conducted sample analysis.
- Appendix B contains an NAPR map that shows building locations
- Appendix C contains a list of the buildings that were included in the scope of work
- Appendix D contains the analytical laboratory results for the quality control (QC) samples that were collected

Appendix E of this report contain building-specific summaries. These sections include a brief description of the number/type of suspect materials and ACM identified, summary tables of identified homogeneous materials and ACMs, photographs, sample location / ACM location drawings, and analytical laboratory reports.

All of the photographs that are presented in this report are included on a CD that accompanies this report. In addition, all ACM data presented in this report is included in three excel files on a CD that accompanies this report.

While preparing this report, Baker consulted the following regulations, guidance documents and

policies:

- 29 CFR 1926.1101 - OSHA Asbestos Construction Standard
- 40 CFR 763 - Asbestos Hazard Emergency Response Act (AHERA) and Asbestos School Hazard Reauthorization Act (ASHARA) as Amended
- Puerto Rico Environmental Quality Board Regulation for the Control of Atmospheric Pollution, Rules 102, 422, and 501
- 41 CFR 101-47 – General Services Administration Federal Property Management Regulations: Utilization and Disposal of Real Property
- 15 United States Code 2680, 2681 and 2688 -Toxic Substances Control Act
- Department of Defense (DoD) Base Realignment and Closure Act (BRAC) Policy on Asbestos, Lead Paint and Radon Policies at BRAC Properties (October 31, 1994)
- EPA 560/5-85-030a – *Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials*

## **1.1 Buildings Overview**

The years of construction for the buildings at NAPR were not readily available. The buildings were predominantly vacant at the time of the inspections, and had served various purposes, including, but not limited to, dormitory-style housing, offices, and warehouses. The construction of the buildings varied widely, and sizes ranged from approximately 35 square feet to 131,000 square feet. The condition of the buildings ranged from poor to good.

## **2.0 ASBESTOS-CONTAINING MATERIAL INSPECTION**

### **2.1 Regulatory Background**

In the 1970s and 1980s, the EPA banned the use of asbestos-containing spray-on materials, molded and wet applied asbestos, asbestos-containing thermal system insulation, and asbestos in acoustical or decorative applications. As of 1989, the EPA planned to ban the use of asbestos in other products. The

ban was originally designed to be put into place in three phases; however, in 1991 the EPA ban was repealed. Because of the repeal, only the first stage of the ban was implemented. Products included in the first phase of the ban were felt products and asbestos cement products.

Several federal regulations pertain to managing ACMs. AHERA, 40 CFR 763 Subpart E, is perhaps the most well known asbestos regulation. The EPA developed AHERA to protect children in the United States from deteriorating ACMs in school buildings. AHERA was enacted in 1986 and required school systems to identify ACMs in all of their school buildings. AHERA also required school systems to develop management plans for the ACMs identified in schools and established reporting and record keeping requirements for educational authorities. Although AHERA is applicable only to schools, many of the accreditation requirements and sampling methodologies established by the act have been incorporated into the asbestos inspection industry's procedures. ASHARA requires individuals working in public or commercial buildings to be AHERA accredited if they are performing ACM abatement projects, supervising ACM abatement projects, designing ACM abatement projects, or inspecting building for ACMs. The EPA NESHAPS requires inspections for ACM prior to renovation or demolition of structures, except for residential buildings with four or fewer dwelling units. NESHAPS contains work practice and disposal requirements for regulated ACM, which is defined as ACM that is friable or that is likely to become friable during renovation or demolition activities. The definition of a friable material is one that can be crushed, pulverized, or reduced to powder under hand pressure when dry. The definition of a non-friable material is one that cannot be crushed, pulverized, or reduced to powder under hand pressure when dry.

The Puerto Rico Environmental Quality Board (EQB) regulates ACM inspection, management, removal, and disposal activities. The majority of the regulations are found in the EQB's Regulation for the Control of Atmospheric Pollution Rules 102, 422, and 501. The rules require permits, notifications, training, and work plan submissions to EQB, among other items.

OSHA developed the Occupational Exposure to Asbestos regulation to help protect workers from asbestos hazards. The regulation defined Class I through IV asbestos work, established asbestos exposure limits, and implemented asbestos worker protection requirements. Unlike the EPA's regulations, the OSHA regulation was specifically written to protect workers rather than the public. The Puerto Rico Occupational Safety and Health Administration has adopted the federal standard.

Baker reviewed the Federal Property Management Regulations 41 CFR 101-47.304-13 and BRAC policy to identify regulations and guidelines for transferring properties with ACMs. Based on the review of the information, the Navy is required to disclose all knowledge of ACMs at NAPR to any bidders or transferees. This report should be given to parties interested in the NAPR buildings and will serve as the disclosure vehicle. As stated in the Federal Property Management Regulations, any bidders on NAPR buildings should be provided with a “Notice of the Presence of Asbestos—Warning!”. The notice can be found in 41 CFR 101-47.304-13.

## **2.2     Methodology**

Baker reviewed several previous ACM reports that had been prepared by others for several of the NAPR buildings. However, Baker elected to not utilize these reports due to their age. Therefore, the inspections were approached as if the buildings had never been inspected.

Baker, with assistance from Environmental Development and Sustainability, Inc., conducted the asbestos inspections in accordance with AHERA, ASHARA and OSHA asbestos regulations during the period of December 1, 2004 to February 15, 2005. NAPR staff assisted in locating buildings and providing access. AHERA-accredited asbestos inspectors identified building materials that could contain asbestos. Building materials were then grouped into homogeneous materials. Homogeneous materials are defined as building materials similar in age, appearance, and texture. The asbestos inspectors then collected representative bulk material samples from each homogeneous material in general accordance with AHERA guidelines. Insulation materials that appeared to be composed of fiberglass were not considered potential (i.e., suspect) ACM. For each homogeneous material, the material description, location(s), approximate quantity, friability, condition, accessibility, and potential for damage were recorded.

In accordance with the Scope of Work, the number of samples for each homogeneous material was based on the quantity of homogeneous material present throughout the building, as follows:

- ≤ 1000 square feet – 3 samples
- ≤ 5000 square feet – 5 samples
- > 5000 square feet – 7 samples



Sample results from a homogeneous material represent the asbestos content for the homogeneous material throughout each particular building, regardless of the sample locations.

As per the scope of work, Baker sampled wallboard and associated joint compound as a composite material. The results are reported for individual layers as well as for the composite material.

Bulk building material samples were sent to Schneider Labs for analysis using polarized light microscopy with dispersion staining. Schneider Labs is accredited for asbestos analysis through the National Voluntary Laboratory Accreditation Program (NVLAP). Homogeneous materials were analyzed until a positive identification of asbestos was made or until all samples of the material were determined to contain less than or equal to 1 percent asbestos. Samples found to contain detectable, but less than 1 percent asbestos, were further analyzed by point count methodology to more accurately define their asbestos content. Quality Control (QC) samples, one per 10 bulk samples, were collected in accordance with the Scope of Work and were analyzed by RJ Lee Group, Inc., another NVLAP accredited laboratory. QC sample results were generally consistent with bulk sample results. However, where conflicting lab results were indicated (i.e., one lab found the material to contain greater than 1 percent asbestos and the other did not), the material was considered to be ACM. Laboratory reports are included in the building-specific summaries. Laboratory reports for QC samples are included in Appendix D. Inspector and laboratory certifications are included in Appendix A.

