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NASD VIEQUES
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LETTER AND ATTACHED ACTION MEMORANDUM FOR A NON CRITICAL REMOVAL
ACTION SOLID WASTE MANAGEMENT UNIT 4 (SWMU 4) ATLANTIC FLEET WEAPONS
TRAINING AREA FORMER NAVAL AMMUNITION SUPPORT DETACHMENT VIEQUES
ISLAND PUERTO RICO
01/16/2015
DEPARTMENT OF THE NAVY



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, ATLANTIC
6506 HAMPTON BLVD
NORFOLK VA 23508-1278

5090 IN REPLY REFER TO:
Ser EV31DRH/00006
January 16, 2015

Mr. Julio F. Vazquez
Remedial Program Manager
U.S. Environmental Protection Agency, Region 2
Special Projects Branch/Federal Facilities Section
290 Broadway, 18th Floor
New York, NY 10007-1866

Dear Mr. Vazquez:

The Navy is pleased to submit one hardcopy and one CD of the Action Memorandum for a Non-Time Critical Removal Action, Solid Waste Management Unit (SWMU) 4, Atlantic Fleet Weapons Training Area - Vieques, Former Naval Ammunition Support Detachment, Vieques, Puerto Rico.

Should you have any questions, please contact Mr. Daniel Hood at (757) 322-4630 or e-mail: daniel.r.hood@navy.mil.

Sincerely,

A handwritten signature in cursive script that reads "Cheryl F. Barnett".

CHERYL F. BARNETT

Environmental Business Line Manager
By direction of the Commander

Enclosure: Action Memorandum for a Non-Time Critical Removal Action, Solid Waste Management Unit (SWMU) 4, Atlantic Fleet Weapons Training Area - Vieques, Former Naval Ammunition Support Detachment, Vieques, Puerto Rico

Copy to: (w/encl)
U.S. Environmental Protection Agency Region 2 (Ms. Denise Zeno, Mr. Daniel Rodriguez)
Puerto Rico Environmental Quality Board (Ms. Wilmarie Rivera, Ms. Gloria Toro Agrait)
U.S. Fish and Wildlife Service (Ms. Susan Silander, Mr. Mike Barandiaran)
Department of Natural and Environmental Resources (Mr. Craig Lilyestrom)

Copy to: (w/o encl)
U.S. Environmental Protection Agency (Mr. Jose Font, Ms. Angela Carpenter)
Puerto Rico Environmental Quality Board (Ms. Laura Velez Velez)

Action Memorandum for a Non-Time Critical Removal Action, Solid Waste Management Unit (SWMU) 4, Atlantic Fleet Weapons Training Area - Vieques, Former Naval Ammunition Support Detachment, Vieques, Puerto Rico

FROM: NAVFAC Atlantic

TO: Environmental Protection Agency

COPIES: P.R. Environmental Quality Board, US Fish & Wildlife Service

DATE: January 2015

I. Purpose

This memorandum documents approval to initiate a non-time-critical removal action (NTCRA) for potential munitions and explosives of concern (MEC) at Solid Waste Management Unit (SWMU) 4 at the Naval Ammunition Support Detachment (NASD), Vieques, Puerto Rico (Figure 1) pursuant to the Navy's authority under CERCLA Section 104. The former VNTR is part of National Priorities List (NPL) site Atlantic Fleet Weapons Training Area – Vieques.

II. Site Information

A. Site Description

1. **Site Name:** SWMU 4, Atlantic Fleet Weapons Training Area – Vieques
2. **Superfund Site ID (SSID):** FFA CERCLA 02-2007-2001
3. **NRC Case Number:** Not Applicable
4. **CERCLIS Number:** PRN000204694
5. **Site Location:** Vieques, Puerto Rico
6. **Lat /Long:** 18⁰ 06' 32"N, 65⁰ 34' 16"W
7. **Potentially Responsible Party (PRP):** United States Navy
8. **NPL Status:** Final NPL
9. **Removal Start Date:** January 2015

B. Site Background

1. Removal Site Evaluation

The historical information pertinent to and providing the rationale for the NTCRA covered by this Action Memorandum is provided below.

