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DRAFT DECOMMISSIONING AND DEMOLITION PLAN FOR CABRAS ISLAND NAVAL
ACTIVITY PUERTO RICO (DRAFT ACTING AS FINAL)
3/31/2011
BAKER



DRAFT DECOMMISSIONING AND DEMOLITION PLAN CABRAS ISLAND



For NAVAL ACTIVITY PUERTO RICO CEIBA, PUERTO RICO



Prepared for:

**Department of the Navy
NAVFAC SOUTHEAST**
North Charleston, South Carolina

Prepared by:

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Contract No. N62470-10-D-3000
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March 31, 2011

**IQC for A/E Services for Multi-Media Environmental Compliance
Engineering Support**

DRAFT

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CABRAS ISLAND**

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CEIBA, PUERTO RICO**

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ACRONYMS AND ABBREVIATIONS

ACBM	Asbestos Containing Building Material
ACM	Asbestos Containing Material
AFWTF	Atlantic Fleet Weapons Training Facility
CFR	Code of Federal Regulations
D&D Plan	Decommissioning and Demolition Plan
HASP	Health and Safety Plan
HVAC	Heating Ventilating Air Conditioning
JATO	Jet Assisted Take-Off
LBP	Lead-Base Paint
MHP	Material Handling Plan
MWR	Morale Welfare and Recreation
NAPR	Naval Activity Puerto Rico
Navy	United States Navy
NEPA	National Environmental Policy Act
NESHAP	National Emissions of Hazardous Air Pollutions
NPDES	National Pollution Discharge Elimination System
NSRR	Naval Station Roosevelt Roads
OSHA	Occupational Safety and Health Administration
PCB	Polychlorinated Biphenyl
ppm	parts per million
RCRA	Resource Conservation and Recovery Act
RSL	Ready Storage Locker
SWMU	Solid Waste Management Unit
TCLP	Toxicity Characteristic Leaching Procedure
TSCA	Toxic Substances Control Act
USCG	United States Coast Guard
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank

1.0 INTRODUCTION

Naval Activity Puerto Rico (NAPR) occupies over 8,800 acres on the northern side of the east coast of Puerto Rico, along Vieques Passage with Vieques Island lying to the east about 10 miles off the harbor entrance. The northern entrance to NAPR is about 35 miles east along the coast road (Route 3) from San Juan. The Property consists of 3,938 acres of environmentally sensitive areas including wetlands, mangrove, and wildlife habitat. The closest large town is Fajardo (population approximately 41,000), which is about 5 miles north of NAPR off Route 3. Cieba (population approximately 18,000) adjoins the bases western boundary.

The facility was commissioned in 1943 as a Naval Operations Base, and finally re-designated a Naval Station in 1957. Naval Station Roosevelt Roads (NSRR) operated as a Naval Station from 1957 until March 31, 2004. NSRR was one of the largest naval facilities in the world with more than 100 miles of paved roads, approximately 1,300 buildings, a large scale airfield (Ofstie Field), a deep water port, and over 30 tenant commands. NSRR played a major role in providing communication support to the Atlantic and Caribbean areas and also served as a major training site for fleet exercises.

Since March, 2004, while undergoing closure, NSRR has been designated as NAPR. The mission of NAPR is to protect the physical assets remaining, comply with environmental regulations, and sustain the value of the property until final disposal of the property. NAPR will continue until the real estate disposal/transfer is completed.

The Naval Operations Area at Cabras Island is located on the eastern side of Cabras Island and encompasses 4.06 acres. Buildings 2004, 2037, 2065, 2353, Launch Pads 1793, 1794, 2013, and munitions and explosives storage boxes "Ready Storage Locker 1"/"Ready Storage Locker 2" (RSL1/RSL2) are located in this area, which is identified as Solid Waste Management Unit (SWMU) 79 from the Facilities 7003 §Administrative Order on consent with the EPA.

Military operations on Cabras Island supported the Atlantic Fleet Weapons Training Facility (AFWTF) activities at NSRR and nearby Vieques and Culebra Islands. The buildings and pads on Cabras Island were used solely for the support of drone launching activities. The drones were fueled off site and transported to Cabras Island for launching. No other maintenance or fueling activities were conducted on the island. Drones were weighed and balanced, and jet assisted take-off (JATO) bottles were attached to the drones on the island at Building 2353, Drone Handling Building, and Building 2004, the Drone Balancing and Storage Facility. New JATO bottles were stored in munitions and explosives boxes (RSL1/RSL2) located on the exterior of Buildings 2004 and 2053. Radio communications and remote control launch activities were conducted out of Building 2065, Radio Communications Building. Electrical power for the operations was generated in Building 2037. Drones were remotely launched from launch pads 1793, 1794, and 2013 using JATO bottles to assist with take-off.

Located outside the boundaries of SWMU 79 on Cabras Island are Buildings 104 and 120. Building 104 historically was used for "Officer's Beach House" and Building 120 historically was used for "Officer's Bath House". Also located outside the boundaries of SWMU 79, in the general vicinity of Buildings 104 and 120 are eight open sided concrete cabanas and Brookings Beach.

2.0 SCOPE OF WORK

This Scope of Work presents a Demolition Plan of Action for the structures on Cabras Island. The intended outcome of this document is a narrative document that captures the objectives and requirements envisioned to demolish the United States Navy's (Navy) asset at the Site and return the location to its natural state.