Table B below shows the buildings that: 1) were inspected as a part of the simultaneously conducted housing inspections (Project 15); 2) were removed according to NAPR staff and/or observation; 3) could not be located by Baker and NAPR staff; and 4) could not be accessed due to lack of keys, impassable access roads, or safety issues.

**Table B. Buildings Not Inspected**

<b>Included in Housing Inspections</b>	<b>Removed</b>	<b>Could Not Be Located</b>	<b>Could Not Be Accessed</b>
889	871	157	38*
891	2003	247	500 (partial)
893	2191	2222	774 (partial)
895	2224	2314	2439
897	2388	2389	3006
899	2424	2395	
	2438	2442	
	2488	2455	
	2496	2582	
	2508	2583	
	2564	3150	
	2601	6000	
	2685	6001	
		6003	

\* In December 2004, Baker requested that Building 38 be removed from the scope of work due to health and safety issues related to the following: no lighting, PCB-contaminated concrete and soil, dilapidated floors, bat infestation and related bat waste, water-filled trenches, and extensive ACM debris. EFANE indicated that Building 38 is part of another on-going environmental investigation, and agreed that Building 38 could be removed from the scope of work.

### **2.3     Disclaimer**

Baker was contracted to perform an ACM inspection of NAPR buildings that would meet the requirements of an Operations and Maintenance Program for ACMs. As such, the inspection was not destructive and did not involve breaking into pipe chases, interstitial spaces or other inaccessible building areas. Therefore, ACMs may exist within inaccessible building areas. The presence or absence of ACMs applies only to materials sampled on the dates of the field visit. It should be noted that conditions might change due to vandalism, deterioration, or maintenance activities. Ongoing monitoring by the owner or transferee is necessary. If additional materials suspected of containing asbestos are identified during renovation or demolition activities, they should be assumed to be ACMs or should be sampled and analyzed before being disturbed.

### **2.4     Summary of Asbestos-Containing Materials**

A total of 2,006 homogeneous materials were identified. Of those, 317 were found by laboratory analysis to be ACM, and five were assumed to be ACM due to access or safety issues that precluded sampling. By definition, an ACM contains greater than 1 percent asbestos. Table 1 in each building section indicates all of the suspect homogeneous materials that were identified for that particular building. Table 2 in each building section provides the following information on each of the identified ACMs: homogeneous material number, material description, asbestos percentage and type, friability, location, condition, and comments.

### **2.5     Summary of Hazards**

Base Realignment and Closure (BRAC) policy considers an ACM to be a hazard when it meets all three of the following conditions: friable, accessible, and damaged. Friable, accessible, and damaged ACM that were identified are presented in Table 3 in each building section. A summary of all friable, accessible, and damaged ACM identified is presented in Table C below.

<b>Table C. ACM Hazards Identified</b>		
<b>Building Number</b>	<b>Material</b>	<b>Quantity</b>
31	Pipe Insulation	2 lf
296	Pipe Insulation	20 lf
426	Duct Insulation	34 sf
598	Pipe Insulation	6 lf
1686	Pipe and Pipe Fitting Insulation	1 lf

### **3.0 RECOMMENDATIONS**

- The information on the presence and location of all ACMs should be communicated to the property transferee.
- The ACM hazards identified should be remedied prior to transfer of the properties.
- If renovation or demolition of buildings is scheduled, a more comprehensive ACM inspection should be conducted to attempt to identify hidden ACM (e.g., behind walls, above ceilings, etc.) that would not have been identified during this non-destructive, baseline study. Also, prior to renovation or demolition, ACM removal and disposal activities must be completed in accordance with EPA, Puerto Rico OSHA, Puerto Rico EQB, and other applicable federal and local regulations.

Final  
**Lead-Based Paint Inspection/  
Risk Assessment Report**

for  
Military Family Housing  
Naval Activity Puerto Rico  
Ceiba, Puerto Rico  
Volume I of II  
(Text and Appendices A through E)

Contract N62472-01-D-1440 • Project Number 15 • June 2005



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Under Contract with  
**Department of the Navy**  
**Naval Facilities Engineering Command**  
Engineering Field Activity, Northeast



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## EXECUTIVE SUMMARY

The US Navy Engineering Field Activity Northeast contracted Baker to perform lead-based paint (LBP) inspections and LBP risk assessments in military family housing at Naval Activity Puerto Rico (NAPR), located near Ceiba, Puerto Rico. The work was performed so that the federal government can transfer the properties. The Navy is considered the owner of all properties referenced in this report. The work was performed in accordance with the Scope of Work: Lead-Based Paint Inspection and Risk Assessment, and Asbestos Survey For Residential Property Transfer, dated September 9, 2004, under Contract Number N62472-01-D-1440. Field work for the project was performed from January 5, 2005 to February 11, 2005.

NAPR housing was reportedly constructed between 1960 and 1975 and contains 962 two, three, and four-bedroom apartment style, duplex, and single-family housing units. NAPR housing consists of eight communities: Algodones, Caribe Breeze, Cascajo Point, Coast Guard, FDR Drive, Manatee Bay, Mangrove Manor, and Rainbow Hill. Twenty-seven of the housing units in Manatee Bay are of original construction, while the remaining 935 units were renovated to varying degrees beginning in 1989. The square footage of the units ranges from 1023 to 2105 square feet. The concrete-framed buildings have concrete or ceramic exterior finishes. Interior walls are painted gypsum board and concrete. The units are generally in good condition.

Table A below summarizes the renovation history for the communities, as provided by the housing office manager.

Table A. Renovation History for NAPR Housing				
Address of Units Inspected	Style of Housing	Date of Const.	Date(s) of Renov.	Description of Renovation
Algodones				
889C, 889E, 889F, 889G, 889H, 891A, 891D, 893B, 893C, 895A, 895B, 895C, 897A, 897B, 897D, 897F, 897G, 897H, and 899B	Two, Three, and Four Bedroom Apartment-Style Units	1960	1991	<ul style="list-style-type: none"><li>• Installation of carpeting</li><li>• Remodel bathrooms and kitchens</li><li>• Replace doors and windows</li></ul>

