



**US Army Corps
of Engineers** ®
Huntsville, US Army Engineering
and Support Center

FINAL

**Defense Environmental Restoration Program
For
Formerly Used Defense Sites**

**PRELIMINARY
ASSESSMENT**

BENEDICT FIELD

**St. Croix, U.S. Virgin Islands
Property Number – I02VI0564**

31 May 2006

Prepared by
US Army Corps of Engineers
ST. LOUIS DISTRICT

200-1e

I02VI056401 01.09 0501





DEPARTMENT OF THE ARMY
HUNTSVILLE CENTER, CORPS OF ENGINEERS
P.O. BOX 1600
HUNTSVILLE, ALABAMA 35807-4301

CEHNC-OE-CX (200-1c)

31 May 2006

MEMORANDUM FOR Commander, US Army Engineer District, St Louis
(CEMVS-ED-P/Michael Dace), 1212 Spruce St, St Louis, MO 63103-2822

SUBJECT: Results of the Technical Advisory Group (TAG) Review of Archives Search
Reports (ASR) and Fact Sheets for Defense Environmental Restoration Program Formerly Used
Defense Sites (DERP-FUDS)

1. The following enclosed ASRs and Fact Sheets are finalized:

<u>Project Number</u>	<u>Site Name</u>
A06LA002301	Battery Bienvenue
B07MO014303	Jefferson Barracks
C02NY061600	Fort Slocum (David's Island)
C03DC003602	Camp Simms
C03VA009800	Oyster Point Backup Ammunition Storage Depot
E05MI120701	Chemical Warfare Development Division
F10WA062600	Coyote Outlying Field
F10WA034700	Larson AFB and Moving Jeep Target Range
F10WA062400	Humorist Outlying Field
F10WA061600	Baxter Outlying Field
F10WA045203	Geiger Field
F10WA061700	Wheatland Outlying Filed
G04TN017000	Alcoa Ammunition Storage Station
✓I02VI056400	Benedict Field
I04FL001502	Camp Blanding Military Reservation
I04FL011004	Camp Gordon Johnston
I04FL113101	Lake Woodruff Bomb Target
I04NC107900	Nags Head Bombing Target
I04SC099701	Wateree Pond Range
I04PR002300	Fort Amezquita
J09CA707801	Camp Lockett
J09CA745101	Temecula Bombing Target NO. 1
J09CA104500	Rosedale Field and Bombing Target
J09CA701800	Carrizo Impact Area
K06AR090800	Second Army Ammunition Depot
K06OK012403	Fredrick Army Air Field
K06OK018503	Naval Air Technical Training Center
K06OK018901	Woodard Army Airfield

CEHNC-OE-CX (200-1c)

SUBJECT: Results of the Technical Advisory Group (TAG) Review of Archives Search Reports (ASR) and Fact Sheets for Defense Environmental Restoration Program Formerly Used Defense Sites (DERP-FUDS)

<u>Project Number</u>	<u>Site Name</u>
K06OK017802	Shawnee Naval Air Station
K06OK018601	Muskogee Auxiliary Airfield (Hatbox Field)
K06TX019101	Midland Army Air Field Target Range NO. 9
K06TX055201	Hermosa Auxiliary Field NO. A-2
K06TX066703	Naval Inactive Ship Storage Facility
K06TX010400	Amarillo Army Airfield Small Arms Firing Range
K06TX208401	Childress AAF Bombing Ranges 10
K06TX028201	Childress AAF Bombing Ranges 13
K06TX027901	Childress AAF Bombing Ranges 16
K06TX112901	San Angelo Army Airfield Bombing Range NO. S-2
K06TX113300	San Angelo Army Airfield Bombing Range NO. S-6
K06TX010203	Amarillo Air Force Base
K06TX100803	Matagorda Peninsula Bombing Range
K06TX054302	Marfa Army Airfield
K06OK012201	South Plains Army Air Field
K06TX013901	Red River Arsenal Rifle Range
K06TX030000	Cactus Ordnance Works
K06TX060801	Foster AFB Auxiliary Field NO. 2

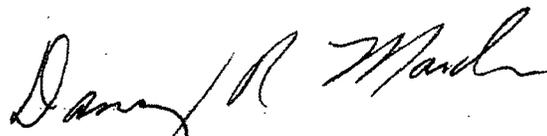
2. Recommended strategy for future actions to be taken by the Project Manager is included in the enclosed fact sheets. Supporting data for TAG decisions are also included with the fact sheets.

3. Fact sheets, supporting data and corrected pages, due to prior reviews, are to be distributed with the subjects ASRs.

4. Subject ASRs are recommended to be final when enclosed fact sheets, supporting data and corrected pages are included as a part of the project package.

5. The POC is Mr. Danny Mardis, commercial 256-895-1797, DSN 760-1797, and fax 256-895-1798.

FOR THE DIRECTOR:


DANNY R. MARDIS
Archives Search Report Manager

Encls

RISK ASSESSMENT PROCEDURES FOR
MILITARY MUNITIONS RESPONSE PROJECTS

Property Name:	<u>Benedict Field</u>	Rater's Name:	<u>Ron Thornhill</u>
Property Location:	<u>St. Croix, Virgin Islands</u>	Phone Number:	<u>(918)420-8395</u>
FUDS Property/Project #:	<u>I02VI056400</u>	District:	<u>DAC</u>
Property Type:	<u>Area A-Bomb Target</u>	Office Symbol:	<u>SJAMC-ESM</u>
Score:	<u>2</u>	Date Completed:	<u>08 November 2005</u>

RISK ASSESSMENT:

This risk assessment (RAC) procedure was developed to address explosives safety hazards related to munitions. This procedure does not address environmental hazards associated with munitions constituents. The U.S. Army Engineering and Support Center, Huntsville (USAESCH), Ordnance and Explosives Directorate (CEHNC-OE) developed this procedure in accordance with MIL-STD 882C and AR 385-10. The Risk Assessment Code (RAC) score will be used by the U.S. Army Corps of Engineers to prioritize the response action(s) at Formerly Used Defense Sites (FUDS). The risk assessment should be based on the best available information resulting from record searches, reports of Explosive Ordnance Disposal (EOD) actions, field observations (site visits), and interviews. This information is used to assess the risk involved based on the potential MMRP hazards identified for the project. The risk assessment evaluates two factors, hazard severity and hazard probability.

Part I - Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible event resulting from personnel exposure to various types and quantities of unexploded ordnance.