This effort addresses the demolition of the inactive structures, (i.e. concrete, concrete block, and sheet metal storage and preparation structures, former concrete target launch pads and related electrical control panels) remaining on the Cabras Island site. In addition to the items identified above, there are four lightning rods erected on concrete pads (each with four protective bollards surrounding the pole) at the four corners of Building 2004 and chain link fence and related support posts surrounding this area. Finally, there are eight cabanas (concrete construction), an Officers Beach House (concrete, wood, and sheet metal construction), and an Officers Bath House with a related two unit restroom building and septic system that are also to be included as part of this demolition process. Exceptions to this include the asphalt roadways leading to and around the area.

3.0 PROJECT OBJECTIVES

This Demolition Plan (The Plan) is intended to provide an overview of the Navy's planned decommissioning effort on Cabras Island. It represents another in a series of technical documents that will be developed by both the Navy (such as Contractor Bid Specifications and Contract Documents) as well as supporting technical documents which will be developed by yet-to-be selected Navy-contracted implementation contractor(s) who will implement these plans (like Site Specific Health and Safety Plans (HASPs), Waste Management Plans, Abatement Plans, etc).

To date, a definitive list of structures to remain and the degree of demolition has not been finalized. Outstanding issues include:

- Identification of specific roads and structures (like roads and utilities) to remain
- Degree of subsurface infrastructure removal

This Plan highlights remaining uncertainties and the efforts needed to resolve these issues prior to actual decommissioning. Given the inter-dispersed layout of structures within the larger Navy footprint, it remains one goal of this Plan to leave all access roads.

At this time, a two-phased decommissioning is envisioned for the Site that includes:

Phase 1 Decommissioning

- Removal of remaining universal waste (like fluorescent light tubes and ballasts)
- Removal of remaining asbestos-containing materials
- Removal of an existing diesel fuel Underground Storage Tank (UST)

Phase 2 Decommissioning

- Removal of hardened structures remaining after completion of Phase 1

4.0 BACKGROUND

NAPR is located on the extreme eastern portion of the island of Puerto Rico about 35 statute miles east-southeast of San Juan and is located in the town of Ceiba. Until March 21, 2004, NSRR was a major training site for fleet exercises.

As previously noted, Military Operations on Cabras Island were limited to weighing and balancing drones and attaching JATO bottles prior to launching.

4.1 Site Setting

Buildings

- 2065 – Concrete block structure (15' x 25' x 9') with concrete floor and roof (slabs, approximately 16' x 26' x 1') and enclosed surround for heating ventilating air conditioning (HVAC) unit on western exterior (3 walls, 20', 8', and 6' x 9' height and 8' x 20' base slab). Potential lead-based paint (LBP) on concrete surfaces (interior and exterior) and internal and external light fixtures.
- 2004 – Sheet metal panels secured to structural steel beam frame and roof supports (approximately 60' x 90' x 16', with pitched roof approx 24' at center point). Sliding panel doors (2 each per side - sheet metal) on north and south sides of the building. Concrete floor (60' x 90') with an epoxy coating. An approach slab at the north end of the building is 30' x 30' x 1', and another at the south end of the building is 30' x 20' x 1'.. Structural steel interior framing and support system for walls and roof (12" to 24" from floor to roof joint and roof joint to peak). Each wall has four structural steel ribs (4" x the wall length) and the roof has 26 structural steel ribs (12" x 90'). The roof panels have fiberglass insulation between the support structure and the sheet metal. Fluorescent light fixtures remain in the building along with a water fire suppression system surrounding the interior (4" pipe with 2" risers along the roof support beams. An 8' x 4' concrete block restroom is located in the northeast corner of the structure.
 - RSL 1 – An 8' x 25' x 8' metal shed (a former shipping container) set atop 2 structural steel beams (12" x 25'). The structure is placed on a 12' x 45' x 1' concrete pad. Potential for LBP on interior and exterior surfaces, and potential ACBM located in the interior.
 - RSL 2 – A 5' x 5' x 5' metal shed set atop 2 structural steel beams (8" x 6'). The storage locker placed on a 15' x 20' x 1' concrete pad. Potential for LBP on interior and exterior surfaces, and potential ACBM located in the interior.
- 2353 – Concrete structure (45' x 20' x 15') on a 45' x 20' x 1' concrete floor and a sheet metal flat roof. One 10' x 12' sheet metal roll-up door and a concrete approach pad (30' x 50' x 1') are on the north side of the building. Two 16" structural steel I-beams (1 - 45', 1 - 20') support the roof and internal HVAC ductwork (fiberglass insulation covered) along with 10 - 8" x 20' webbed steel beams. A 6' x 6' x 9' bathroom is located in the southeast corner of the building. Fluorescent light fixtures remain in the building along with a water fire suppression system surrounding the interior (4" pipe with 2" risers) along the roof support beams. A 6' x 6' x 9' concrete block restroom is located in the southeast corner of the structure. Located on the

southeastern side of the building is a three sided surround that houses the HVAC compressor (Pad – 10' x 15' x 6", Walls - 4' x 15' x 6", 4' x 10' x 6", 4' x 5' x 6").

- 2037 – Concrete block structure (20' x 20' x 12', with a dividing 20' x 12' internal wall, constructed on a 25' x 25' x 1' concrete slab with a 21' x 21' x 6" concrete slab roof). The south half of this structure (former generator room) contains a fuel pump assembly (disabled), an air compressor and receiver tank assembly, 2-each fluorescent light assemblies, 3-each electrical circuit panels, and related electrical conduit (2" x 50', 3" x 50', 4" x 50', and 6" x 15'). The north half of this structure contains an air compressor and receiver tank assembly, 1-each electrical circuit panel, and related electrical conduit (2" x 20', and 3" x 50') and 2-each fluorescent light assemblies.