1. Preliminary Investigations

Between 1984 and 2000, the Initial Assessment Study (Greenleaf, 1984), Environmental Baseline Survey (Program Management Company, 2000), and Preliminary Assessment/Site Investigation (PA/SI) (CH2M HILL, 2000) were conducted at the NASD and identified SWMU 4 as an area requiring further investigation.

2. Remedial Investigation – MEC Component

From January 2002 to July 2003, the MEC component of the SWMU 4 Remedial Investigation (RI) was conducted to characterize the nature and extent of surface and subsurface MEC. MEC was removed from up to 1 foot below ground surface (ft bgs) within an 87-acre area, including the open burn/open detonation (OB/OD) pits (Figure 2) (CH2M HILL, 2012a). MEC removal was not performed to the maximum depth of the OB/OD pits.

3. Remedial Investigation – Chemical Contamination Component

From January 2007 to July 2008, the SWMU 4 RI was performed to characterize the nature and extent of chemical contaminants in soil, groundwater, and the surface water and sediment of the lagoon (Laguna Boca Quebrada) and ephemeral streams (CH2M HILL, 2012a).

4. Road and Beaches NTCRA

From October 2009 to June 2010, a NTCRA was conducted to remove MEC from the ground surface and to a maximum depth of 2 ft bgs along the roads and 4 ft bgs along the beach (Figure 2) (CH2M HILL, 2012b).

2. Physical Location and Site Location

Vieques is located in the Caribbean Sea approximately 7 miles off the southeast coast the main island of Puerto Rico; it is approximately 20 miles long and 4.5 miles wide.

SWMU 4 is approximately 400 acres in size (Figure 1). The offshore portion within the 3,000 ft buffer zone is part of Unexploded Ordnance (UXO) 16, which is being investigated as part of an Expanded Site Inspection. The NTCRA covered by this EE/CA includes only the terrestrial portion of the area within the safety buffer (i.e., SWMU 4).

3. Release or threatened release into the environment of a hazardous substance pollutant or contaminant.

SWMU 4 is known as the former OB/OD Site that was used for the thermal destruction of retrograde and surplus munitions, fuels, and propellants from 1969 through 1979 and may have periodically been used as far back as the late 1940s. Fuels, propellants, and explosives waste materials were burned and/or detonated in 16 OB/OD pits that ranged in

size from 10 to 25 feet across with depths ranging from 3 to 5 feet below grade. OB/OD activities resulted in the distribution of kick-outs and explosive fragments, distributing over an area based on the amount of explosives that were used and the type of munitions destroyed; a conservative safety buffer arc with a 3,000-ft radius from the pits defines the boundary of the terrestrial site (Figure 1).

C. State and Local Authorities' Roles

The Navy is the lead agency for this NTCRA and as such will be responsible for funding and conducting the response; there have been no past State or Local actions at this site and neither the State nor Local agency will be responsible for the response.

III. Threats to Public Health Welfare or the Environment

A. Nature of Actual or Threatened Release of Hazardous Substances, Pollutants or Contaminants.

Based on the findings of the previous investigations and interim removal actions the majority of the MEC recovered from SWMU 4 have been 20 mm projectiles that contained or may have contained high explosive filler. Incendiary, white phosphorous, flares, tracers, fuzes, and small cartridges were also demilitarized/demolished by detonation at SWMU 4.

MEC, material potentially presenting an explosive hazard (MPPEH), munitions debris (MD), and range-related debris (RRD) occurred most frequently in the vicinity of the OB/OD pits, with the density of items declining with distance from the pits. MEC was not identified beyond approximately 2,600 ft from the OB/OD area. The distribution and density of MEC recovered from the site to-date is shown on Figure 2.

During both the RI and the NTCRA for the roads and beaches, over 90 percent of the MEC recovered were found within the first 1 ft of excavation.