Table A. Renovation History for NAPR Housing				
Address of Units Inspected	Style of Housing	Date of Const.	Date(s) of Renov.	Description of Renovation
<b>Caribe Breeze</b>				
1A, 2C, 5B, 6B, 10D, 11A, 15A, 16B, 17C, 20A, 20B, 21B, 25C, 25A, 28A, 31B, 34B, 35A, 37A, 38B, 39C, 43B, and 47A American Circle 92A Saratoga Road 1B and 4B Point Cruz	Two, Three, and Four Bedroom Duplex Units	1974	2001 - 2003	<ul style="list-style-type: none"> <li>● Remove LBP and ACM</li> <li>● Repaint all walls inside and outside</li> <li>● Replace vinyl floor tile with ceramic tile</li> <li>● Replace A/C ductwork and central A/C units</li> <li>● Upgrade electrical systems</li> <li>● Replace entrance doors</li> <li>● Reconfigure outside storage areas and A/C mechanical rooms</li> <li>● Replace kitchen cabinets</li> <li>● Replace bathroom fixtures and tiles</li> <li>● Reconfigure master bedrooms and bathroom</li> <li>● Replace windows</li> <li>● Install ceiling fans</li> <li>● Replace carpeting in upstairs of 2-bedroom units</li> <li>●</li> </ul>
<b>Cascajo Point</b>				
6, 11, 16, 21, 24, 30, and 31 FDR Drive 6 Bataan Drive 5 and 14 San Jacinto Road 4, 7, and 13 Cowrens Drive 4, 5, 13, 14, 19, 26, 29, 30, and 43 Monterey Road 2, 5, 12, and 14 Cabot Lake	Two, Three and Four Bedroom Single Family Houses	1960	1998 - 2001	<ul style="list-style-type: none"> <li>● Remove LBP and ACM</li> <li>● Construct screened-in porches</li> <li>● Repaint all walls inside and outside</li> <li>● Replace vinyl floor tile with ceramic tile</li> <li>● Replace A/C ductwork and central A/C units</li> <li>● Upgrade electrical systems</li> <li>● Replace kitchen cabinets</li> <li>● Remodel laundry areas</li> <li>● Replace bathroom fixtures and tiles</li> <li>● Reconfigure master bedrooms and bathroom</li> <li>● Install ceiling fans</li> </ul>
<b>Coast Guard</b>				
1675, 1676, 1677, 1678, 1679, and 1680 Intrepid Street	Three and Four Bedroom Single Family Houses	1960	1989 - 1992	<ul style="list-style-type: none"> <li>● Replace floors tiles</li> <li>● Replace kitchen cabinets</li> <li>● Install central A/C</li> <li>● Replace aluminum jealously windows with French type glass louvered windows</li> </ul>
<b>FDR Drive</b>				
1, 3, and 5 FDR Drive	Three Bedroom Single Family Houses	1960	1999 - 2000	<ul style="list-style-type: none"> <li>● Remove LBP and ACM</li> <li>● Replace carpeting</li> <li>● Repaint all walls inside and outside</li> <li>● Replace A/C ductwork</li> <li>● Reconfigure mechanical room</li> <li>● Upgrade electrical systems</li> <li>● Replace kitchen floors and cabinets</li> <li>● Remodel bathrooms including replace bathroom fixtures ( not 1 FDR)</li> <li>● Install ceiling fans</li> </ul>

Table A. Renovation History for NAPR Housing				
Address of Units Inspected	Style of Housing	Date of Const.	Date(s) of Renov.	Description of Renovation
<b>Manatee Bay</b>				
6 and 7 Intrepid Street 8, 11, 20, 36, 38, 49, 52, and 60 Ranger Road 2 and 20 Hancock Circle 4 and 15 Coral Sea Drive 3 and 18 Franklin Drive 8, 19, and 26 Hornet Road 3, 11, 21, 32, and 35 Yorktown Circle 67, 74, and 81 Lexington Drive	Two, Three and Four Bedroom Single Family Houses	1960	2001 - 2003	<ul style="list-style-type: none"> <li>● Remove LBP and ACM</li> <li>● Construct screened-in porches</li> <li>● Repaint all walls inside and outside</li> <li>● Replace vinyl floor tile with ceramic tile</li> <li>● Replace A/C ductwork and central A/C units</li> <li>● Upgrade electrical systems</li> <li>● Reconfigure kitchens and replace kitchen cabinets</li> <li>● Remodel laundry areas</li> <li>● Replace bathroom fixtures and tiles</li> <li>● Reconfigure master bedrooms and bathroom</li> <li>● Install ceiling fans</li> </ul>
<b>Mangrove Manor</b>				
11, 12, 19, 20, 31, 38, 50, 68, and 82 Saratoga Road 2, 11, and 17 Essex Drive 6 Ticonderoga Street 18, 25, 34, 41, and 54 Enterprise Drive 9, 26, 33, 46, and 47 Lexington Drive 6, 15, and 32 Wasp Circle 7 Bunker Hill Road	Two, Three and Four Bedroom Single Family Houses	1960	1989 - 1992	<ul style="list-style-type: none"> <li>● Same as Coast Guard</li> </ul>
<b>Rainbow Hill</b>				
2A, 4A, 4B, 5B, 7A, 8A, 10C, 13B, 14B, 15B, 16A, 18A, 19C, 20B, 22B, 23A, 24A, 27A, 28B, 29B, 32A, 33B, 34A, and 36A Nimitz Drive	Two, Three, and Four Bedroom Duplex and Apartment-Style Units	1975	1998 - 2001	<ul style="list-style-type: none"> <li>● Same as Caribe</li> </ul>

In accordance with Department of Housing and Urban Development (HUD) regulations, the Navy is required to inspect and assess NAPR Housing for LBP and LBP hazards and disclose the results of the inspection and assessment to the next owner. The risk assessment must occur no more than 12 months prior to property transfer. Because the housing units were constructed in 1960 and later, LBP hazards are not required to be abated before the sale of the properties.

Baker was unable to obtain previous LBP reports for the properties. It is not known whether LBP inspections and/or risk assessments were previously conducted.

Baker performed LBP inspections in 19 of 32 Algodones housing units, 26 of 136 Caribe Breeze housing units, 26 of 139 Cascajo Point housing units, all six Coast Guard housing units, all three FDR Drive housing units, 26 of 262 Manatee Bay housing units, 27 of 275 Mangrove Manor housing units, and 24 of 88 Rainbow Hill housing units in accordance with the Scope of Work. All of the units were vacant at the time of the inspections. The inspections were performed in accordance with federal regulations. Refer to Table C for a listing of LBP components identified.

Baker also performed LBP risk assessments in the same units in which LBP inspections were conducted. The risk assessments were performed in accordance with federal regulations. LBP hazards were only identified in the Algodones, Coast Guard, Manatee Bay, and Mangrove Manor housing communities, and include deteriorated LBP on various components and slightly elevated lead in dust on floors. Hazards related to friction surfaces, impact surfaces, chewable surfaces, and soil were not identified in these communities. No LBP hazard of any type was identified in the Caribe Breeze, Cascajo Point, FDR Drive, and Rainbow Hill housing communities. Table B summarizes the LBP-related issues for NAPR Housing housing. Tables 1-13 following the text of this report expand upon the information in this table.

Table B. Summary of LBP Issues at NAPR Housing		
Community Addresses	Assessed Units	LBP-containing Components
		LBP Hazards
Algodones		
889A-H 891A-D 893A-D 895A-D 897A-H 899A-D	889C, 889E, 889F, 889G, 889H, 891A, 891D, 893B, 893C, 895A, 895B, 895C, 897A, 897B, 897D, 897F, 897G, 897H, and 899B	None Identified
		Dust – Floors
Caribe Breeze		
1A-47B American Circle 84-92 Saratoga Road 1-4 Point Cruz	1A, 2C, 5B, 6B, 10D, 11A, 15A, 16B, 17C, 20A, 20B, 21B, 25C, 25A, 28A, 31B, 34B, 35A, 37A, 38B, 39C, 43B, and 47A American Circle 92A Saratoga Road 1B and 4B Point Cruz	Concrete Wall
		None Identified