Lightning Rod Towers

- 4, 1 each at the four corners of Building 2004 - Approximately 50' aboveground, set on a 5' x 5' x 8' concrete base (each base has 4 – 3" x 4' pipe, upright bollards filled with concrete).

Other Structures

- Launch Pad 1793 – The concrete launch pad is 38' x 50' x 1'. The pad has 2 deflection barriers, each 2.5' x 12.5' x 3' (2' above ground level) and a concrete approach pad that is 38' x 60' x 1'. There are also has 3 electrical cabinets mounted on the associated conduits (approximately 20' x 3").
- Launch Pad 1794 – The concrete launch pad is 55' x 35' x 1'. The pad has 4 deflection barriers each 2.5' x 12.5' x 3' (2' above ground level), and approach slabs that are 53' x 33' x 1' and 25' x 43' x 1'. There are also has 3 electrical cabinets mounted on the associated conduits (approximately 20' x 3").
- Launch Pad 2013 – The concrete launch pad is 35' x 45' x 1'. The pad has 2 deflection barriers, each 2.5' x 12.5' x 3' (2' above ground level). This pad also has an attached concrete 12.5' x 12.5' x 1' section not associated with approach or electrical areas. There are also has 3 electrical cabinets mounted on the associated conduits (approximately 20' x 3").
- Aluminum pole frame between RSL 1 and RSL 2. This pole frame is approximately 10' x 10' square with uprights and supports (2") and an angle iron awning frame. This frame is in a heavily overgrown area along the surrounding fence line.
- Fence – The typical chain link fence surrounds SWMU 79. The fence is heavily overgrown with vegetation in most areas. Posts are located at approximately standard 10' spacing and the mesh material is 8' above ground. Approximately 1,760 linear feet of the chain link material surrounds the location.
- Building 104 – This structure is referred to as Officers Beach House. It is an open structure with a concrete floor, knee wall and support barrier with wooden post structure, wood roof covered by sheet metal located along Exbrookings Beach. The concrete floor area is 97' x 53' x 6", with a knee wall that is 2' x 1' x 220 linear feet. There is a 4' x 75' x 2.5' retaining wall along the beach edge. At the rear of the

structure, there is a 8' x 10' x 10' concrete block storage room with 8' x 10' x 6" concrete floor and roof slabs at the back of the structure. In addition, there are 5 concrete picnic tables that are 10' x 4' x 6", each with 2 - 2' x 1.5' x 6" bench seats.

- Building 120 – Officers Bath House, located uphill to the west of Building 104. A concrete block structure 15' x 12' x 12', with a dividing 12' x 12' dividing wall, on a 25' x 15' x 6" concrete base with a 2' x 16' x 2' retaining wall along the front edge of the structure. Access to the structure is provided by 14 each, 1' x 3' x 6" steps alternating with 14 each 3' x 3' x 6" steps.
- Cabanas – East of Building 104, along the beach there are 8 each concrete “cabanas”, each with 8' x 12' x 1' concrete bases and roofs, and each with 4 - 1' diameter x 8' concrete posts.

4.2 Regulatory Setting

The Navy no longer maintains any active permits associated with this Site.

It is envisioned that as part of the planned decommissioning, the Navy will develop contractor bid documents which address implementation of this Plan. Part of that effort will define the contractual means and methods for completion of the work by the contractor which will subsequently define applicable decommissioning-phase permits the contractor will need to secure. At this time, the following permits and/or approvals are envisioned to warrant consideration and may be appropriate at the time the bid documents are finalized:

Federal Level

- National Pollution Discharge Elimination System (NPDES) Storm Water Permit (general construction permit for demolition)
- Sedimentation and Erosion Control Plan
- Resource Conservation and Recovery Act (RCRA) hazardous waste management, transportation and disposal
- Occupational Safety and Health Administration (OSHA) regulations pertaining to hazardous waste and asbestos
- Air Permit (if additional temporary power generators are needed)
- National Environmental Policy Act (NEPA) Documentation (environmental impacts from the demolition process)

State or Local Level

- Contractor Licenses and Bonding
- Demolition Permit
- Asbestos Abatement Permit
- Lead-based Paint Abatement Permit

As appropriate, this list will be modified based upon the findings of the yet-to-be designed contractor bid specifications. This Plan also will be updated to incorporate yet-to-be defined decommissioning permit requirements pertaining to the work.

5.0 DEMOLITION PLAN

This Section addresses the razing and removal a portion of the Cabras Island complex at NAPR. Accordingly, development of this D&D Plan addresses the demolition and disposal of the following buildings and support structures located on Cabras Island.

The overall concept of this Plan is to minimize the amount of ground disturbed as possible within the limits of the security fencing.

Underground utilities are envisioned to remain or where possible, be grouted in-place so that they can remain along with the current roadways. Exceptions or limitations include:

- Utilities exposed/unearthed during Site regrading activities will be removed.
- Underground utilities, voids, or in-ground vaults that pose a ground settlement threat will be removed.