B. Check applicable factors (from 40 CFR 300.415) which were considered in determining the appropriateness of a removal action:

- × Actual or potential exposure to nearby human populations, animals or the food chain from hazardous substances or pollutants or contaminants [300.415(b) (2) (i)].

Actual or potential contamination of drinking water supplies or sensitive ecosystems [300.415(b) (2) (ii)].

Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that pose a threat of release [300.415(b) (2) (iii)].

High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate [300.415(b) (2) (iv)].

Weather conditions that may cause hazardous substances or pollutants to migrate or to be released [300.415(b) (2) (v)].

- × Threat of fire or explosion [300.415(b) (2) (vi)].
- × The availability of other appropriate federal or state response mechanisms to respond to the release [300.415(b)(2)(vi i)]
- × Other situations or factors that may pose threats to the public health or welfare of the United States or the environment [300.415(b) (2) (viii)]

IV. Selected Removal Action and Estimated Costs

A. Situation and Removal Activities to Date

1. Endangerment Determination

Previous investigations have identified munitions on the ground surface and subsurface within SWMU 4 (Figure 2). However, removal activities have occurred only in certain portions of the site. Therefore, a potential explosive hazard remains at and immediately adjacent to areas that are managed by USFWS, planned for access by the public, or accessed by trespassers (Figure 3).

2. Removal activities to date:

See the summary of information provided under **Site Background** above.

3. Enforcement

The approach for the planned NTCRA is consistent with previous and ongoing NTCRAs and TCRA within the former Vieques Naval Training Range (VNTR) that have been supported by USEPA, PREQB, and USFWS. These interim actions have been, and are being, performed where munitions pose a high explosive hazard to the public and/or USFWS workers.

B. Planned Removal Actions

1. Removal Action description

Three removal actions were considered, as detailed in the *Final Engineering Evaluation/Cost Analysis for a Non-Time Critical Removal Action at SWMU 4, Atlantic Fleet Weapons Training Area – Vieques, Former Naval Ammunition Support Detachment, Vieques, Puerto Rico* (CH2M HILL, 2014). The selected NTCRA will include a visual and instrument-aided (digital geophysical mapping equipment and magnetometer) survey to address potential MEC in source areas (OB/OD pits), areas planned for public access (parking area, picnic area, observation tower), and areas frequented by trespassers (lagoon fringe area) and to further identify the distribution of MEC throughout the site to aid in final remedy determinations (Figure 4). Any munitions items identified will be appropriately managed, including potentially destroyed by detonation, in accordance with the Explosive Safety Submission that has been approved by DDESB and NOSSA.

2. Contribution to remedial performance

The NTCRA is consistent with and will contribute to the Munitions Response Program goal of reducing explosive hazard on former Navy land in Vieques.

3. ARARs

The NTCRA will be conducted in accordance with the ARARs listed in the Engineering Evaluation/Cost Analysis for this NTCRA at SWMU 4 (CH2M HILL, 2014). This document lists the Federal and Commonwealth ARARs identified for the site and indicates that the interim action will comply with the ARARs.

4. Project Schedule

The NTCRA is anticipated to begin in January 2015 and be completed within approximately 8 months.

C. Estimated Costs

Contractor Costs	\$2,600,000
Contractor Oversight Costs	\$1,220,000
Contingency costs (20% of subtotal)	\$520,000
Total Removal Costs	\$4,340,000

V. Expected Change in the Situation Should Action Be Delayed or Not Taken

A delay in action or no action at this site would represent a potentially significant explosive hazard by leaving potential munitions on the ground surface and in the subsurface areas that have known trespassing activities and are part of a planned future

public use. It also would likely prevent USFWS from implementing their land use plan for the area.