TYPE OF ORDNANCE: (Check all that apply)

A. Conventional ordnance and ammunition:	VALUE
Projectiles, explosive (20 millimeter and larger)	10 <input type="checkbox"/>
Bombs, explosive	10 <input type="checkbox"/>
Grenades, hand or rifle, explosive	10 <input type="checkbox"/>
Landmine, explosive	10 <input type="checkbox"/>
Rockets, guided missile, explosive	10 <input type="checkbox"/>
Other Explosive item not previously stated	10 <input type="checkbox"/>
Bomb, practice (w/spotting charge)	6 <input checked="" type="checkbox"/>
Detonators, blasting caps, fuses, boosters, bursters	6 <input type="checkbox"/>
Practice ordnance (w/ spotting charges, other than bombs)	4 <input type="checkbox"/>
Small arms, complete round (.50 cal or less)	1 <input type="checkbox"/>
Small arms, expended (.50 cal or less)	0 <input type="checkbox"/>
Practice ordnance (w/o spotting charges)	0 <input type="checkbox"/>
Conventional ordnance and ammunition (enter largest single value checked)	6

What evidence do you have regarding conventional unexploded ordnance? Historical documents identified a practice bombing area established in support of Benedict Field. Tract # 1 consisting of 575 acres southwest of the airfield was acquired for this purpose, and two targets were constructed, 50 foot and a 200 foot circles, a potential for practice bombs remain.

Property Name:
Project Number:
Property Type:

B. Pyrotechnics (for munitions not described above):

	VALUE
Munitions containing White Phosphorus (WP) or other pyrophoric material (i.e., spontaneously flammable)	10 <input type="checkbox"/>
Munitions containing a flame or incendiary material (i.e., Napalm, Triethylaluminum metal incendiaries)	10 <input type="checkbox"/>
Containers containing WP or other pyrophoric material or flame or incendiary material	6 <input type="checkbox"/>
Flares, signals, simulators, screening/burning smokes (other than WP)	4 <input type="checkbox"/>
Pyrotechnics (enter the single largest value checked)	<u>0</u>

What evidence do you have regarding pyrotechnics? None.

C. Bulk Explosives (HE) (not an integral part of conventional ordnance; un-containerized):

	VALUE
Primary or initiating explosives (Lead Styphnate, Lead Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.)	10 <input type="checkbox"/>
Secondary explosives (Demolition charges, PETN, Compositions A, B, C, Teteryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	8 <input type="checkbox"/>
Insensitive explosive substances (explosive contaminated soils, ammonium nitrate)	3 <input type="checkbox"/>
Bulk Explosives (HE) (enter the single largest value checked)	<u>0</u>

What evidence do you have regarding bulk explosives? None.

Property Name:
Project Number:
Property Type:

D. Bulk propellants (not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized)

	VALUE
Solid or liquid propellants	6 <input type="checkbox"/>
Bulk Propellants (select 6 or 0)	<u>0</u>

What evidence do you have regarding bulk propellants? None

E. Recovered Chemical Warfare Materiel (RCWM), Weaponized Industrial Chemicals and Radiological Materiel:

	VALUE
Toxic chemical agents (H-Mustard, G-Nerve, V-Nerve and L-Lewisite)	25 <input type="checkbox"/>
Chemical Agent Identification Sets	20 <input type="checkbox"/>
Radiological Materiel (If rad waste is identified please call the HTRW-CX at 402-697-2555)	15 <input type="checkbox"/>
Weaponized Industrial Chemicals (Hydrogen Cyanide AC; Cyanogen Chloride, CK; Phosgene, CG)	10 <input type="checkbox"/>
Riot Control Agents (vomiting, tear)	5 <input type="checkbox"/>
Chemical and Radiological (enter the single largest value checked)	<u>0</u>

What evidence do you have regarding chemical or radiological? None.

TOTAL HAZARD SEVERITY VALUE (Sum of value A through E, maximum of 61) 6
Apply this value to Table 1 to determine Hazard Severity Category

Property Name:
Project Number:
Property Type:

TABLE I
HAZARD SEVERITY*

DESCRIPTION	CATEGORY	HAZARD SEVERITY VALUE
CATASTROPHIC	I <input type="checkbox"/>	21 and/or greater
CRITICAL	II <input type="checkbox"/>	10 to 20
MARGINAL	III <input checked="" type="checkbox"/>	5 to 9
NEGLIGIBLE	IV <input type="checkbox"/>	1 to 4
**NONE	V <input type="checkbox"/>	0

*Apply Hazard Severity Category to Table 3 and complete Part II of this form.

**If hazard severity value is 0, complete Part II of this form. Then proceed to Part III and use a RAC score of 5 to determine your appropriate action.

PART II - Hazard Probability. The probability that a hazard has been, or will be, created due to the presence and other rated factors of unexploded ordnance, explosives, incendiary, pyrotechnic, radiological, or RCWM materials on a formerly used Department of Defense (DOD) site.

AREA, EXTENT, ACCESSIBILITY OF MMRP HAZARD (Check all that apply)

A. Locations of MMRP hazards:

	VALUE
On the surface	5 <input checked="" type="checkbox"/>
Within tanks, pipes, vessels, or other confined areas	4 <input type="checkbox"/>
Inside walls, ceilings, or other building/structure	3 <input type="checkbox"/>
Subsurface	2 <input type="checkbox"/>

Location (enter the single largest value checked) 5

What evidence do you have regarding the location of MMRP? Potential MEC hazards exist in the form of possible malfunctioned spotting charges in the practice bombs. The bomb functioned on the surface, lacking structural density and strength to bury deeply into the ground. No evidence was uncovered to suspect the destruction or burial of MEC in the ammunition storage area. The former small arms range has been completely removed and no evidence of the range exists today. The former range is now included within the boundaries of the horse racetrack. The site inspection team found no remains of the former ammunition storage area. There was no evidence uncovered to suspect that MEC any remain, or was destroyed or buried on the site.

Property Name:
Project Number:
Property Type:

B. Distance to nearest inhabited location/structure likely to be at risk from MMRP hazard (road, park, playground, building, etc.).

	VALUE
Less than 1,250 feet	5 <input type="checkbox"/>
1,250 feet to 0.5 mile	4 <input checked="" type="checkbox"/>
0.5 mile to 1.0 mile	3 <input type="checkbox"/>
1.0 mile to 2.0 Miles	2 <input type="checkbox"/>
Over 2 miles	1 <input type="checkbox"/>

Distance (enter the single largest value checked) 4

What are the nearest inhabited structures/buildings? Airport and associated office and support facilities are located to the northeast of the practice bombing area. North, within 1-mile of the site are a large number of private homes and businesses. Directly to the west, bordering the western boundary of Tract #1 is a number of private homes. The small arms range is located on what is currently a horse racetrack. Numerous businesses are also located north within a mile. To the east is the St. Croix landfill.

C. Number(s) of building(s) within a 2-mile radius measured from the MMRP hazard area, not the installation boundary.

	VALUE
26 and over	5 <input checked="" type="checkbox"/>
16 to 25	4 <input type="checkbox"/>
11 to 16	3 <input type="checkbox"/>
6 to 10	2 <input type="checkbox"/>
1 to 5	1 <input type="checkbox"/>
0	0 <input type="checkbox"/>

Number of buildings (enter the single largest value checked) 5

Narrative: The potential MEC hazard exists on the practice bombing area. There are over 26 buildings within 2 miles of this range.