Table B. Summary of LBP Issues at NAPR Housing		
Community Addresses	Assessed Units	LBP-containing Components
		LBP Hazards
Cascajo Point		
4-31 FDR Drive 1-8 Bataan Drive 1-20 San Jacinto Road 1-19 Cowrens Drive 1-55 Monterey Road 1-26 Cabot Lake	6, 11, 16, 21, 24, 30, and 31 FDR Drive 6 Bataan Drive 5 and 14 San Jacinto Road 4, 7, and 13 Cowrens Drive 4, 5, 13, 14, 19, 26, 29, 30, and 43 Monterey Road 2, 5, 12, and 14 Cabot Lake	None Identified
		None Identified
Coast Guard		
1675, 1676, 1677, 1678, 1679, and 1680 Intrepid Street	Same	Wood Ceiling, Wood Door Casing/Jamb/Stop, Wood Door, Wood Folding Door Casing, Wood Folding Door, Wood Shelf/Coat Rack, Wood Shelf/Shelf Support, Wood Sliding Door Casing, Wood Sliding Door, Concrete Wall, and Drywall Wall
		Deteriorated Paint – Wood Door Casing/Jamb/Stop Dust - Floors
FDR Drive		
1, 3, and 5 FDR Drive	Same	None Identified
		None Identified
Manatee Bay		
1-20 Intrepid Street 1-60 Ranger Road 1-28 Hancock Circle, 1-37 Coral Sea Drive 1-18 Franklin Drive 1-26 Hornet Road 1-54 Yorktown Circle 67-93 Lexington Drive	6 and 7 Intrepid Street 8, 11, 20, 36, 38, 49, 52, and 60 Ranger Road 2 and 20 Hancock Circle 4 and 15 Coral Sea Drive 3 and 18 Franklin Drive 8, 19, and 26 Hornet Road 3, 11, 21, 32, and 35 Yorktown Circle 67, 74, and 81 Lexington Drive	None Identified
		Dust – Floors
Mangrove Manor		
1-82 Saratoga Road, 1-22 Essex Drive 1-12 Ticonderoga Street 1-60 Enterprise Drive 1-58 Lexington Drive 1-38 Wasp Circle 1-8 Bunker Hill Road	11, 12, 19, 20, 31, 38, 50, 68, and 82 Saratoga Road 2, 11, and 17 Essex Drive 6 Ticonderoga Street 18, 25, 34, 41, and 54 Enterprise Drive 9, 26, 33, 46, and 47 Lexington Drive 6, 15, and 32 Wasp Circle, 7 Bunker Hill Road	Wood Door Casing/ Jamb/Stop, Wood Door, Ceramic Exterior Wall, Wood Sliding Door, and Wood Window Sash
		Dust – Floors
Rainbow Hill		
1A-36B Nimitz Drive	2A, 4A, 4B, 5B, 7A, 8A, 10C, 13B, 14B, 15B, 16A, 18A, 19C, 20B, 22B, 23A, 24A, 27A, 28B, 29B, 32A, 33B, 34A, and 36A Nimitz Drive	None Identified
		None Identified

Table B. Summary of LBP Issues at NAPR Housing	
<p><b>For NAPR Housing:</b></p> <p><b>Actions:</b>  1) Test the components in/on the remaining 804 units that were not inspected for LBP, determine which components contain LBP, and assess for LBP hazards,</p> <p><b>Or</b>  2) Assume all like components contain LBP and assess the other 804 units for LBP hazards</p>	

HUD requires that LBP hazards be abated in housing constructed prior to 1960. Because the housing units that were the subject of this study were reportedly constructed in 1960 or later, abatement of the identified LBP hazards is not required by HUD.

Control options are nevertheless listed below.

Control options for deteriorated LBP include:

- Paint Film Stabilization (considered an interim control)
- Encapsulation
- Enclosure
- Paint Removal
- Building Component Replacement

Control options for dust include:

- Dust Removal
- Cover Bare Soil

Control options for soil include:

- Plant Grass or Sod
- Cover with Mulch
- Pave Over
- Soil Removal

Other recommendations include: 1) The property transferee should be made aware of the presence of LBP and LBP hazards in the housing units, 2) Contractors who disturb LBP should comply with the requirements of the Puerto Rico Occupational Safety & Health Administration (OSHA) Lead Standard, which mirrors the federal OSHA standard (29 CFR 1926.62).

## **1.0 INTRODUCTION**

The US Navy Engineering Field Activity Northeast contracted Baker to perform lead-based paint (LBP) inspections and LBP risk assessments in military family housing at Naval Activity Puerto Rico (NAPR), located near Ceiba, Puerto Rico. The work was performed so that the federal government can transfer the properties. The Navy is considered the owner of all properties referenced in this report. The work was performed in accordance with the Scope of Work: Lead-Based Paint Inspection and Risk Assessment, and Asbestos Survey For Residential Property Transfer, dated September 9, 2004, under Contract Number N62472-01-D-1440. Field work for the project was performed from January 5, 2005 to February 11, 2005.

The body of the report is followed by the following appendices that contain supporting data:

- Appendix A contains a map of NAPR that shows the locations of each of the housing communities, and floor plans of each style of housing unit that was inspected.
- Appendix B contains inspector training certificates, company licenses, and laboratory certificates of accreditation.
- Appendix C contains the Niton XRF Analyzer Performance Characteristic Sheet and XRF analyzer calibration data.
- Appendix D contains analytical laboratory reports.
- Appendix E contains photographs pertinent to the LBP inspection. A CD that includes all of these photographs accompanies this report.
- Appendix F contains paint, soil sample, dust sample, and building condition data.

While preparing this report, Baker consulted the following regulations, guidance documents and policies:

- 24 CFR 35, Subparts A, B, C and R -Department of Housing and Urban Development (HUD) LBP Requirements.



- 29 CFR 1926.62 -Occupational Safety and Health Administration (OSHA) Lead Construction Standard.
- 40 CFR 745, Subparts D, L, and Q -Environmental Protection Agency (EPA) LBP Requirements.
- 41 CFR 101-47 – General Services Administration Federal Property Management Regulations: Utilization and Disposal of Real Property.
- 15 United States Code 2680, 2681 and 2688 -Toxic Substances Control Act.
- Department of Defense (DoD) Base Realignment and Closure Act (BRAC) Policy on Asbestos, Lead Paint and Radon Policies at BRAC Properties (October 31, 1994).
- HUD Guidelines 1995: Chapters 5 and 7, 1997 Revision.
- American Society for Testing and Materials E-6 -Standards for Lead.
- EPA 747-R-95-001 *Residential Sampling for Lead: Protocols for Dust and Soil Sampling*, March 1995.
- Puerto Rico Environmental Quality Board (EQB) Lead Regulations.

## **1.1 Housing Community Overview**

NAPR housing was reportedly constructed between 1960 and 1975 and contains 962 two, three, and four-bedroom apartment style, duplex, and single family units. NAPR housing consists of eight communities: Algodones, Caribe Breeze, Cascajo Point, Coast Guard, FDR Drive, Manatee Bay, Mangrove Manor, and Rainbow Hill. Twenty-seven of the housing units in Manatee Bay are of original construction, while the remaining 935 units were renovated to varying degrees beginning in 1989. The square footage of the units ranges from 1023 to 2105 square feet. The concrete-framed buildings have concrete or ceramic exterior finishes. Interior walls are painted gypsum board and concrete. The units are generally in good condition.

Table C below summarizes the renovation history for the communities, as provided by the housing office manager.