VI. Outstanding Policy Issues

None

VII. Approvals

This decision document represents the selected removal action for this site, developed in accordance with CERCLA as amended, and not inconsistent with the National Contingency Plan. This decision is based, in part, on the administrative record for the site. Conditions at the site meet CERCLA § 104(c)(1)(A) and the NCP section 300.415(b) criteria for a removal action and through this document, I am approving the proposed removal action. The total project cost of approximately \$4,340,000 will be funded by the NAVFAC Atlantic Munitions Response Budget. The removal outlined in this AM is necessary in order to effect a continued response action to reduce potential explosive hazard to the public. Such actions cannot be otherwise provided at the locations described herein in a timely manner.

Cherryl F. Barnett

1/8/2015

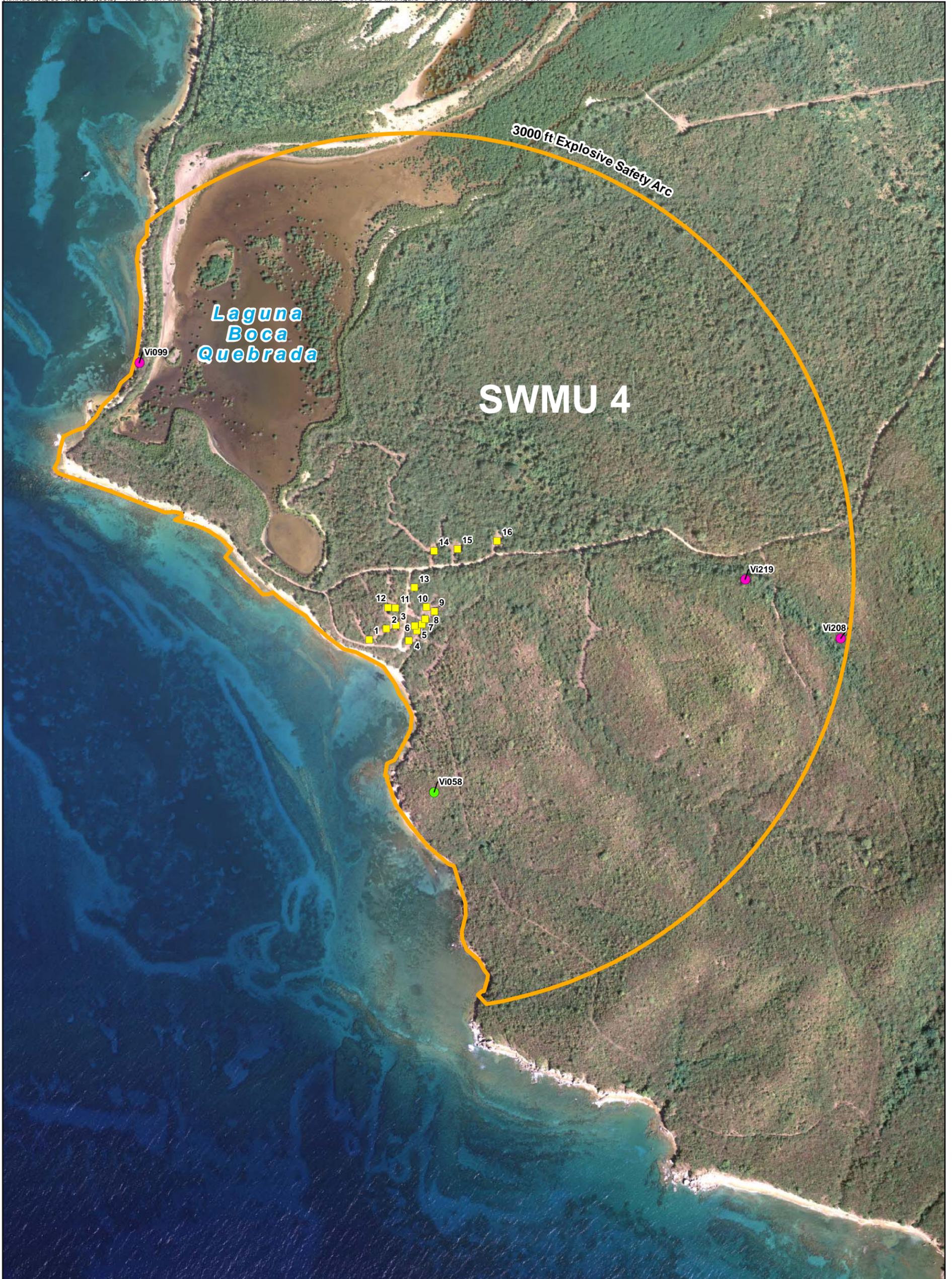
CHERRYL F. BARNETT

Date:

Environmental Business Line Manager

Naval Facilities Engineering Command

Atlantic



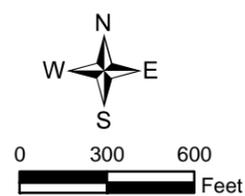
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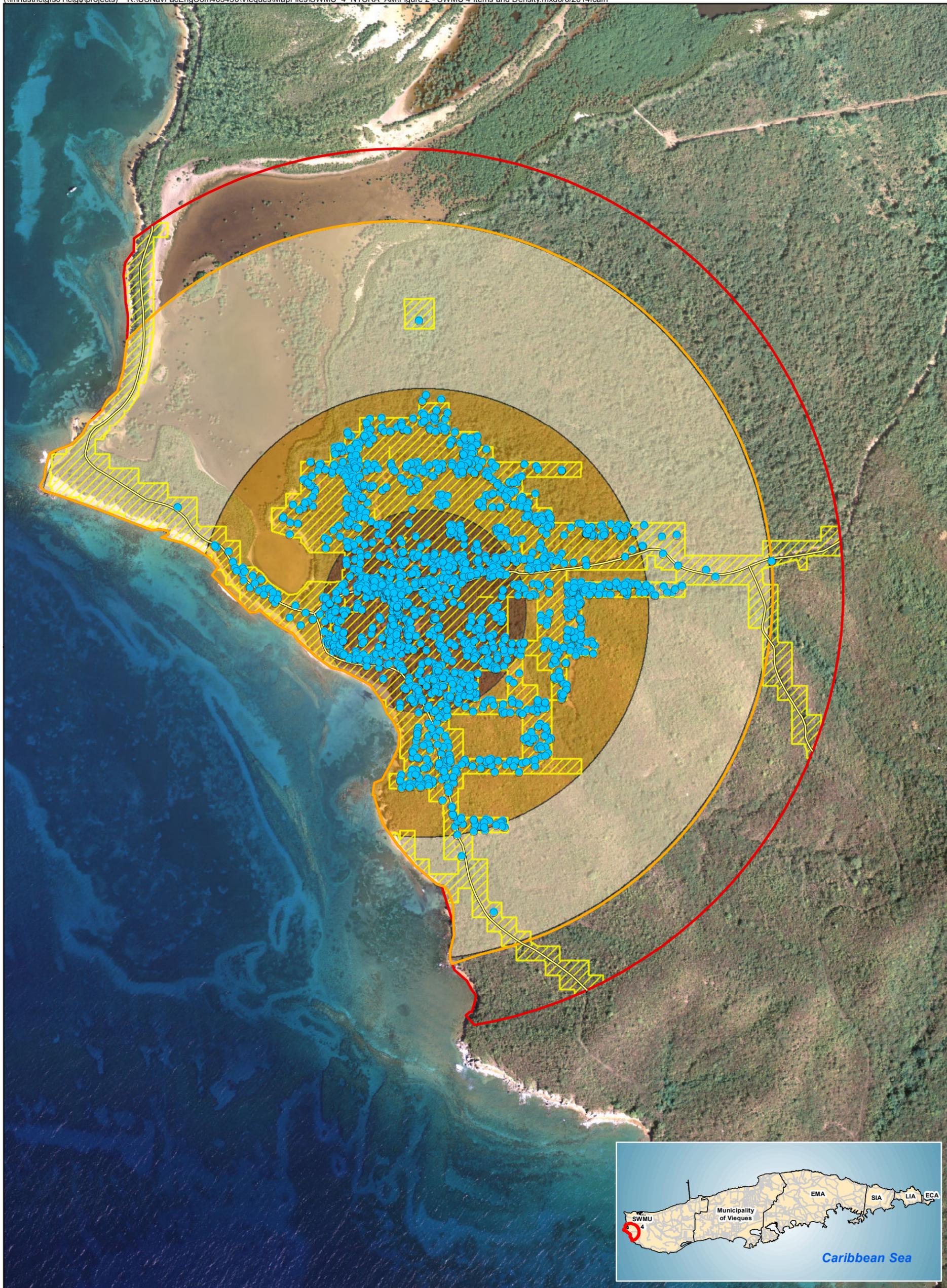
- OB/OD Pits
- Archaeological Site Surveyed but not Evaluated
- Archaeological Site with no Significance
- SWMU 4 Site Boundary