Property Name:
Project Number:
Property Type:

D. Types of Buildings (within 2-mile radius)

	VALUE
Educational, childcare, residential, hospitals, hotels, commercial, shopping centers	5 <input checked="" type="checkbox"/>
Industrial, warehouse, etc.	4 <input type="checkbox"/>
Agricultural, forestry, etc.	3 <input type="checkbox"/>
Detention, correctional	2 <input type="checkbox"/>
No buildings	0 <input type="checkbox"/>

Types of buildings (enter the single largest value checked) 5

Describe the types of buildings: Private residences, commercial facilities (airport), industrial warehouses and facility.

E. Accessibility to site refers to access by humans to military munitions. Use the following guidance:

	VALUE
No barrier nor security system	5 <input checked="" type="checkbox"/>
Barrier is incomplete (e.g., in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing	4 <input type="checkbox"/>
A barrier (any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site.	3 <input type="checkbox"/>
Security Guard, but no barrier	2 <input type="checkbox"/>
A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel continuously monitors and controls entry; or, an artificial or natural barrier (e.g., fence combined with a cliff) which completely surrounds the area; and, a means to control entry at all times through the gates or other entrances (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the area).	0 <input type="checkbox"/>

Accessibility (enter the single largest value checked) 5

Describe the site accessibility: The former practice bombing area is airport property and has limited access. The area is in a natural state and heavily overgrown. There is no recreational attraction to the site, and vegetation alone is a deterrent throughout most of the area. An old access road is present. However, the road is not maintained and nearly impassable if not for a 4-wheel drive vehicle.

Property Name:
Project Number:
Property Type:

F. **Site Dynamics.** This deals with site conditions that are subject to change in the future, but may be stable at the present. Examples would be excessive soil erosion on beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility.

	VALUE
Expected	5 <input checked="" type="checkbox"/>
Not anticipated	0 <input type="checkbox"/>
Site Dynamics (enter the single largest value checked)	<u>5</u>

Describe the site dynamics: Airport runway is currently undergoing expansion.

TOTAL HAZARD PROBABILITY VALUE 29
 (Sum of largest values for A through F (maximum of 30). Apply this value to Hazard Probability Table 2 to determine the Hazard Probability Level.

**TABLE 2
HAZARD PROBABILITY***

<u>DESCRIPTION VALUE</u>	<u>LEVEL</u>	<u>HAZARD PROBABILITY</u>
FREQUENT	A <input checked="" type="checkbox"/>	27 or greater
PROBABLE	B <input type="checkbox"/>	21 to 26
OCCASIONAL	C <input type="checkbox"/>	15 to 20
REMOTE	D <input type="checkbox"/>	8 to 14
IMPROBABLE	E <input type="checkbox"/>	less than 8

*Apply Hazard Probability Level to Table 3.

Property Name:
 Project Number:
 Property Type:

Part III - Risk Assessment. The risk assessment value for this site is determined using the following Table. Enter the results of the Hazard Probability and Hazard Severity values.

TABLE 3

PROBABILITY LEVEL	FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
SEVERITY CATEGORY:					
CATASTROPHIC I	1 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
CRITICAL II	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>
MARGINAL III	2 <input checked="" type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>
NEGLIGIBLE IV	3 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>
None (V) = RAC 5 <input type="checkbox"/>					

RISK ASSESSMENT CODE (RAC)

RAC 1-4 Recommend and approve further action as appropriate. Refer to EP 1110-1-18 for discussion of MMRP projects and the process to be followed for execution of project response actions.

RAC 5 Usually indicates that No DOD Action Indicated (NDAI) is necessary. Recommend and approve NDAI and follow instructions for project closeout in accordance with current program guidance.

PART IV - Narrative. Summarize the documented evidence that supports this risk assessment. If no documented evidence was available, explain all the assumptions that you made.
The team based the MEC/RCWM potential on the potential practice bombs may remain on site. Presently, the area identified as the practice bombing area is owned and controlled by the Airport. It is an unused portion of the facility and is in a natural state with dense and overgrown vegetation. There is no evidence of CWM training, storage or disposal activities. Recommend a RAC score of 2.

Property Name:
 Project Number:
 Property Type:

RISK ASSESSMENT PROCEDURES FOR
MILITARY MUNITIONS RESPONSE PROJECTS

Property Name:	<u>Benedict Field</u>	Rater's Name:	<u>Ron Thornhill</u>
Property Location:	<u>St. Croix, Virgin Islands</u>	Phone Number:	<u>(918)420-8395</u>
FUDS Property/Project #:	<u>I02VI056400</u>	District:	<u>DAC</u>
Property Type:	<u>Area B-All remaining lands</u>	Office Symbol:	<u>SJAMC-ESM</u>
Score:	<u>5</u>	Date Completed:	<u>08 November 2005</u>

RISK ASSESSMENT:

This risk assessment (RAC) procedure was developed to address explosives safety hazards related to munitions. This procedure does not address environmental hazards associated with munitions constituents. The U.S. Army Engineering and Support Center, Huntsville (USAESCH), Ordnance and Explosives Directorate (CEHNC-OE) developed this procedure in accordance with MIL-STD 882C and AR 385-10. The Risk Assessment Code (RAC) score will be used by the U.S. Army Corps of Engineers to prioritize the response action(s) at Formerly Used Defense Sites (FUDS). The risk assessment should be based on the best available information resulting from record searches, reports of Explosive Ordnance Disposal (EOD) actions, field observations (site visits), and interviews. This information is used to assess the risk involved based on the potential MMRP hazards identified for the project. The risk assessment evaluates two factors, hazard severity and hazard probability.

Part I - Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible event resulting from personnel exposure to various types and quantities of unexploded ordnance.

TYPE OF ORDNANCE: (Check all that apply)

A. Conventional ordnance and ammunition:	VALUE
Projectiles, explosive (20 millimeter and larger)	10 <input type="checkbox"/>
Bombs, explosive	10 <input type="checkbox"/>
Grenades, hand or rifle, explosive	10 <input type="checkbox"/>
Landmine, explosive	10 <input type="checkbox"/>
Rockets, guided missile, explosive	10 <input type="checkbox"/>
Other Explosive item not previously stated	10 <input type="checkbox"/>
Bomb, practice (w/spotting charge)	6 <input type="checkbox"/>
Detonators, blasting caps, fuses, boosters, bursters	6 <input type="checkbox"/>
Practice ordnance (w/ spotting charges, other than bombs)	4 <input type="checkbox"/>
Small arms, complete round (.50 cal or less)	1 <input type="checkbox"/>
Small arms, expended (.50 cal or less)	0 <input checked="" type="checkbox"/>
Practice ordnance (w/o spotting charges)	0 <input type="checkbox"/>
Conventional ordnance and ammunition (enter largest single value checked)	<u>0</u>

What evidence do you have regarding conventional unexploded ordnance? The former 1000' small arms range has been completely removed and no evidence of the range exists today. The range property is now included within the boundaries of the horse racetrack.