<b>Table C. Renovation History for NAPR Housing</b>				
<b>Address of Units Inspected</b>	<b>Style of Housing</b>	<b>Date of Const.</b>	<b>Date(s) of Renov.</b>	<b>Description of Renovation</b>
<b>Algodones</b>				
889C, 889E, 889F, 889G, 889H, 891A, 891D, 893B, 893C, 895A, 895B, 895C, 897A, 897B, 897D, 897F, 897G, 897H, and 899B	Two, Three, and Four Bedroom Apartment-Style Units	1960	1991	<ul style="list-style-type: none"> <li>● Installation of carpeting</li> <li>● Remodel bathrooms and kitchens</li> <li>● Replace doors and windows</li> </ul>
<b>Caribe Breeze</b>				
1A, 2C, 5B, 6B, 10D, 11A, 15A, 16B, 17C, 20A, 20B, 21B, 25C, 25A, 28A, 31B, 34B, 35A, 37A, 38B, 39C, 43B, and 47A American Circle 92A Saratoga Road 1B and 4B Point Cruz	Two, Three, and Four Bedroom Duplex Units	1974	2001 - 2003	<ul style="list-style-type: none"> <li>● Remove LBP and ACM</li> <li>● Repaint all walls inside and outside</li> <li>● Replace vinyl floor tile with ceramic tile</li> <li>● Replace A/C ductwork and central A/C units</li> <li>● Upgrade electrical systems</li> <li>● Replace entrance doors</li> <li>● Reconfigure outside storage areas and A/C mechanical rooms</li> <li>● Replace kitchen cabinets</li> <li>● Replace bathroom fixtures and tiles</li> <li>● Reconfigure master bedrooms and bathroom</li> <li>● Replace windows</li> <li>● Install ceiling fans</li> <li>● Replace carpeting in upstairs of 2-bedroom units</li> </ul>
<b>Cascajo Point</b>				
6, 11, 16, 21, 24, 30, and 31 FDR Drive 6 Bataan Drive 5 and 14 San Jacinto Road 4, 7, and 13 Cowrens Drive 4, 5, 13, 14, 19, 26, 29, 30, and 43 Monterey Road 2, 5, 12, and 14 Cabot Lake	Two, Three and Four Bedroom Single Family Houses	1960	1998 - 2001	<ul style="list-style-type: none"> <li>● Remove LBP and ACM</li> <li>● Construct screened-in porches</li> <li>● Repaint all walls inside and outside</li> <li>● Replace vinyl floor tile with ceramic tile</li> <li>● Replace A/C ductwork and central A/C units</li> <li>● Upgrade electrical systems</li> <li>● Replace kitchen cabinets</li> <li>● Remodel laundry areas</li> <li>● Replace bathroom fixtures and tiles</li> <li>● Reconfigure master bedrooms and bathroom</li> <li>● Install ceiling fans</li> </ul>
<b>Coast Guard</b>				
1675, 1676, 1677, 1678, 1679, and 1680 Intrepid Street	Three and Four Bedroom Single Family Houses	1960	1989 - 1992	<ul style="list-style-type: none"> <li>● Replace floors tiles</li> <li>● Replace kitchen cabinets</li> <li>● Install central A/C</li> <li>● Replace aluminum jealously windows with French type glass louvered windows</li> </ul>
<b>FDR Drive</b>				
1, 3, and 5 FDR Drive	Three Bedroom Single Family Houses	1960	1999 - 2000	<ul style="list-style-type: none"> <li>● Remove LBP and ACM</li> <li>● Replace carpeting</li> <li>● Repaint all walls inside and outside</li> <li>● Replace A/C ductwork</li> <li>● Reconfigure mechanical room</li> <li>● Upgrade electrical systems</li> <li>● Replace kitchen floors and cabinets</li> <li>● Remodel bathrooms including replace bathroom fixtures ( not 1 FDR)</li> <li>● Install ceiling fans</li> </ul>

Table C. Renovation History for NAPR Housing				
Address of Units Inspected	Style of Housing	Date of Const.	Date(s) of Renov.	Description of Renovation
<b>Manatee Bay</b>				
6 and 7 Intrepid Street 8, 11, 20, 36, 38, 49, 52, and 60 Ranger Road 2 and 20 Hancock Circle 4 and 15 Coral Sea Drive 3 and 18 Franklin Drive 8, 19, and 26 Hornet Road 3, 11, 21, 32, and 35 Yorktown Circle 67, 74, and 81 Lexington Drive	Two, Three and Four Bedroom Single Family Houses	1960	2001 - 2003	<ul style="list-style-type: none"> <li>● Remove LBP and ACM</li> <li>● Construct screened-in porches</li> <li>● Repaint all walls inside and outside</li> <li>● Replace vinyl floor tile with ceramic tile</li> <li>● Replace A/C ductwork and central A/C units</li> <li>● Upgrade electrical systems</li> <li>● Reconfigure kitchens and replace kitchen cabinets</li> <li>● Remodel laundry areas</li> <li>● Replace bathroom fixtures and tiles</li> <li>● Reconfigure master bedrooms and bathroom</li> <li>● Install ceiling fans</li> </ul>
<b>Mangrove Manor</b>				
11, 12, 19, 20, 31, 38, 50, 68, and 82 Saratoga Road 2, 11, and 17 Essex Drive 6 Ticonderoga Street 18, 25, 34, 41, and 54 Enterprise Drive 9, 26, 33, 46, and 47 Lexington Drive 6, 15, and 32 Wasp Circle 7 Bunker Hill Road	Two, Three and Four Bedroom Single Family Houses	1960	1989 - 1992	<ul style="list-style-type: none"> <li>● Same as Coast Guard</li> </ul>
<b>Rainbow Hill</b>				
2A, 4A, 4B, 5B, 7A, 8A, 10C, 13B, 14B, 15B, 16A, 18A, 19C, 20B, 22B, 23A, 24A, 27A, 28B, 29B, 32A, 33B, 34A, and 36A Nimitz Drive	Two, Three, and Four Bedroom Duplex and Apartment-Style Units	1975	1998 - 2001	<ul style="list-style-type: none"> <li>● Caribe Breeze</li> </ul>

Floor plans of the housing units are included in Appendix A, and exterior photographs are presented in Appendix E.

## 2.0 LEAD-BASED PAINT INSPECTION

### 2.1 Regulatory Background

NAPR Housing units are federal properties and are subject to federal regulations. The DoD recognizes that the Residential Lead-Based Paint Hazard Reduction Act governs LBP activities in DoD residential housing. The Act, commonly known as Title X of the Housing and Residence Development Act of 1992 (42 United States Code 4822), requires federal departments and agencies to address lead hazards in residential properties. The following table identifies the salient sections of Title X.

Table D. Lead-Based Paint Hazard Reduction Act (Title X)	
Section Number	Regulatory Requirement
402	Train and certify people involved in LBP activities
403	Create provisions for developing regulations for identifying LBP hazards in residential property, including standards for dust and soil
1013	Inspect and abate LBP hazards in all federally owned target housing constructed prior to 1960 when transferring property. Inspect all federally owned target housing constructed between 1960-1977 for LBP and LBP hazards when transferring property
1012 and 1013	Directs HUD to issue regulations requiring LBP inspections, risk assessments and interim controls and abatement of LBP hazards in federally owned target housing and target housing receiving federal assistance when transferring property
1018	Disclose known LBP and LBP hazards before sale or lease of federally owned and federally assisted housing

HUD and the EPA developed regulations to implement Title X. The implementing regulations are 24 CFR 35 and 40 CFR 745. Within 24 CFR 35, Subpart A describes disclosure responsibilities, Subpart B provides definitions and establishes programs, Subpart C addresses federal property transfers and Subpart R establishes methods and standards for assessing LBP hazards. Within 40 CFR 745, Subpart D provides information on identifying dangerous levels of lead and Subpart L establishes the HUD guidelines as the criteria for performing risk assessments and creating risk assessment reports.

Baker reviewed BRAC policy and HUD regulations to identify the requirements for transferring properties with LBP. Based on the review of the information, the Navy is not required to abate LBP hazards at NAPR Housing, or insure that the purchaser abates LBP hazards prior to use as

target housing. However, the Navy is required to disclose all knowledge of LBP and LBP hazards at NAPR Housing to any bidders or transferees. This report should be given to parties interested in NAPR Housing and will serve as the disclosure vehicle. The results of the LBP inspection and LBP risk assessment should be incorporated into the Environmental Baseline Survey of NAPR Housing. The LBP inspection and risk assessment should be referenced in the Findings of Suitability for Transfer as well as the deed or contract for sale of NAPR Housing.