Note:
'8' - OB/OD Pit Number
2007 Aerial Imagery



Figure 1
Site Features
SWMU 4 NTCRA Action Memorandum
Vieques, Puerto Rico





Legend

- MEC/MPPEH Item
- Road
- Estimated MEC/MPPEH Density less than 5 per acre
- Estimated MEC/MPPEH Density between 5 and 15 per acre
- Estimated MEC/MPPEH Density greater than 15 per acre
- Areas Previously Cleared of MEC
- Projected Extent of MEC
- SWMU 4 Site Boundary

2007 Aerial Imagery

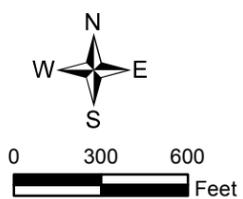
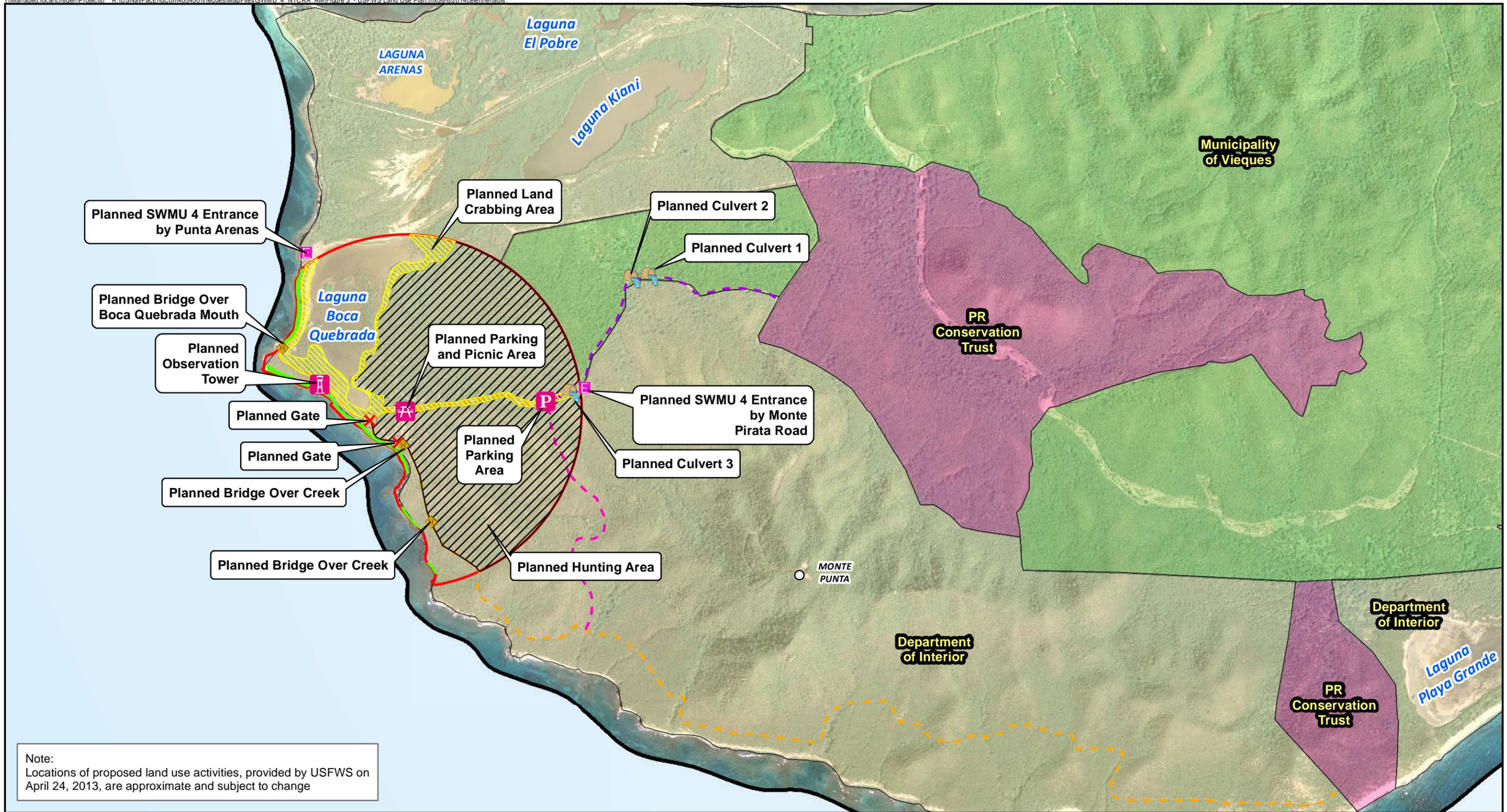