Property Name:
Project Number:
Property Type:

B. Pyrotechnics (for munitions not described above):

	VALUE
Munitions containing White Phosphorus (WP) or other pyrophoric material (i.e., spontaneously flammable)	10 <input type="checkbox"/>
Munitions containing a flame or incendiary material (i.e., Napalm, Triethylaluminum metal incendiaries)	10 <input type="checkbox"/>
Containers containing WP or other pyrophoric material or flame or incendiary material	6 <input type="checkbox"/>
Flares, signals, simulators, screening/burning smokes (other than WP)	4 <input type="checkbox"/>
Pyrotechnics (enter the single largest value checked)	<u>0</u>

What evidence do you have regarding pyrotechnics? None.

C. Bulk Explosives (HE) (not an integral part of conventional ordnance; un-containerized):

	VALUE
Primary or initiating explosives (Lead Styphnate, Lead Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.)	10 <input type="checkbox"/>
Secondary explosives (Demolition charges, PETN, Compositions A, B, C, Teteryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	8 <input type="checkbox"/>
Insensitive explosive substances (explosive contaminated soils, ammonium nitrate)	3 <input type="checkbox"/>
Bulk Explosives (HE) (enter the single largest value checked)	<u>0</u>

What evidence do you have regarding bulk explosives? None.

Property Name:
Project Number:
Property Type:

D. Bulk propellants (not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized)

	VALUE
Solid or liquid propellants	6 <input type="checkbox"/>
Bulk Propellants (select 6 or 0)	<u>0</u>

What evidence do you have regarding bulk propellants? None

E. Recovered Chemical Warfare Materiel (RCWM), Weaponized Industrial Chemicals and Radiological Materiel:

	VALUE
Toxic chemical agents (H-Mustard, G-Nerve, V-Nerve and L-Lewisite)	25 <input type="checkbox"/>
Chemical Agent Identification Sets	20 <input type="checkbox"/>
Radiological Materiel (If rad waste is identified please call the HTRW-CX at 402-697-2555)	15 <input type="checkbox"/>
Weaponized Industrial Chemicals (Hydrogen Cyanide AC; Cyanogen Chloride. CK; Phosgene, CG)	10 <input type="checkbox"/>
Riot Control Agents (vomiting, tear)	5 <input type="checkbox"/>
Chemical and Radiological (enter the single largest value checked)	<u>0</u>

What evidence do you have regarding chemical or radiological? None

TOTAL HAZARD SEVERITY VALUE (Sum of value A through E. maximum of 61) 0
Apply this value to Table 1 to determine Hazard Severity Category

Property Name:
Project Number:
Property Type:

TABLE I
HAZARD SEVERITY*

DESCRIPTION	CATEGORY	HAZARD SEVERITY VALUE
CATASTROPHIC	I <input type="checkbox"/>	21 and/or greater
CRITICAL	II <input type="checkbox"/>	10 to 20
MARGINAL	III <input type="checkbox"/>	5 to 9
NEGLIGIBLE	IV <input type="checkbox"/>	1 to 4
**NONE	V <input checked="" type="checkbox"/>	0

*Apply Hazard Severity Category to Table 3 and complete Part II of this form.

**If hazard severity value is 0, complete Part II of this form. Then proceed to Part III and use a RAC score of 5 to determine your appropriate action.

PART II - Hazard Probability. The probability that a hazard has been, or will be, created due to the presence and other rated factors of unexploded ordnance, explosives, incendiary, pyrotechnic, radiological, or RCWM materials on a formerly used Department of Defense (DOD) site.

AREA, EXTENT, ACCESSIBILITY OF MMRP HAZARD (Check all that apply)

A. Locations of MMRP hazards:

	VALUE
On the surface	5 <input type="checkbox"/>
Within tanks, pipes, vessels, or other confined areas	4 <input type="checkbox"/>
Inside walls, ceilings, or other building/structure	3 <input type="checkbox"/>
Subsurface	2 <input type="checkbox"/>

Location (enter the single largest value checked)

0

What evidence do you have regarding the location of MMRP? None.

Property Name:
Project Number:
Property Type

B. Distance to nearest inhabited location/structure likely to be at risk from MMRP hazard (road, park, playground, building, etc.).

	VALUE
Less than 1,250 feet	5 <input checked="" type="checkbox"/>
1,250 feet to 0.5 mile	4 <input type="checkbox"/>
0.5 mile to 1.0 mile	3 <input type="checkbox"/>
1.0 mile to 2.0 Miles	2 <input type="checkbox"/>
Over 2 miles	1 <input type="checkbox"/>

Distance (enter the single largest value checked) 5

What are the nearest inhabited structures/buildings? Airport and associated office and support facilities are located on the property. There are a large number of private homes and businesses on or bordering the property.

C. Number(s) of building(s) within a 2-mile radius measured from the MMRP hazard area, not the installation boundary.

	VALUE
26 and over	5 <input checked="" type="checkbox"/>
16 to 25	4 <input type="checkbox"/>
11 to 16	3 <input type="checkbox"/>
6 to 10	2 <input type="checkbox"/>
1 to 5	1 <input type="checkbox"/>
0	0 <input type="checkbox"/>

Number of buildings (enter the single largest value checked) 5

Narrative: There are over 26 buildings within 2 miles of the property.

Property Name:
Project Number:
Property Type:

D. Types of Buildings (within 2-mile radius)

	VALUE
Educational, childcare, residential, hospitals, hotels, commercial, shopping centers	5 <input checked="" type="checkbox"/>
Industrial, warehouse, etc.	4 <input type="checkbox"/>
Agricultural, forestry, etc.	3 <input type="checkbox"/>
Detention, correctional	2 <input type="checkbox"/>
No buildings	0 <input type="checkbox"/>

Types of buildings (enter the single largest value checked) 5

Describe the types of buildings: Private residences, commercial facilities (airport), industrial warehouses and facilities.

E. Accessibility to site refers to access by humans to military munitions. Use the following guidance:

	VALUE
No barrier nor security system	5 <input checked="" type="checkbox"/>
Barrier is incomplete (e.g., in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing	4 <input type="checkbox"/>
A barrier (any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site.	3 <input type="checkbox"/>
Security Guard, but no barrier	2 <input type="checkbox"/>
A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel continuously monitors and controls entry; or, an artificial or natural barrier (e.g., fence combined with a cliff) which completely surrounds the area; and, a means to control entry at all times through the gates or other entrances (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the area).	0 <input type="checkbox"/>

Accessibility (enter the single largest value checked) 5

Describe the site accessibility: No barriers to the public.

Property Name:
Project Number:
Property Type:

F. **Site Dynamics.** This deals with site conditions that are subject to change in the future, but may be stable at the present. Examples would be excessive soil erosion on beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility.

	VALUE
Expected	5 <input checked="" type="checkbox"/>
Not anticipated	0 <input type="checkbox"/>
Site Dynamics (enter the single largest value checked)	<u>5</u>

Describe the site dynamics: Airport runway is currently undergoing expansion. The St. Croix Alumina site has changed ownership several times over the past years and revitalization of the site is expected. No scheduled projects for horse track.