The Puerto Rico EQB requires licensing of firms and individuals involved in inspection, assessment, and abatement of LBP. It also requires notification and permitting procedures for LBP abatement projects.

HUD regulations were followed for the disposition of residential property owned by a federal agency other than HUD. Puerto Rico EQB and/or EPA-accredited LBP Inspectors/Risk Assessors performed all work for this project.

## **2.2     Methodology**

This LBP inspection involved testing paint for lead using an x-ray fluorescence (XRF) analyzer. According to EPA and HUD guidelines, XRF testing is an acceptable technology to determine the concentration of lead in paint. Baker subcontracted the services of Environmental Development and Sustainability, Inc. (EDS) of Catano, Puerto Rico to conduct the XRF testing. Baker is located at 100 Airside Drive, Moon Township, Pennsylvania, 15108, telephone number (412) 269-6300. EDS is located at Las Nereidas St., Cond. Bahia Court, #1, Catano, Puerto Rico, 00962, telephone number (787) 788-7644. Mr. Ramon E. Ramirez and Mr. Jose Marquez, EPA/Puerto Rico EQB certified Inspectors/Risk Assessors, performed the XRF testing at Baker's direction using a Niton XRF spectrum analyzer Model Number XL-309. The analyzer has a Performance Characteristic Sheet (PCS) that defines the parameters for its use in the field; a copy of the PCS is included in Appendix C. XRF testing results by housing unit are included in Appendix F. XRF results are reported in milligrams of lead per square centimeter (mg/cm<sup>2</sup>). According to federal and Puerto Rico EQB regulations, paint is considered lead based when XRF test results equal or exceed 1.0 mg/cm<sup>2</sup>.

Each testing combination in each room equivalent was tested for lead. A room equivalent refers to a distinct room (e.g., Kitchen, Bedroom 1), while a testing combination refers to a given room, component, and substrate combination (e.g., kitchen, window sash, wood). With the exception of walls, one reading was taken on each testing combination in each room equivalent. Four readings were collected from the walls in each room equivalent, one from each wall. For each housing unit, testing combinations, paint colors, paint conditions, location(s), approximate quantities (if positive and in fair or poor condition), and XRF readings were recorded. For simplicity, all readings that were less than 0.1 mg/cm<sup>2</sup> were recorded as 0.0 mg/cm<sup>2</sup>.

The identification of walls for a given room is as follows: Wall 1 is the wall that is located on the street side of the room, when in the room looking toward the street. Walls 2, 3, and 4 are the walls that are present going clockwise from Wall 1.

### 2.3 Selecting Units for Inspections

Per the Scope of Work, ACM inspections were performed in 19 of 32 Algodones housing units, 26 of 136 Caribe Breeze housing units, 26 of 139 Cascajo Point housing units, all six Coast Guard housing units, all three FDR Drive housing units, 26 of 262 Manatee Bay housing units, 27 of 275 Mangrove Manor housing units, and 24 of 88 Rainbow Hill housing units. NAPR Housing units selected for LBP inspection were chosen randomly. Units selected for LBP inspection are listed in Table E below. All units were vacant at the time of the inspections.

<b>Table E. Units Selected for LBP Inspection at NAPR Housing</b>	
<b>Address</b>	<b>Date Inspected</b>
<b>Algodones</b>	
889C	February 1, 2005
889E	February 1, 2005
889F	February 2, 2005
889G	February 2, 2005
889H	February 7, 2005
891A	February 3, 2005
891D	February 3, 2005
893B	February 3, 2005
893C	February 4, 2005
895A	February 4, 2005
895B	February 4, 2005
895C	February 4, 2005

<b>Table E. Units Selected for LBP Inspection at NAPR Housing</b>	
<b>Address</b>	<b>Date Inspected</b>
<b>Algodones</b>	
897A	February 7, 2005
897B	February 2, 2005
897D	February 2, 2005
897F	February 2, 2005
897G	February 2, 2005
897H	February 2, 2005
899B	February 1, 2005
<b>Caribe Breeze</b>	
1A American Circle	January 5, 2005
2C American Circle	January 9, 2005
5B American Circle	January 7, 2005
6B American Circle	January 7, 2005
10D American Circle	January 10, 2005
11A American Circle	January 10, 2005
15A American Circle	January 10, 2005
16B American Circle	January 10, 2005
17C American Circle	January 11, 2005
20A American Circle	January 11, 2005
20B American Circle	January 11, 2005
21B American Circle	January 12, 2005
24C American Circle	January 12, 2005
25A American Circle	January 12, 2005
28A American Circle	January 12, 2005
31B American Circle	January 12, 2005
34B American Circle	January 13, 2005
35A American Circle	January 13, 2005
37A American Circle	January 13, 2005
38B American Circle	January 14, 2005
39C American Circle	January 14, 2005
43B American Circle	January 14, 2005
47A American Circle	January 17, 2005
92A Saratoga Drive	January 17, 2005
1B Point Cruz	January 17, 2005
4B Point Cruz	January 17, 2005
<b>Casajo Point</b>	
6 FDR Drive	January 20, 2005
11 FDR Drive	January 20, 2005
16 FDR Drive	January 20, 2005
21 FDR Drive	January 20, 2005
24 FDR Drive	January 20, 2005
30 FDR Drive	January 21, 2005
31 FDR Drive	January 21, 2005
6 Bataan Drive	January 20, 2005
5 San Jacinto Road	January 27, 2005
14 San Jacinto Road	January 25, 2005
4 Cowrens Drive	January 21, 2005
7 Cowrens Drive	January 24, 2005
13 Cowrens Drive	January 24, 2005



Table E. Units Selected for LBP Inspection at NAPR Housing	
Address	Date Inspected
<b>Cascajo Point</b>	
4 Monterey Road	January 26, 2005
5 Monterey Road	January 26, 2005
13 Monterey Road	January 26, 2005
14 Monterey Road	January 27, 2005
19 Monterey Road	January 27, 2005
26 Monterey Road	January 27, 2005
29 Monterey Road	January 27, 2005
30 Monterey Road	January 27, 2005
43 Monterey Road	January 27, 2005
2 Cabot Lake	January 24, 2005
5 Cabot Lake	January 24, 2005
12 Cabot Lake	January 24, 2005
14 Cabot Lake	January 27, 2005
<b>Coast Guard</b>	
1675 Intrepid Street	January 31, 2005
1676 Intrepid Street	January 31, 2005
1677 Intrepid Street	February 1, 2005
1678 Intrepid Street	February 5, 2005
1679 Intrepid Street	February 5, 2005
1680 Intrepid Street	January 31, 2005
<b>FDR Drive</b>	
1 FDR Drive	January 19, 2005
3 FDR Drive	January 21, 2005
5 FDR Drive	January 19, 2005
<b>Manatee Bay</b>	
6 Intrepid Street	January 6, 2005
7 Intrepid Street	January 7, 2005
8 Ranger Road	January 7, 2005
11 Ranger Road	January 7, 2005
20 Ranger Road	January 10, 2005
36 Ranger Road	January 11, 2005
38 Ranger Road	January 10, 2005
49 Ranger Road	January 10, 2005
52 Ranger Road	January 10, 2005
60 Ranger Road	January 11, 2005
2 Hancock Circle	January 11, 2005
20 Hancock Circle	January 11, 2005
4 Coral Sea Drive	January 12, 2005
15 Coral Sea Drive	January 12, 2005
3 Franklyn Drive	January 12, 2005
18 Franklyn Drive	January 12, 2005
8 Hornet Road	January 13, 2005
19 Hornet Road	January 13, 2005
26 Hornet Road	January 13, 2005
3 Yorktown Circle	January 14, 2005
11 Yorktown Circle	January 14, 2005
21 Yorktown Circle	January 14, 2005
32 Yorktown Circle	January 14, 2005