5.1 Plan Considerations

The demolition of developed industrialized property requires careful planning to adequately characterize all known hazards and to plan for their mitigation. This section summarizes known environmental concerns within the Site, their systematic elimination and off-site management with the end result being clean unencumbered building shells suitable for wrecking and disposal as unrestricted construction and demolition debris.

To accomplish the safe and environmentally correct demolition action, four major milestones must be achieved, and include:

- Clear understanding of historical environmental concerns and practices for an understanding of the potential for continued residual impact.
- Knowledge of the idled operations, and those efforts already undertaken by the Navy such as the safe removal of former tanks, vessels, and utilities.
- Identification and inventory of remaining building components which, by virtue of their composition would be prohibited from co-disposal with unrestricted construction and demolition debris, such as oil-filled transformers, fluorescent light ballasts and tubes, mercury-filled switches, LBP and asbestos containing materials (ACM).
- Contingency planning for the discovery of unexpected or hidden concerns as buildings and structures are dismantled and removed.

The remainder of this document summarizes the current understanding of Site conditions as well as the actions necessary to mitigate these concerns. At this time, it is envisioned that all environmental concerns associated with the buildings or structures will be addressed during the Phase 1 decommissioning efforts. The optional Phase 2 effort will be limited to demolition of remaining hardened components meeting the criteria of clean construction debris.

5.2 Summary of Historical Site Releases

Three documented environmental impacts are known regarding the Site.

- A diesel fuel UST at Building 2037. The Navy is currently in the process having this UST removed along with the associated fill and discharge piping. No releases have been documented concerning this UST.
- ACBM is known to exist in ceiling and floor tiles in Building 2065
- LBP is known to exist on concrete walls (interior and exterior) in Building 2065, Building 2037, and Building 2035. Additionally, LPB is suspected to exist inside and outside of RSL1 and RSL2.

Any decommissioning effort involving the cleanout and dismantling of industrialized buildings and structures must also have the necessary contingencies in-place for the unexpected discovery of suspect materials or soils unrelated to these known releases. The need for such contingency is integral to this Plan as detailed within subsequent sections.

5.3 Site Operations Which Impact Decommissioning Efforts

The Navy's operation is expected to have no impact to this Decommissioning Plan. All operations have been idled and the majority of equipment has been removed from the structures and no significant operational hazards remain.

5.4 Review and Summary of Completed Facility Wide Environmental Survey

The Reports titled "Final Phase I/II Environmental condition of Property (ECP) Report – Navy Operations and Morale Welfare and Recreation (MWR) Beach Areas on Cabras Island", dated September, 2009 and "Final Phase I RCRA Facility Investigation Work Plan dated December, 2010 included assessment and sampling findings relative to hazardous materials associated with the buildings such as LBP and ACBM.

In addition to the findings of the aforementioned assessments, building materials and concerns were observed within the buildings that require segregation and proper management due to their inherent physical makeup during the Site visit on February 8, 2011. These materials are restricted from co-mingled disposal of building rubble, as they are not classified as construction and demolition debris. These items include:

- Oil-filled transformers and capacitors
- Mercury control switches and building thermostats
- Fluorescent and metal halide light bulbs and ballasts
- Batteries (emergency lighting, etc)

This Plan accounts for the comprehensive list of concerns, as detailed in subsequent sections.

5.5 Demolition Procedures and Sequence Plan

This section describes the general sequence and rationale for the decommissioning action. Given the nature of de-constructing a building, it is not practical to design or articulate a step-by-step procedure for demolishing the buildings. From a safety perspective, day-to-day building

structural integrity evaluations are a necessary and critical component of the contractor's work effort. These findings are integral to directing and altering the wrecking sequence, as necessary, for the protection of manpower and equipment.

The yet-to-be selected Contractor(s) will submit a Decommissioning Work Plan to the Navy before any Site activities, including abatement or building/utility de-construction activities, are initiated. The Work Plan will include objectives, specific means and methods, resources, schedule and personnel to be assigned to complete the work. At minimum, the Decommissioning Work Plans will include the following information, as appropriate to the individual Phase:

- Details regarding the procedures, techniques, safety measures and documentation efforts relative to the following:
 - Details regarding the procedures for conducting a final audit/inventory and removal of restricted waste materials within the abandoned buildings. This will also include a finalized schedule and sequence of removal actions appropriate to the hazards involved. One exception will be water, sewer, or storm water conveyances which are common to all structures (shared).
 - Physical disconnection (i.e., air breaks) and/or lockout/tagout of Site utilities to ensure complete and permanent isolation of Site from active utilities
 - Removal of residual energy, disconnection, purging, inerting and/or depressurization of Site utilities, process lines and tanks/vessels, as appropriate, but prior to any Site disturbance activities and line breaking.
 - Line-breaking procedures.
 - Demolition sequence, procedures, and schedule
 - Off-site Transport Plan, including scheduling and safety procedures for traversing the shared traffic roadways with current staff personnel. .
 - Documentation and reporting obligations, procedures, and deliverables

The sequence of events/activities to be performed by the Contractor will include the following:

5.5.1 Planning Efforts Prior to Closure (*conducted in any order*)

Conduct inventory of remaining equipment and materials and finalize plans with the Navy for segregated removal due to environmental or demolition concerns.

- Conduct utility and process-related transmission lock-out/tag out verification (at the Site perimeter, and include verification of released energy within on-site segments).
- Secure demolition permits and necessary off-site waste disposal acceptances.
- Notify off-site recycling facilities of lead-based paint potential on ferrous and non-ferrous scrap.