TOTAL HAZARD PROBABILITY VALUE 30
 (Sum of largest values for A through F (maximum of 30). Apply this value to Hazard Probability Table 2 to determine the Hazard Probability Level.

**TABLE 2
HAZARD PROBABILITY***

<u>DESCRIPTION VALUE</u>	<u>LEVEL</u>	<u>HAZARD PROBABILITY</u>
FREQUENT	A <input checked="" type="checkbox"/>	27 or greater
PROBABLE	B <input type="checkbox"/>	21 to 26
OCCASIONAL	C <input type="checkbox"/>	15 to 20
REMOTE	D <input type="checkbox"/>	8 to 14
IMPROBABLE	E <input type="checkbox"/>	less than 8

*Apply Hazard Probability Level to Table 3.

Property Name:
 Project Number:
 Property Type:

Part III - Risk Assessment. The risk assessment value for this site is determined using the following Table. Enter the results of the Hazard Probability and Hazard Severity values.

TABLE 3

PROBABILITY LEVEL	FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
SEVERITY CATEGORY:					
CATASTROPHIC I	1 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
CRITICAL II	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>
MARGINAL III	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>
NEGLIGIBLE IV	3 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>

None (V) = RAC 5

RISK ASSESSMENT CODE (RAC)

RAC 1-4 Recommend and approve further action as appropriate. Refer to EP 1110-1-18 for discussion of MMRP projects and the process to be followed for execution of project response actions.

RAC 5 Usually indicates that No DOD Action Indicated (NDAI) is necessary. Recommend and approve NDAI and follow instructions for project closeout in accordance with current program guidance.

PART IV - Narrative. Summarize the documented evidence that supports this risk assessment. If no documented evidence was available, explain all the assumptions that you made.
The team found no MEC or MPPEH debris on this property. There is no evidence of CWM training, storage or disposal activities. Recommend a RAC score of 5.

Property Name:
 Project Number:
 Property Type:

CERCLA PRELIMINARY ASSESSMENT (PA)

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EXECUTIVE SUMMARY

The U.S. Army Corps of Engineers administers the Defense Environmental Restoration Program (DERP) Formerly Used Defense Site (FUDS) program. The St. Louis District of the Corps of Engineers prepared this Preliminary Assessment (PA) for **Project No. I02VI056401, Benedict Field**, in support of DERP-FUDS. St. Louis District completed this effort in coordination with U.S. Army Engineering and Support Center, Huntsville, the Center of Expertise (CX) and Design Center for Ordnance and Explosives (OE).

The investigation team compiled information obtained through historical research at various archives and records holding facilities. The investigation was primarily a textual, cartographic and photographic research and analysis effort. It also makes use of site visits and interviews to gather information concerning the site. The research directed efforts towards determining presence of munitions and explosives of concern (MEC) and their constituents, hazardous, toxic and/or radioactive waste (HTRW), and chemical warfare material (CWM) as a result of previous use, storage, and/or disposal. The research placed particular emphasis on establishing the types, quantities and areas of former ordnance and explosives (OE) and chemical warfare (CW) activities. This process obtained information for use in developing recommendations for further action at the former Benedict Field.

The subject of this PA is Benedict Field, St. Croix today referred to as Henry E. Rohlsen Airport or Hamilton Field. St. Croix, one of the United States owned Virgin Islands, lies about 65 miles southeast of Puerto Rico. Benedict Field was located on the southeasterly shore, about six miles from Frederiksted and nine miles from Christiansted. Approximate position is 17° 46' North, 64° 44' West.

The Benedict Field project consisted of constructing houses and facilities for a garrison of approximately 1,000 men, a landing field with two runways, roads, utilities, storage facilities, and an air warning station on a nearby hill. The plan for the construction of Benedict Field was approved in August 1940.

The installation was used as an auxiliary airfield for Borinquen Field in Puerto Rico. A fighter squadron was also stationed there. Their mission was to operate as close-in aerial defense of the installations in Puerto Rico and Virgin Islands. The field was also used as an aircraft reconnaissance outpost and training base for missions required in the Caribbean Frontier.

Benedict Field, St. Croix, Virgin Islands was an Army Air Corp installation and belonged to the War Department from approximately August 1940 to November 1948. Benedict Field was officially declared surplus to the needs of the War Department on 30 May 1946. In December 1947 the Municipality of St. Croix requested all of Benedict Field under the Surplus Property Act of 1944. By 4 March 1948 all tracts were designated as surplus.

Ordnance features associated with the site include a Bombing Area, Small Arms Range, and a Magazine Storage Area. Although these are ordnance related features, this investigation purposes no Military Munition Response Program (MMRP) for Benedict Field. The Bombing

Area was used for practice bombing only. A certificate of clearance was issued for the Bombing Area in 1947. The 1971 aerial photograph shows no evidence of military use. The property visit did not find any target area, debris, scarring, or other remains on the former Bombing Area. No evidence of the former Small Arms Range remains either at Benedict Field. This area is now part of the Manning Bay Racetrack. The original DoD structures in the magazine area were no longer visible in 1971 aerial photography. Access to this area was denied during property visit. St. Croix Alumina plant now uses the area for spoils. There have been no local reports or incidents involving the finding of ordnance debris in the area. The PA team did not find any overt indication of a current ordnance and explosive hazard at Benedict Field. The site remains a **RAC 2** due to the black powder smoke charges used in practice bombs.

Potential hazards that may warrant a FUDS project would be a BD / DR project. Three buildings and an Under Sea Filling Line built by the DoD have potential for a BD / DR project. The buildings are the former Ordnance Shop Building No. 49 and two Small Arms Buildings No. 52 (a) and (b). These structures were the first ones built for ordnance related activities at Benedict Field, prior to the Magazine Storage Area being completed. The buildings are currently in a dilapidated state. The Ordnance Shop Building No. 49 lies in an overgrown area and is gutted and crumbling. The two Small Arms Buildings are also in dilapidated shape. One of the buildings is visible with walls in tact although there is no roof, windows, or door. There is a fence around the remains of this structure. The Small Arms Building is overgrown with vegetation and hidden in thick brush.

The Under Sea Filling Line also remains in place. This is the remains of a petroleum unloading station with a submarine pipeline 8 inches wide and 3,000 feet long (1 ½ mile). This line was .6 miles under the sea from shore to pier. The fuel was then pumped up to the fueling system gasoline lines surrounding the field.

ACKNOWLEDGEMENTS

The following individuals prepared the Archive Search Report or are involved in the process:

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1.0 INTRODUCTION

1.1 Authority

Completion of this investigation on the former Benedict Field supports several Federal laws and rules, Department of Defense (DoD) Directives and Standards, and Army Regulations as outlined in the subsequent sub-paragraphs.

1.1.1 Laws

In 1980, Congress enacted the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), commonly known as Superfund, to respond to threats posed by uncontrolled releases of hazardous substances into the environment. This statute, amended in 1986 by the Superfund Amendments & Reauthorization Act (SARA), establishes the process for undertaking remedial actions at inactive waste sites containing hazardous substances, as well as reporting requirements for releases of hazardous substances.