<b>Table E. Units Selected for LBP Inspection at NAPR Housing</b>	
<b>Address</b>	<b>Date Inspected</b>
<b>Manatee Bay</b>	
35 Yorktown Circle	January 17, 2005
67 Lexington Drive	January 18, 2005
74 Lexington Drive	January 18, 2005
81 Lexington Drive	January 18, 2005
<b>Mangrove Manor</b>	
11 Saratoga Road	January 19, 2005
12 Saratoga Road	January 19, 2005
19 Saratoga Road	January 19, 2005
20 Saratoga Road	January 19, 2005
31 Saratoga Road	January 20, 2005
38 Saratoga Road	January 20, 2005
50 Saratoga Road	January 20, 2005
68 Saratoga Road	January 20, 2005
82 Saratoga Road	January 21, 2005
2 Essex Drive	January 21, 2005
11 Essex Drive	January 21, 2005
17 Essex Drive	January 21, 2005
6 Ticonderoga Road	January 24, 2005
18 Enterprise Drive	January 24, 2005
25 Enterprise Drive	January 24, 2005
34 Enterprise Drive	January 24, 2005
41 Enterprise Drive	January 25, 2005
54 Enterprise Drive	January 25, 2005
9 Lexington Drive	January 25, 2005
26 Lexington Drive	January 26, 2005
33 Lexington Drive	January 26, 2005
46 Lexington Drive	January 26, 2005
47 Lexington Drive	January 26, 2005
6 Wasp Circle	January 26, 2005
15 Wasp Circle	January 27, 2005
32 Wasp Circle	January 27, 2005
7 Bunker Hill Road	January 27, 2005
<b>Rainbow Hill</b>	
2A Nimitz Drive	January 27, 2005
4A Nimitz Drive	January 28, 2005
4B Nimitz Drive	January 28, 2005
5B Nimitz Drive	January 28, 2005
7A Nimitz Drive	January 28, 2005
8A Nimitz Drive	January 28, 2005
10C Nimitz Drive	January 31, 2005
13B Nimitz Drive	January 31, 2005
14B Nimitz Drive	January 31, 2005
15B Nimitz Drive	January 31, 2005
16A Nimitz Drive	February 1, 2005
18A Nimitz Drive	February 1, 2005
19C Nimitz Drive	February 1, 2005
20B Nimitz Drive	February 1, 2005
22B Nimitz Drive	February 2, 2005

<b>Table E. Units Selected for LBP Inspection at NAPR Housing</b>	
<b>Address</b>	<b>Date Inspected</b>
<b>Rainbow Hill</b>	
23A Nimitz Drive	February 2, 2005
24A Nimitz Drive	February 2, 2005
27A Nimitz Drive	February 2, 2005
28B Nimitz Drive	February 3, 2005
29B Nimitz Drive	February 3, 2005
32A Nimitz Drive	February 3, 2005
33B Nimitz Drive	February 3, 2005
34A Nimitz Drive	February 4, 2005
36A Nimitz Drive	February 4, 2005

## **2.4 Disclaimer**

The presence or absence of LBP applies only to tested surfaces on the date of the field visit. It should be noted that conditions might change due to vandalism, deterioration or maintenance activities. Ongoing monitoring by the owner or transferee is necessary. The concentration of lead in paint that renders it a LBP is not relevant for worker protection concerns during construction or maintenance work. When workers disturb paint that contains any level of lead (determined by a valid test method), Puerto Rico OSHA requires adherence to its Lead Standard.

## **2.5 Results**

Baker performed LBP inspections in 19 of 32 Algodones housing units, 26 of 136 Caribe Breeze housing units, 26 of 139 Cascajo Point housing units, all six Coast Guard housing units, all three FDR Drive housing units, 26 of 262 Manatee Bay housing units, 27 of 275 Mangrove Manor housing units, and 24 of 88 Rainbow Hill housing units. Baker's inspection identified LBP on several types of components in the Caribe Breeze, Coast Guard, and Mangrove Manor housing communities. LBP was not identified in the Algodones, Cascajo Point, FDR Drive, Manatee Bay, and Rainbow Hill housing communities. Complete surface-by-surface results for the XRF testing are included in Appendix F. Table B in the Executive Summary also provides a list of the positive components in the Caribe Breeze, Coast Guard, and Mangrove Manor housing communities. A summary of the number of positive and negative XRF readings by component for the housing units in which testing was conducted is included in Tables 1–8 following the text of this report. A list of the components that should be assumed to be coated with LBP in the NAPR Housing units that were not tested is included in Table 9 following the text of this report. Photographs of components coated in LBP are presented in Appendix E.

### **3.0 LEAD-BASED PAINT RISK ASSESSMENT**

#### **3.1 Regulatory Background**

Section 2.1 of this report addresses the regulatory background of LBP in the United States.

#### **3.2 Methodology**

This LBP risk assessment involved a visual inspection of the units as well as the collection of environmental samples of dust and soil for laboratory analysis. The visual inspection also included a building condition assessment including observation for the presence of holes or cracks in the roof, missing exterior siding, foundation cracks, etc. Building condition forms are included in Appendix F.

Mr. Mark Zetts and Mr. Michael Arthur, EPA-certified Risk Assessors, conducted the visual assessment and directed the collection of environmental samples. Mr. Zetts and Mr. Arthur were assisted by Mr. Ramirez and Mr. Marquez of EDS, who are Puerto Rico EQB / EPA-certified Risk Assessors. Copies of training certificates are included in Appendix B. The methodologies for the environmental sampling performed in support of the risk assessment are discussed below.

During the LBP inspection, painted components were analyzed for lead using an XRF analyzer as stated in Section 2.2. In addition, Baker collected dust wipe samples, dust vacuum samples (where carpets instead of hard floors were present), and soil samples in accordance with HUD and EPA protocols. Dust wipe samples were collected from floors only. The housing units did not have window sills. Field blanks (1 per 20 wipe samples) were also collected and submitted for laboratory analysis. All samples were submitted with chain of custody documentation to Schneider Laboratories, Inc. for lead analysis by EPA Method 3050B/7420.

When bare soil was present, Baker collected composite soil samples. No bare soil was present at Algodones. One composite sample was collected from the children's play area (if present), one was collected from the building's dripline, and one was collected from any other areas of the yard, referred to as "mid-yard." Baker calculated the arithmetic mean of the dripline composite sample and the mid-yard composite sample to represent a yard average. Children's play area composite samples were reported separately.

Schneider Laboratories analyzed the dust wipe and soil samples using EPA method 3050B/7420. Schneider Laboratories is fully accredited for lead analysis under the National Lead Laboratory Accreditation Program. Laboratory certifications are presented in Appendix B. Laboratory reports for dust wipe and soil samples are included in Appendix D. Summaries of dust wipe, dust vacuum, and soil sample results by housing unit are presented in Appendix F.

### **3.3     Selecting Units for Assessment**

The same units that were selected for LBP inspection were also selected for LBP risk assessment.