- Finalize truck access routes, emergency access/egress, security clearances, and routine vehicle traffic patterns. The final truck routes will be provided to the Navy.
- Locate underground utility locations for sealing/capping. As-built drawings showing the locations and identifications of sealed/capped underground utilities will be provided to the Navy and USCG.

5.5.2 Implementation Efforts (*conducted in this specific order*)

The following actions will be necessary to complete the work. Where an item is noted “as necessary”, the presence of, and need for management remains uncertain at this time:

- Contractor equipment and manpower mobilization
- Installation of support services and devices (decontamination pads, safety equipment, etc.)
- Address utility lock out/tag outs as necessary (e.g., opening sealed line segments bounded by closed valves), electrical disconnects, etc.
- Sweep buildings and remove environmental building concerns for select management (e.g., fluorescent light ballasts, mercury switches)
- Conduct asbestos abatement actions. A licensed abatement contractor will conduct all asbestos abatement actions. In addition, notifications pursuant to regulatory requirements shall be completed prior to commencement of abatement activities.
- Remove and dispose of remaining scrap materials
- Conduct final inspection of individual buildings to verify all environmental concerns have been addressed (removed) and that the remaining building shells meet the requirements of clean construction and demolition waste.
- Raze buildings and segregate materials for off-site recycle or disposal.
- The structures being backfilled or grouted are the void spaces that would remain after building foundations and blast pads have been removed. These spaces could consist of buried utilities.
- In addition to the above, there are other aboveground structures to be demolished including storage sheds, aboveground piping and utilities (e.g., light and power poles and power cables), and other equipment located inside or outside the buildings. Demolition of these structures will proceed with conventional wrecking equipment, and may include front-end loaders, shears, grapplers, or wrecking balls. The buildings will be leveled, and materials for recycle (steel, copper, stainless steel or bulk clean concrete) will be picked and segregated for subsequent handling. The debris resulting from the wrecking operation will be loaded onto trucks for transport to the off-site landfill.

5.6 Specific Site Hazard Reduction Planning

The following summarizes the efforts needed to reduce Site hazard and render the building shells amenable to conventional demolition and disposal.

5.6.1 Utility Disconnects

The isolation, evacuation, and verification of the elimination of remaining hazard and/or energy within Site utilities, process lines, transformers, generator fuel tanks and sumps are essential for the safe conduct of demolition activities. The Contractor will be required to conduct a comprehensive survey of the existing utility/process piping infrastructure and vessels for the purpose of verifying: 1) no connections remain to the remainder of the complex which could pose a safety threat; and, 2) pipes, wires, conduits, or vessels within the Site are open to the atmosphere and do not contain residual energy, compressed gases, or petroleum product. As part of this effort, the Contractor will be required to verify that utilities, process lines, and vessels have been isolated, and are safe to demolish prior to disconnecting and sealing utilities or performing any cutting or burning activities.

- The Contractor shall assume that utilities are energized and that process lines and tanks/vessels contain product and flammables until verified otherwise by the Contractor.
- The Contractor shall constantly be on the alert for newly discovered pipes, vessels, or utilities throughout the work effort. The Contractor will be required to submit within their Decommissioning Work Plan details that provide procedures, techniques, and safety measures to be deployed to:
 - Verify that there are no active utilities or process lines feeding the Navy buildings
 - Physically disconnect (i.e., insert air breaks) and/or lockout/tagout Site utilities to ensure complete and permanent isolation of Site.
 - Remove residual energy, disconnect, purge, inert and/or depressurize Site utilities, process lines and tanks/vessels or fuel tanks, as appropriate.
 - Verify that pipes, wires, conduits, and tanks/vessels are open to the atmosphere, and do not contain residual energy, compressed gas or product.
 - Perform line breaking.
- The work will be performed in accordance with regulatory (e.g., OSHA) and Site-specific HASP requirements regarding lockout/tagout, confined entry and line-breaking procedures, protocols and permitting.

Utilities known to exist at the Site included:

- Electrical (aboveground and underground)
- Potable water
- Data
- Telephone

- Instrumentation

Materials recovered during this work (e.g., recovered liquids, sections of pipe, sumps, tanks, vessels, etc.) will be properly characterized and managed off-site in accordance with Federal and State regulations.

5.6.2 Work Requirements for Building Demolition Materials

For purposes of this Plan, building demolition materials are separated into two categories:

- Inert construction/demolition debris and building materials
- Hazardous and restricted materials

5.6.2.1 Inert Construction/Demolition Debris and Building Materials

These materials, which generally present no environmental concerns and require no special handling, include the following:

- Scrap Metal
- Concrete, Masonry or Asphalt Rubble
- Building Demolition Debris

Generally, these materials will either be recycled or disposed in off-site construction/demolition waste landfills.

5.7 Hazardous and Restricted Materials

The Contractor will inventory, assess, and manage demolition materials, including those materials that contain products that restrict their co-mingled disposal with building rubble as construction and demolition debris. The Contractor will conduct a room-by-room sweep of each area or building prior to any demolition for the purpose of conducting an inventory and removal action of items remaining at the onset of the decommissioning effort.

The inventory will include, but not be limited to, the following:

- Oil-filled transformers and capacitors (non-PCB [polychlorinated biphenyl] units)
- Refrigerants
- Mercury control switches and building thermostats
- Electronic circuit boards
- Lighting ballasts
- Light bulbs
- Hydraulic oils
- Office and janitorial supplies (aerosol cans, liquid cleaners, etc)
- Batteries (emergency lighting, etc)
- Fire extinguishers and gas cylinders/vessels

In addition, the inventory will include review/inspection of previously identified hazardous materials including LBP, ACM, and PCB containing oils and chlorofluorocarbons.