In 1986, Congress established the Defense Environmental Restoration Program (DERP) at 10 United State Code (USC) 2701 et seq. This program directed the Secretary of Defense to “carry out a program of environmental restoration at facilities under the jurisdiction of the Secretary.” In March 1990, the Environmental Protection Agency (EPA) issued a revised National Contingency Plan (NCP). Under 40 Code of Federal Regulations (CFR) 300.120, which designates the Department of Defense (DoD) to be the removal response authority for incidents involving DoD military weapons and munitions under the jurisdiction, custody and control of DoD.

1.1.2 Military Munitions Response Program

The Senate Committee On Armed Services of the 106th Congress, 1st Session wrote Senate Report 106-50, which directed the DoD to determine the UXO liability costs at all military ranges and provide a report to Congress. As a result, the Army issued a data call to inventory all military ranges, generally referred to as the Advanced Range Survey (ARS). The DoD submitted the initial report reflecting the results of the ARS on 21 May 2001, to Congress.

In September 2001, the DoD established the Military Munitions Response Program (MMRP) within the Defense Environmental Restoration Program (DERP) in recognition of the requirements and the complexity posed at MMRP sites. In addition to defining the requirements for responses at its MMRP sites, the DoD established a requirement to identify, through an inventory, all locations other than operational ranges requiring a military munitions response. This investigation supports this program and the information gathered will confirm and/or append the earlier inventory.

1.1.3 2004 Draft DoD Directive Military Munitions Policy at Other than Operational Ranges (4715.MRP)

As of the writing of this report, the DoD is drafting a policy directive in lieu of the withdrawn DoD proposed range rule. The phrase "Other than Operational Ranges" replaces the previous definitions for Closed, Transferring, or Transferred ranges. The planned policy will direct the Service Components to conduct munitions responses in accordance with CERCLA and the NCP.

1.1.4 CERCLA Preliminary Assessment

Since the beginning of DERP, the U.S. Army Corps of Engineers acts as the agency responsible for environmental restoration at Formerly Used Defense Sites (FUDS). Beginning in 1990, the U.S. Army Engineering and Support Center, Huntsville (USAESCH) serves as the Center of Expertise (CX) and Design Center for Ordnance and Explosives (OE). In cooperation with the USAESCH, the U.S. Army Corps of Engineers, St. Louis District, began preparing Archive Search Reports (ASRs) in 1992 in support of environmental restoration at active DoD installations, Formerly Used Defense Sites (FUDS) and installation transitions under Base Realignment and Closure (BRAC) recommendations. In May 2004, Corps of Engineers guidance dictated slight modification and expansion of the ASR format to clearly meet requirements of the CERCLA process. As such, the historical records research and analysis reports became supplemental CERCLA Preliminary Assessments (PA). This PA report supplements the usual ASR tasks by including a property pathway and environmental hazard assessment and a Hazard Ranking System.

1.2 Subject

The subject of this PA is Benedict Field, St. Croix today referred to as Henry E. Rohlsen Airport or Hamilton Field. St. Croix, one of the United States owned Virgin Islands, lies about 65 miles southeast of Puerto Rico. Benedict Field was located on the southeasterly shore, about six miles from Frederiksted and nine miles from Christiansted. Approximate position is 17° 46' North, 64° 44' West.

1.3 Purpose

This PA compiles information obtained through historical research at various archives and records holding facilities. The investigation was primarily a textual, cartographic and photographic research and analysis effort. It also makes use of property visits and interviews to gather information concerning the site. It does not include sampling or quantitative field assessment techniques to gather data. The research directed efforts towards determining presence of hazardous substance as a result of previous use, storage, and/or disposal. The research places emphasis on establishing the types, quantities and areas of Hazardous, Toxic and Radioactive Waste (HTRW), munitions and explosives of concern (MEC), chemical warfare (CW) activities. This process obtains information for use in developing recommendations for further action at the former Benedict Field.

1.4 Scope

The investigation team focuses on potential HTRW, MEC and/or recovered chemical warfare

material (RCWM) contamination remaining on the former Benedict Field. The DERP-FUDS property number is I02VI056401. This report presents the following:

- A review of related property investigations
- Description and characteristics of the immediate surrounding area, including Real estate information, past and present
- A brief history of Benedict Field
- Description of the HTRW, MEC and/or CW activities identified with the property
- A map and aerial photography analysis of the property
- Findings of the visual property inspection
- Evaluation of HTRW, MEC and/or RCWM material associated with «SiteName»
- A pathway and environmental hazard assessment of MEC and RCWM constituent contamination
- Conclusion regarding HTRW, MEC and/or RCWM projects and recommendations for further action

These factors represent the basis for the evaluation of potential HTRW, MEC and RCWM contamination and associated risks at Benedict Field.

2.0 PREVIOUS INVESTIGATIONS

2.1 Corps of Engineers Investigations

USACE Jacksonville District, Jacksonville, Florida (SAJ), VI, Benedict Field, Planning Division, PD-EE DERP-FUDS files, SAJ-061505-002, INPR for Benedict Field including revisions, 26-Sep-89.¹

The original 1989 Inventory Project Report (INPR) resulted in a **Risk Assessment Code (RAC)** of 5 with No Further Action (NOFA) required by the DoD. In January 2003, the site was reevaluated and the RAC score was revised to a **RAC 4**. Approval was received for the revised RAC score and an OE project was authorized by memorandum dated 18 March 2003.

2.2 Other Investigations

This investigation did not discover any additional studies.

¹ SAJ-061505-002

3.0 PROPERTY DESCRIPTION, ACREAGE, AND LAND USE

3.1 Location

St. Croix, one of the United States owned Virgin Islands, lies about 65 miles southeast of Puerto Rico. Benedict Field was located on the southeasterly shore, about six miles from Frederiksted and nine miles from Christiansted. Approximate position is 17° 46' North, 64° 44' West.

3.2 FUDS Eligible Property

By Executive Order #8511, dated August 9, 1940, a tract of land (Tract 2) of 213.72 acres was transferred from the Department of the Interior, to the War Department. By condemnation proceedings there was secured from Miles Merwin, on September 21, 1940, a tract of land consisting of 567.6 acres (Tract No. 3) and an additional 575.1 acres (Tract No. 1) was acquired from Niels Christoffersen. Tract No. 1 was acquired for the Night Bombing Range. This made a grand total of 1,356.42 acres for Benedict Field proper including the Night Bombing Range. Later in September of 1942, tracts 5 and 6 were purchased for an additional 797.92 acres. Finally in September of 1943, Tract No. 4 was use permitted to the War Department from the Department of the Interior. The use permit for 427.084 from the Department of Interior was granted subject to the condition that the Virgin Islands Company could continue to use the cattle pens, dipping vats, and other facilities located on the subject premises. It was on this permitted acreage and Tract 5 that the Ordnance Area (ammunition storage) was built. The following tables list all real estate transactions for Benedict Field:^{2 3}