### **3.4     Summary of Hazards**

Based on federal regulations, a lead hazard exists when one or more of the following conditions exist:

- LBP on a component is deteriorated.
- LBP is present on a friction surface, the LBP shows signs of abrasion, and lead levels in dust on nearest horizontal surface underneath the friction surface exceed dust-lead hazard standards ( $40 \mu\text{g}/\text{ft}^2$  for floors;  $250 \mu\text{g}/\text{ft}^2$  for windowsills).
- LBP is present on an impact surface, the LBP is damaged/deteriorated, and the damage is caused by impact of a related building component.
- LBP is present on a chewable surface and teeth marks are evident.
- Lead in floor dust wipe samples equals or exceeds 40 micrograms per square foot ( $\mu\text{g}/\text{ft}^2$ ).
- Lead in interior window sill dust wipe samples equals or exceeds  $250 \mu\text{g}/\text{ft}^2$

- Lead in bare soil play area samples equals or exceeds 400 part per million (ppm).
- Lead in bare soil samples equals or exceeds 1,200 ppm as a yard average.

Table F summarizes the LBP hazards identified within NAPR Housing. For additional details on LBP hazards, see Tables 10-13 following the text of the report. Floor plans of typical units are presented in Appendix A. Photographs of typical LBP hazards are presented in Appendix E.

<b>Table F. LBP Hazards Identified in LBP Risk Assessed Units at NAPR Housing</b>				
<b>Address</b>	<b>Hazard / Deteriorated LBP Component</b>	<b>Location</b>	<b>Condition</b>	<b>Quantity</b>
<b>Algodones</b>				
889F	Dust - Floor	Hall 2 Floor	NA	NA
<b>Coast Guard</b>				
1676 Intrepid Street	Wood Door Casing/Jamb/Stop	BR3	Fair	1
1677 Intrepid Street		ST/ME		1
1680 Intrepid Street		BR3, Laundry, and ST/ME		3
1678 Intrepid Street	Dust – Floor	Bath 1 and Kitchen	NA	NA
<b>Manatee Bay</b>				
7 Intrepid Street	Dust - Floor	Bath 2	NA	NA
<b>Mangrove Manor</b>				
68 Saratoga Road	Dust - Floor	Bath 1 – Floor	NA	NA
25 Enterprise Drive		Bath 1, DR – Floor		
6 Wasp Circle		Hall - Floor		

No LBP hazards related to friction surfaces, impact surfaces, chewable surfaces, or soil were identified in the communities in Table F above. No LBP hazard of any type was identified in the Caribe Breeze, Cascajo Point, FDR Drive, and Rainbow Hill housing communities.

Implementation of one of the following two options is recommended for identifying LBP hazards that may exist at the NAPR Housing units that were not inspected:

- Test the components in the remaining 804 units that were not inspected for LBP, and identify all LBP hazards that are present.
- Assume all like components in the untested units contain LBP, and identify all LBP hazards that are present.

Although not required due to the age of NAPR Housing, control options for deteriorated LBP include:

- Paint Film Stabilization (considered an interim control)
- Encapsulation
- Enclosure
- Paint Removal
- Building Component Replacement

Control options for dust include:

- Dust Removal
- Cover Bare Soil

Control options for soil include:

- Plant Grass or Sod
- Cover with Mulch
- Pave Over
- Soil Removal

Other recommendations include:

- 1) The property transferee should be made aware of the presence of LBP and LBP hazards in the housing units.
- 2) Contractors who disturb LBP should comply with the requirements of the Puerto Rico Occupational Safety & Health Administration (OSHA) Lead Standard, which mirrors the federal OSHA standard (29 CFR 1926.62).

**Exhibit H**

**Lead-Based Paint Hazards Advisory Statement**



**LEAD-BASED PAINT HAZARD  
DISCLOSURE AND ACKNOWLEDGEMENT FORM**

**LEAD WARNING STATEMENT**

YOU ARE ADVISED THAT STRUCTURES CONSTRUCTED PRIOR TO 1978 MAY PRESENT EXPOSURE TO LEAD FROM LEAD-BASED PAINT THAT MAY PLACE YOUNG CHILDREN AT RISK OF DEVELOPING LEAD POISONING. LEAD POISONING IN YOUNG CHILDREN MAY PRODUCE PERMANENT NEUROLOGICAL DAMAGE. YOU ARE FURTHER ADVISED THAT LEAD POISONING ALSO POSES A PARTICULAR RISK TO PREGNANT WOMEN. WORKERS MAY ALSO SUFFER ADVERSE HEALTH EFFECTS FROM LEAD DUST AND FUME EXPOSURE

**ACKNOWLEDGEMENT**

I acknowledge that:

1. I have read and understand the above stated Lead Warning Statement;
2. I have received from the Federal Government the following document(s): *Phase I/II Environmental Condition of Property Report, Former Naval Station Roosevelt Roads, Ceiba, Puerto Rico* and *Finding of Suitability to Transfer, Sale Parcel II - Capehart, Naval Activity Puerto Rico, Ceiba, Puerto Rico* representing the best information available to the Government as to the presence of Lead-Based Paint and Lead-Based Paint hazards for the non-residential buildings covered by this Transfer. I have also received the *Final Lead-Based Paint Inspection/Risk Assessment Report for Military Family Housing, Naval Activity Puerto Rico, Ceiba, Puerto Rico* representing the best information available to the Government as to the presence of Lead-Based Paint and Lead-Based Paint hazards for the residential buildings covered by this Transfer;
3. I understand that my failure to inspect, or to become fully informed as to the condition of all or any portion of the property offered will not constitute grounds for any claim or demand for adjustment or withdrawal of any bid or offer made after its opening or tender; and
4. I understand that upon execution of this Transfer, I shall assume full responsibility for preventing future lead exposure by properly managing and maintaining or, as required by applicable Federal, state, or local laws or regulations, for abating any lead-based paint hazard that may pose a risk to human health.

\_\_\_\_\_  
Transferee (or duly authorized agent)

\_\_\_\_\_  
Date

**Exhibit I**

**Responses to Comments**

**Navy Responses to U.S. Environmental Protection Agency (EPA) Comments**  
**Draft Finding of Suitability to Transfer**  
**Sale Parcel II - Capehart**

EPA Comment 1:

EPA does not fully agree with the statement given in Section 5.0.F (Environmental Compliance Agreements/Permits/Orders) of the FOST that "...there are no RCRA obligations related to the Subject Property at this time. EPA considers certain requirements of the January 2007 RCRA Consent Order between the Navy and EPA to be applicable to the Subject Property, including, among others, those given in: a) Paragraph 26 "Notification and Additional Work Requirements for Newly Discovered Releases"; Paragraph 27.H) "Imminent and Substantial Endangerment due to Solid Waste or Hazardous Waste"; and all of Section XVI (Record Retention).

Navy response:

The text of Section 5.F. has been revised to state the following:

*On January 29, 2007, the U.S. Department of the Navy and EPA voluntarily entered into a Resource Conservation and Recovery Act (RCRA) Section 7003 Administrative Order on Consent (Consent Order; EPA, 2007). The Consent Order set out the Navy's RCRA corrective action obligations and replaced the 1994 RCRA permit as the document memorializing these obligations concerning NAPR. Although there are no RCRA solid waste management units or areas of concern on the Subject Property, certain RCRA obligations defined in the Consent Order apply to the Subject Property including notification and additional work requirements for newly discovered releases, other notification requirements, and record retention requirements. There are no other environmental compliance agreements, permits, or orders associated with the Subject Property.*

EPA Comment 2:

References - the January 2007 Administrative Order on Consent should be listed in the reference section.

Navy response:

The January 2007 Administrative Order on Consent has been added to the list of references in Exhibit A.