All items identified will be logged according to building, room/location, approximate number of items, and condition (i.e., broken or intact); this documentation will become a part of the Final Decommissioning Closeout Report.

Restricted items will be gathered, sampled (as necessary) and managed for off-site recycle, reuse, or disposal. Window glass also will be collected for possible off-site recycle.

Specifically regarding lighting ballasts, light bulbs, mercury switches/thermostats, batteries and fire extinguishers, the Contractor will remove these restricted items from the buildings prior to demolition and segregate them in contractor-supplied covered drums or covered pails for each intact and broken waste type.

Following the completion of asbestos abatement activities and restricted items removal actions, and prior to commencement of demolition, a final inspection will be conducted of individual buildings to verify that all environmental concerns have been addressed and that the remaining building shells meet the requirements of construction and demolition waste. The final inspection will be conducted by the Navy (or their representatives).

6.0 MATERIAL HANDLING PLAN

This Material Handling Plan (MHP) covers work associated with proper management of waste streams (construction demolition debris, non-hazardous waste, and potentially hazardous waste). Aspects of this work include material handling procedures; temporary on-site accumulation; and transportation and off-site disposal of various materials at approved facilities. This MHP is intended as a summary document; therefore, in the event of a conflict between this plan and the subsequent technical specifications, the technical specifications shall be followed.

6.1 Material Handling Plan Purpose

The purpose of this MHP is to present the various work components and procedures to be followed for excavation, demolition, and related activities to ensure that waste materials will be properly managed. The MHP also includes contingency plans to be followed if suspect and/or unknown waste materials are encountered. The objective in preparing this document was to produce a streamlined document to provide an overview of the various requirements and procedures to be followed with regard to waste material handling. It sets forth guidelines to ensure that operations do not result in solid or hazardous wastes being disposed improperly and to ensure that areas of contamination are promptly addressed.

6.2 Description and Classification of Decommissioning-generated Materials

The following definitions are used in this MHP to classify the variety of expected materials. It is expected that none of these materials will be stockpiled on-site (the exception being clean construction debris), however, some material may be temporarily staged (in containers) in a temporary transfer area prior to off-site disposal at an approved facility.

- Non-Hazardous Solid Waste is defined as material characterized as a non-hazardous solid waste (i.e., RCRA Non-regulated Subtitle D waste that does not fail the SW-846 Method 9095B Paint Filter Liquids Test). Solid waste can include glass, metal, plastic tubing/piping, paper and other waste materials.
- Non-Hazardous Liquid Waste is a non-hazardous material (as defined above) that fails the SW-846 Method 9095B Paint Filter Liquids Test.
- Hazardous Solid Waste is defined as material that is a listed or characteristically hazardous waste as defined in 40 CFR (code of federal regulations) Parts 261 and includes hazardous characteristics based on characteristics of ignitability, corrosivity, reactivity, or toxicity (but does not fail the SW-846 Method 9095B Paint Filter Liquids Test).
- Hazardous Liquid Waste is a hazardous waste (as defined above) that fails the SW-846 Method 9095B Paint Filter Liquids Test.

Material management will likely be performed utilizing multiple pieces of equipment (i.e., working at different locations simultaneously). Equipment may consist of track-mounted excavators, bulldozers, graders, and sheeps-foot and smooth-wheel rollers. Loading of the excavated material would be accomplished using excavator(s) and/or front-end loader(s). Dump trucks and similar transport vehicles will be used for offsite transport. Any vehicle exiting the work area will be decontaminated as appropriate to prevent unnecessary track-out and impact to the facility.

6.3 Containerized Material Handling, Storage, and Disposal

This section covers the unexpected excavation of containerized materials and/or waste and the subsequent handling, storage, and disposal of these materials. Potential containerized material includes, but is not limited to; partial or full containers (i.e., drums) found to contain liquid or solid waste material, flowable material, stained soils or building materials and/or compressed gas cylinders.

Upon encountering containerized materials, decommissioning activities will be suspended in the vicinity of the suspect material and the Navy representative notified immediately. Appropriate measures will be initiated to reduce the potential for cross-contamination of hazardous waste and to protect human health.

The Contractor will subsequently contain the suspect materials by placing them in into roll-off boxes or other suitable containers at the discretion of the Navy. All containerized materials must be handled, transported, and disposed in accordance with all local, state, and federal requirements.

The containerized material then will be transported to a Temporary on-site Transfer Area pending characterization results. At that time, the container(s) will be inspected and the volume and physical characteristics of the container(s) contents will be determined by the Contractor. The containers will be labeled, dated, and kept closed. At no time will decommissioning or support areas be set up outside of the Cabras Island security fence line.

6.4 Procedures for Management of Demolition Materials

This section provides an overview of procedures for management and recommendations for disposal of the demolition materials.

6.4.1 Scrap Metal

Scrap metal debris may be recycled at an approved metals recycling facility (scrap yard). Scrap metal debris shall be decontaminated and shall be free from any dirt, sludge, or fluids prior to loading into trucks for transport to the recycling facility. Alternatively, if the scrap metal is not acceptable to the metal recycler, clean scrap metal may be disposed with building demolition debris at an acceptable off-site disposal facility.