Table 3.2.1			
Tract No.	Acreage	Acquisition	Date
1	575.1	Condemnation Proceedings	7 June 1941
2	213.72	Transferred from U. S. Department of Interior to War Department as per Executive Order No. 8511 signed by President F. D. Roosevelt	9 August 1940
3	567.6	Condemnation Proceedings	21 September 1940
4	427.084	Use Permit from Department of Interior	24 September 1943
5	649.454	Condemnation Proceedings	21 September 1942
6	148.466	Condemnation Proceedings	21 September 1942
TOTAL ACREAGE OWNED BY WAR DEPARTMENT - 2,154.34			
TOTAL ACREAGE USE PERMIT TO WAR DEPARTMENT - 427.084			
TOTAL FUDS ACREAGE FOR BENEDICT FIELD - 2,581.424			

² CP-012805-301

³ CP-012605-305

Tract no. 1, 5, and 6 were transferred to the Bureau of Land Management, Department of the Interior as the disposal agency who accepted custody and accountability temporarily in 1947. The Farm Credit Administration, Federal Farm Mortgage Corporation, San Juan, Puerto Rico accepted the transfer of Tracts 2 and 3 with improvements on 31 December 1947.⁴ Later in March 1948, the Department of Interior tracts were reassigned to the Farm Credit Administration.^{5 6 7}

In a final transfer, the Municipality of St. Croix, Virgin Islands was conveyed 2,154.33 acres by Quitclaim Deed from the War Department through the Federal Farm Mortgage Corporation 22 November 1948. This was all acreage owned in fee by the War Department. The former Benedict Field was to be utilized for airport purposes. The deed contains restriction including the right of exclusive use during any national emergency with a right of reentry and reverts for breach of restriction.^{8 9}

The Inventory Project Report (INPR) states, "On 30 December 1943, the Army Air Force retransferred 52 acres to the Department of Interior". No documentation was discovered discussing this transaction or what Tract the 52 acres of Department of Interior land were in. The total acreage figure in the INPR prior to 30 December 1943 is 2,633.42, 52 more acres than historical documentation was found for.

According to currently retrieve records, the War Department purchased in fee 2,154.34 acres and used by permit from the Department of the Interior 427.084 acres for the former FUDS site of Benedict Field. Total acreage for the site with fee and use permit was 2,581.424. All tracts and transactions are shown on real estate map in **Appendix I-9**.

3.3 Land Use and Ownership History

3.3.1 Prior to DoD Jurisdiction

Prior to DoD Jurisdiction, this land was owned by the Department of Interior and private individuals. Cattle grazed the adjacent land and fields were planted with sugar cane.

3.3.2 Current Land Use and Ownership

Since DoD disposal, the Municipality of St. Croix has owned the majority of this land. It currently remains a municipal airport. A private industry (St. Croix Alumina), U.S. Virgin Island Air National Guard, highways, horse racetrack, and a drag racetrack also are on the former FUDS site. Access to the St. Croix Alumina site was denied during site visit. There were no personnel available to escort on to the property. The site is fenced, and most probably contains

⁴ [CP-012605-300](#)

⁵ [CP-012705-311](#)

⁶ [CP-012505-235](#)

⁷ [CP-012505-232](#)

⁸ [CP-012805-310](#)

⁹ [CP-012805-302](#)

spoils from a manufacturing process. The contaminated waste requires continuous air sampling. Air sampling equipment can be seen from the rear gate. There are no foreseeable future land use changes.

3.3.3 Adjacent Land Use

Adjacent land use is mainly residential and small business. There are some areas of open land to the west of the former site that are not used for agriculture and mainly overgrown.

3.3.4 Demographics

The following data is in reference to the demographics of the U.S. Virgin Islands, including St. Croix. The following statistics are from a July 2000 estimate:

- **Population**
120,917
- **Age structure**
0-14 years: 27.8% (male 17,258; female 16,359)
15-64 years: 63.72% (male 35,026; female 42,021)
65 years and over: 8.48% (male 4,435; female 5,818)
- **Population growth rate**
1.07% (2000 est.)
- **Birth rate**
15.96 births per 1,000 population
- **Death rate**
5.36 deaths/1,000 population
- **Net migration rate**
0.12 migrant(s)/1,000 population
- **Sex ratio**
at birth: 1.06 male(s)/female
under 15 years: 1.06 male(s)/female
15-64 years: 0.83 male(s)/female
65 years and over: 0.76 male(s)/female
total population: 0.88 male(s)/female
- **Infant mortality rate**
9.64 deaths/1,000 live births
- **Life expectancy at birth**
total population: 78.11 years
male: 74.2 years
female: 82.25 years
- **Total fertility rate**
2.27 children born/woman
- **Nationality**
noun: Virgin Islander(s)
adjective: Virgin Islander

- **Ethnic groups**
black 80%
white 15%
other 5%
note: West Indian (45% born in the Virgin Islands and 29% born elsewhere in the West Indies) 74%, US mainland 13%, Puerto Rican 5%, other 8%
- **Religions**
Baptist 42%
Roman Catholic 34%
Episcopalian 17%
Other 7%
- **Languages**
English (official)
Spanish
Creole

3.3.5 Local and Regional Natural Resources

The information provided for this site has been compiled from the U.S. Fish and Wildlife Service (FWS), the National Marine Fisheries Service (NMFS) and the U.S. Virgin Islands Department of Planning and Natural Resources, Division of Fish and Wildlife (VIDPNR) data.

The FWS has indicated that the project site is within the range of the following federally listed species shown in Table 3.3.5.1:¹⁰

Table 3.3.5.1			
Category	Federal Status	Common Name	Species Scientific Name
Bird	E	Pelican, brown (except U.S. Atlantic coast, FL, AL)	<i>Pelecanus occidentalis</i>
Reptile	T	Sea turtle, green (except where endangered)	<i>Chelonia mydas</i>
Reptile	E	Sea turtle, hawksbill	<i>Eretmochelys imbricata</i>
Reptile	E	Sea turtle, leatherback	<i>Dermochelys coriacea</i>

Federal Status: E – Endangered, T – Threatened

The VIDPNR has provided the following information: "Benedict Field" currently includes St. Croix's airport (first renamed Alexander Hamilton Field, now named Henry E. Rohlsen Airport), an adjacent racetrack, a nearby small industrial park, and surrounding property which includes land adjacent to Manning Bay. Most if not all of this land is currently owned by VIPA (Virgin Islands Port Authority). This surrounding land includes Manning Bay wetlands that consist of

¹⁰ U.S. Fish and Wildlife Service (USFWS) Boqueron, Puerto Rico, official correspondence (Consultation Number FWS-MM-186-05-369) 19 January 2005.

salt ponds, salt flats, and mangrove wetlands. Manning Bay wetlands, while rather small, is one of the more important mangrove wetlands on St. Croix.