Figure 2
MEC Items and Estimated MEC/MPPEH Densities
 SWMU 4 NTCRA Action Memorandum
 Vieques, Puerto Rico



Note:
Locations of proposed land use activities, provided by USFWS on April 24, 2013, are approximate and subject to change

Legend

Bridge	Planned Observation Tower	Planned Vehicle Road	Vieques Land Ownership
Culvert	Planned Parking Area	Planned Hiking/Biking Trail	Department of Interior
Entrance	Planned Picnic Area	Planned Hiking/Bird Watching Trail	Municipality of Vieques
Gate		Sea Turtle Nesting and Monitoring Beach	PR Conservation Trust
		Planned Hunting Area	
		Planned Land Crabbing Area	
		SWMU 4 Boundary	

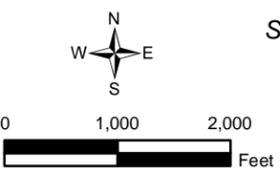
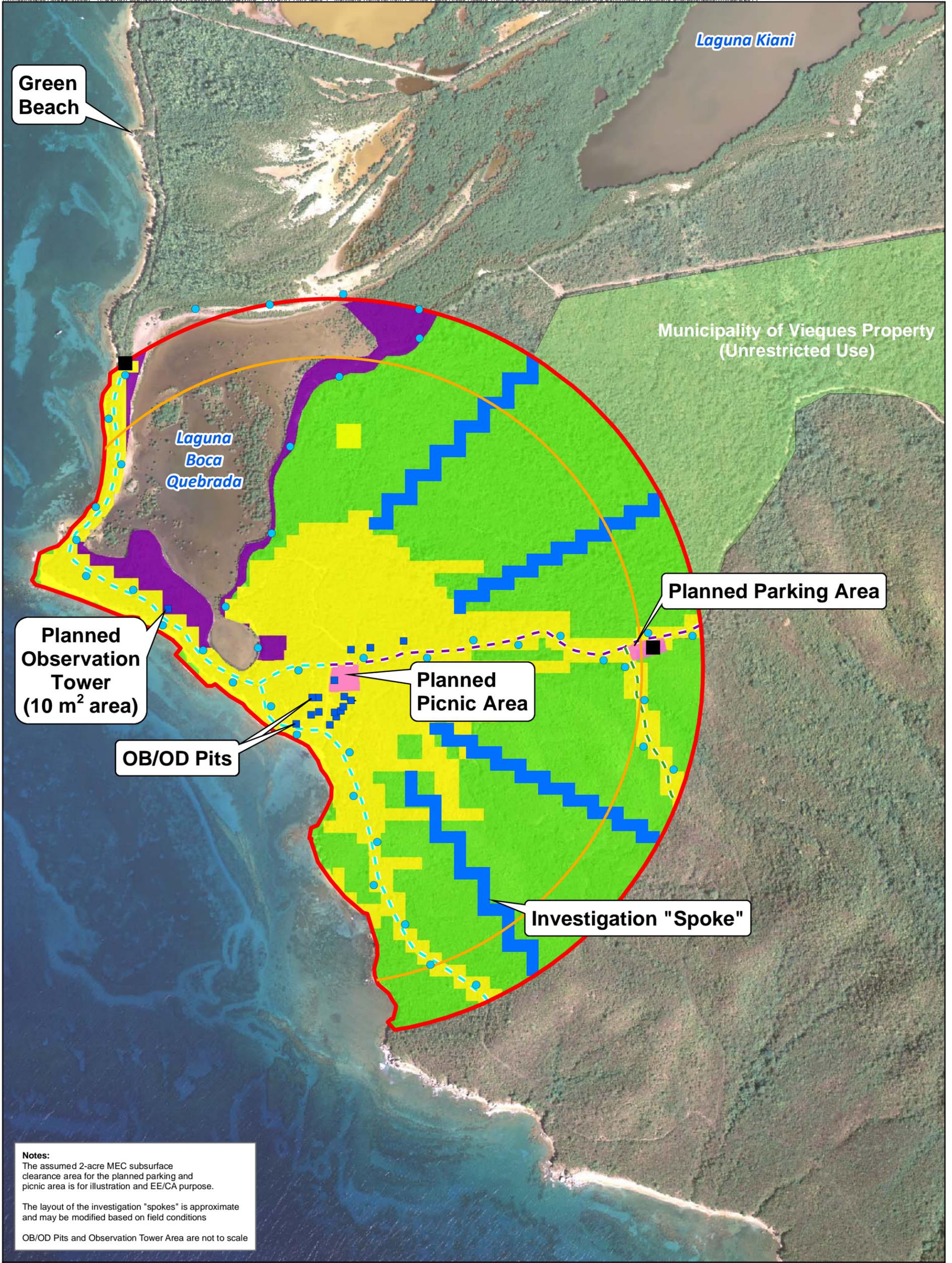


Figure 3
USFWS Land Use Plan
SWMU 4 NTCRA Action Memorandum
Vieques, Puerto Rico



Notes:
 The assumed 2-acre MEC subsurface clearance area for the planned parking and picnic area is for illustration and EE/CA purpose.
 The layout of the investigation "spokes" is approximate and may be modified based on field conditions
 OB/OD Pits and Observation Tower Area are not to scale

Legend

- | | | |
|-----------------------------|------------------------------------|---|
| SWMU 4 Boundary | Planned Vehicle Road | 0.5 acre OB/OD Pit and Observation Tower Area |
| Extent of MEC | Planned Hiking/Biking Trail | 18.5 - acre Lagoon Fringe Area |
| Planned Signage | Planned Hiking/Bird Watching Trail | 2 - acre Planned Parking and Picnic Areas |
| Planned Informational Kiosk | | 30 - acre Investigation "Spoke" Area |
| | | Areas Previously Cleared of MEC |
| | | Dense Vegetation |

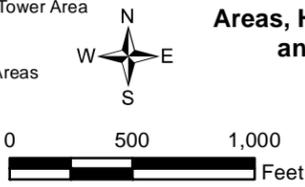


Figure 4
Munitions Removal from Planned Public Areas, Hazard Warning Signs, Educational Kiosks, and Confirmatory Munitions Characterization
 SWMU 4 NTCRA Action Memorandum
 Vieques, Puerto Rico