6.4.2 Concrete Rubble

Clean construction debris will not be used as on-site fill material, and will be segregated for off-site disposal. No concrete from this Site may be sold for commercial off-site recycle or reuse.

6.4.3 Building Demolition Debris

Non-hazardous building demolition materials will be segregated for off-site landfill disposal. These materials may include wood, wallboard, asphaltic roofing, metal debris, or other miscellaneous building materials. These materials will be segregated and shipped to an approved, permitted construction debris or municipal waste landfill for off-site disposal.

6.4.4 Transformers

The Contractor will gather and inventory remaining electrical devices containing dielectric fluids. These devices may include transformers, starter capacitors, high voltage switches, or breakers. To date, a number of these have not been accessible for sampling. The contractor will collect representative oil samples from each device and analyze the samples for PCBs. The test results will be used to: 1) determine if Toxic Substances Control Act (TSCA) regulations apply to the assessment and management of the devices (and any spills); and, 2) document off-site disposal management options. In the instance where sealed (inaccessible) capacitors or other devices are encountered, the device will be assumed to be PCB-contaminated in accordance with TSCA policy unless the device is clearly marked by the manufacturer as “Non-PCB”. No third party labels or tags will be used for the purpose of defining a sealed unit as “Non PCB-containing”.

Non-PCB transformers (containing < 50 parts per million [ppm] PCBs) may be shipped full to an approved transformer recycling facility or sold to used licensed equipment vendors for re-use. Alternatively, the dielectric fluid may be drained into an appropriate container, the transformer triple-rinsed, and the carcass disposed at an approved, permitted construction debris or municipal waste landfill. Only off-site commercial transformer recycling service centers may be used for this method of decontaminating transformers. The Contractor will not be permitted to do this cleaning on-site. If they are drained, the transformer oil will be shipped to a fuels blending facility for proper disposal.

If testing shows that the transformer fluid contains greater than 50 ppm PCBs, the transformer, dielectric fluid, and carcass, and any spills emanating from the unit must be managed and disposed of under the TSCA regulations at an approved, TSCA-permitted facility (incinerator, high-efficiency boiler, or chemical waste landfill) in accordance with 40 CFR 761.60.

6.4.5 Refrigerants

The contractor will investigate all remaining HVAC and process equipment for remaining refrigerants. These refrigerants include ammonia, halogenated and non-halogenated refrigerants, and heat transfer fluids. Heat transfer units may include glycol and oil. The contractor will recover these refrigerants and fluids with licensed recovery technicians (as applicable) for recycle. Glycol may be drained from units and put into drums/containers for recycle or disposal at an approved, permitted facility. Records will be maintained on the quantity recovered, device recovered from, and material recovered. After evacuation, the Contractor will clearly mark each device with legible markings signifying that the unit is empty. The empty units may be salvaged or disposed along with normal building debris.

6.4.6 Mercury Switches and Thermostats

Building thermostats or starter switches containing mercury may still be present as decommissioning proceeds. These devices contain various quantities of elemental mercury. As part of the pre-demolition clearing of the Site, the Contractor will recover these devices; disposal will be in accordance with current Federal and Local regulations.

6.4.7 Electronic Circuit Boards

Control rooms within the Site were observed to contain electronic circuitry. These devices often contain components that contain hazardous concentrations of heavy metals. These components are prohibited from co-mingled disposal with clean construction and demolition debris. The

Contractor will gather up these devices for segregated shipment to an off-site licensed, commercial recycle facility for electronic components (e.g., computers, circuit boards, televisions, etc.).

6.4.8 Fluorescent and Metal Halide Light Ballasts and Tubes

Fluorescent and metal halide light bulbs contain hazardous concentrations of heavy metals. These contaminants are prohibited from co-mingled disposal with clean building debris at a landfill. As part of the building cleaning operation, the Contractor will remove and package all fluorescent light bulbs and metal halide bulbs for off-site recycle or disposal. If the Contractor encounters previously broken bulbs, the Contractor will document the clean-up. If the Contractor breaks any bulbs during the handling/removal process, the Contractor will proceed with, and document that clean-up.

Fluorescent and metal halide light bulb starter ballasts contain dielectric fluid. Prior to the prohibition of PCB, the dielectric fluids often contained PCBs. The contractor will remove all light ballasts and package recovered light ballasts for PCB disposal.

6.4.9 Petroleum Hydrocarbons

Devices such as generators and pneumatic drive motors contain hydraulic oil reservoirs. These reservoirs cannot be shipped to metal recycling operations or land disposal facilities without first being drained. The Contractor will systematically drain these devices of flowable oil and recover the oils in drums or other suitable containers. The collected oil will be properly characterized for the presence of PCBs and either managed off-site as a PCB-containing waste (if the oil meets the definition of a PCB oil) or at a commercial oil recycling facility. If classified as non-PCB oil (<50 ppm PCBs), they may be recovered and shipped in drums/containers to a commercial oil recycler or fuels blending facility. Hydraulic oils that contain greater than 50 ppm PCBs will be managed as a TSCA-regulated waste in the same manner as PCB transformer dielectric fluid (Section 6.4.4).

6.4.10 Office and Janitorial Supplies

Office and janitorial supplies left by the Navy have the potential for containing hazardous constituents prohibited from co-disposal with clean construction and demolition waste. Some types of office and janitorial supplies may contain hazardous chemicals (i.e., cleaning fluids, paint, solvents, phosphate detergents, white-out, etc.). The Contractor will sweep the Site and recover such items as cleaners, solvents, paints, and chemicals. These materials will be segregated, characterized and managed at appropriate off-site disposal facilities. Materials that fall under the definition of hazardous waste will be properly disposed of as hazardous waste.

6.4.11 Fire Extinguishers

Fire extinguishers are classified as compressed gas cylinders and prohibited from co-mingled disposal with clean construction and demolition waste. The Contractor will collect these devices and arrange for the discharge of residual energy/disposal or off-site recycle/recovery by a commercial fire extinguisher service.

6.4.12 Lead Paint

Given the age of the operation and past testing results, lead-based paint is present and must be managed accordingly. Efforts include protection of Site demolition workers and appropriate notification to those off-site facilities (metal recycling facilities and landfills) in receipt of materials that lead-based paints are present and to manage those materials accordingly.

Materials resulting from demolition activities will be handled, stored, transported, and disposed of in accordance with U.S. Environmental Protection Agency (USEPA) and applicable local regulations. If any construction and demolition debris scheduled for off-site disposal includes any lead-containing painted surfaces, the Contractor will conduct confirmatory sampling and analysis to verify that the building debris that includes debris coated with lead-containing paint is nonhazardous. Two representative samples will be submitted for laboratory analysis for lead using the toxicity characteristic leaching procedure (TCLP).

6.4.13 Asbestos-Containing Materials

Relatively small quantities of ACM were identified throughout the work area. The ACM included both friable and non-friable materials.

Containers for friable ACM will be leak-tight, and will consist of two plastic bags, each having a thickness of 6 mils. Alternatively, the Contractor may use a combination of a 6-mil plastic bag and a leak-tight steel, plastic, or fiber drum. The label will indicate the address where the waste was generated and the name of the waste generator.

The Contractor will carry out the removal, handling, and disposal of friable ACM in accordance with all applicable Federal, State and Local regulations, including:

- OSHA - Asbestos Standard (29 CFR 1926.1101)
- USEPA - National Emissions of Hazardous Air Pollutants (NESHAP) Standard for Asbestos (40 CFR 61 Subpart M)

At least one of the Contractor's employees will have received training in the provisions of the USEPA NESHAP regulation and the means of complying with them. Access to the work area will be restricted, and authorized personnel will be limited to the Contractor's employees, state and local inspectors, and any other designated individuals. All asbestos abatement work will be conducted by licensed and trained asbestos abatement workers.

Friable ACM will be wetted prior to and during removal, and will be containerized as described above. The Contractor will be responsible and ensure that removal and handling activities create no visible emissions of dust.

If previously unidentified, suspect ACM that is or may become friable is discovered during demolition activities in previously concealed areas (e.g., behind walls, above ceilings, below floors, etc.), the demolition contractor immediately will cease all demolition activities at that building and contact a Certified Asbestos Hazard Evaluation Specialist to confirm the presence of ACM. If the presence is positively identified, the materials will only be removed by Certified Asbestos Hazard Abatement Specialist prior to the continuation of demolition.

6.5 Dust and Wind Dispersion Control

Due to the sensitive nature and location of the work, all necessary precautions will be taken to prevent creation of airborne dust particles during excavation, handling, transportation, and if required, temporary storage of materials on-site.

Water used for dust control will be clean (i.e., obtained from on-site sources) and the use of additives will not be permitted. Engineering controls will be implemented to minimize the potential for dust generation. Engineering controls may include, but not be limited to, minimizing the area of exposed surface, reducing the time the surface is exposed, and scheduling of construction activities.

6.6 Decontamination

Site management measures will be taken during construction to prevent tracking of demolition materials from the Site. These measures include establishing Site control zones and minimizing the number of personnel and construction equipment entering and leaving the work area. Collected water and solids will be collected, tested as appropriate and managed off-site at licensed disposal facilities.

7.0 HEALTH AND SAFETY PLAN

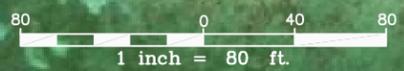
A project specific HASP will be developed by the contractor(s) prior to the onset of work. All work will be conducted in accordance with Federal and local regulations and will address the means and methods ultimately selected by the contractor for project implementation. For instance, crane lift safety will be included if the contractor elects to make regulated lifts at the Site as part of the effort; a detailed listing of required sections is not possible at this time.

FIGURES



Baker

VIEQUES PASAGE



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LEGEND

- -SWMU 79 BOUNDARY
 - -WATER BOUNDARY
 - E2SS3 -WETLAND CLASSIFICATION
 - -WETLAND BOUNDARY
 - RSL1 -READY SERVICE LOCKER
-
- COWARDIN WETLAND CLASSIFICATION**
- E10W - ESTUARINE SUBTIDAL OPEN WATER
 - E2SS3 - ESTUARINE, INTERTIDAL, SCRUB/SHRUB, BROAD-LEAVED EVERGREEN
 - M2US2 - MARINE INTERTIDAL UNCONSOLIDATED SHORE SAND

FIGURE 1
 SITE LAYOUT DEPICTING US NAVY AND
 FAA FACILITIES AT NAPR-CABRAS ISLAND
 SWMU 79 - NAVY OPERATIONS AREA
 CABRAS ISLAND
 DECOMMISSIONING AND DEMOLITION PLAN
 NAVAL ACTIVITY PUERTO RICO