The following list and comments thereto refer to the proposed territorial avifaunal list for the US Virgin Islands that has not yet been promulgated. This proposed list is a substantial improvement over the current legal list that was promulgated soon after enactment of the United States Virgin Islands Indigenous and Endangered Species Act of 1990. The 1990 list is badly outdated. The following 24 species of territorial conservation concern have occurred at "Benedict Field" since 2002. Species are listed in phylogenetic order, according to the AOU Check-list (7th ed.) and through the 45th supplement, followed by their proposed territorial status. An asterisk (*) indicates that only breeding populations are of conservation concern.¹¹

Species	Status
Brown Pelican (<i>Pelecanus occidentalis</i>)*	Special Concern
Magnificent Frigatebird (<i>Fregata magnificens</i>)*	Endangered
White-cheeked Pintail (<i>Anas bahamensis</i>)*	Special Concern
Great Blue Heron (<i>Ardea herodias</i>)*	Peripheral
Snowy Egret (<i>Egretta thula</i>)	Special Concern
Tricolored Heron (<i>Egretta tricolor</i>)	Peripheral
Cattle Egret (<i>Bubulcus ibis</i>)	Controlled
Black-crowned Night-Heron (<i>Nycticorax nycticorax</i>)*	Peripheral
Peregrine Falcon (<i>Falco peregrinus</i>)	Special Concern
American Coot (<i>Fulica americana</i>)*	Threatened
Wilson's Plover (<i>Charadrius wilsonia</i>)	Special Concern
American Oystercatcher (<i>Haematopus palliatus</i>)	Threatened
Willet (<i>Catoptrophorus semipalmatus</i>)	Threatened
Whimbrel (<i>Numenius phaeopus</i>)	Threatened
Red Knot (<i>Calidris canutus</i>)	Endangered
Least Sandpiper (<i>Calidris minutilla</i>)	Special Concern
Short-billed Dowitcher (<i>Limnodromus griseus</i>)	Special Concern
Laughing Gull (<i>Larus atricilla</i>)	Controlled
Least Tern (<i>Sterna antillarum</i>)*	Special Concern

Peripheral – Resident species on the periphery of its range; Controlled – controlled propagation of listed species when recommended in an approved recovery plan or when necessary to prevent extinction of a species.

Of the above species, the Brown Pelican is listed as Federally endangered. Pelicans forage regularly at Manning Bay, where small numbers also roost in the mangroves, but pelicans do not breed at Manning Bay.

¹¹ Government of the Virgin Islands of the United States, Department of Planning and Natural Resources, official correspondence dated 12 January 2005.

Similarly, of the above seven other species of territorial conservation concern whose proposed protection is restricted to breeding populations, White-cheeked Pintail and Least Tern have recently nested at Manning Bay. Least Terns have also occasionally nested on open ground adjacent to the runways at the airfield. The other five species do not breed at "Benedict Field."

Of the remaining species whose breeding and non-breeding populations are of special conservation concern, the most important species that occur at "Benedict Field" are Wilson's Plover, White-crowned Pigeon, and Antillean Nighthawk. All three species breed here. Manning Bay is one of the most important breeding sites for Wilson's Plover on St. Croix. White-crowned Pigeons, a West Indian endemic that is considered regionally threatened, breeds at Manning Bay, the airport, and at the nearby industrial park. The Antillean Nighthawk also breeds and forages in these three habitats.

For non-avian taxa, several species of Federally listed sea turtles (Green, Hawksbill, Leatherback) occur at Manning Bay and the former two species may nest. Manning Bay is not considered a major breeding site for sea turtles, although the VIDPNR's information at this site is limited.

The National Marine Fisheries Service (NMFS) has provided the following list of species and has indicated that designated critical habitat for the leatherback sea turtle is located adjacent to Sandy Point, USVI, up to and inclusive of the waters from the hundred fathom curve shoreward to the level of mean high tide with boundaries at 1742'12"N and 6450'00"W:¹²

Category	Federal Status	Common Name	Species Scientific Name
Reptile	T	Sea turtle, green (except where endangered)	<i>Chelonia mydas</i>
Reptile	E	Sea turtle, hawksbill	<i>Eretmochelys imbricata</i>
Reptile	E	Sea turtle, leatherback	<i>Dermochelys coriacea</i>
Reptile	E	Sea turtle, Kemp's ridley	<i>Lepidochelys kempii</i>
Reptile	T	Sea turtle, loggerhead	<i>Caretta caretta</i>
Mammal	E	Whale, finback	<i>Balaenoptera physalus</i>
Mammal	E	Whale, sperm	<i>Physeter catodon</i> (= <i>macrocephalus</i>)
Mammal	E	Whale, blue	<i>Balaenoptera musculus</i>
Mammal	E	Whale, sei	<i>Balaenoptera borealis</i>
Mammal	E	Whale, humpback	<i>Megaptera novaengliae</i>
Mammal	E	Seal, Carribean monk	<i>Monachus tropicalis</i>
Invertebrate	C	Coral, elkhorn	<i>Acropora palmata</i>

¹² National Marine Fisheries Service, Southeast Regional Office, official correspondence dated 4 January 2005.

Table 3.3.5.3			
Category	Federal Status	Common Name	Species Scientific Name
Invertebrate	C	Coral, staghorn	<i>Acropora cervicornis</i>
Invertebrate	C	Coral, fused-staghorn	<i>Acropora prolifera</i>
Invertebrate	SC	Coral, ivory bush	<i>Oculina varicosa</i>
Fish	SC	Dusky shark,	<i>Carcharhinus obscurus</i>
Fish	SC	Goliath grouper	<i>Epinephelus itijara</i>
Fish	SC	Mangrove rivulus	<i>Rivulus marmoratus</i>
Fish	SC	Night shark	<i>Carcharinus signatus</i>
Fish	SC	Sand tiger shark	<i>Odontaspis taurus</i>
Fish	SC	Speckled hind	<i>Epinephelus drummondhayi</i>
Fish	SC	Striped croaker	<i>Bairdiella sanctaeluciae</i>
Fish	SC	Warsaw grouper	<i>Epinephelus nigritus</i>
Fish	SC	White marlin	<i>Tetrapterus albidus</i>

Federal Status: E – Endangered, T – Threatened; C – “candidate species” is limited to species that are the subject of a petition to list and for which NOAA Fisheries has determined that listing may be warranted; SC – Species of Concern;

Federally endangered and threatened species are protected by Federal law and must be considered prior to project development. If it is determined that the proposed project may affect a federally listed or proposed species or critical habitat, the lead Federal Agency should initiate consultation (or conference for proposed species) with the U.S. Fish and Wildlife Service pursuant to section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*). Informal consultation may be used to exchange information and resolve conflicts with respect to listed species prior to a written request for formal consultation. Federal agencies are required to confer with the U.S. Fish and Wildlife Service, pursuant to section 7(a)(4) of the Act, when an agency action is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat (50 CFR 402.10(a)).

Candidate species are those species presently under review by the U.S. Fish and Wildlife Service for consideration for federal listing. Candidate species should be considered in the planning process in the event that they become listed or proposed for listing prior to project completion. Preparation of a biological assessment, as described in section 7(c) of the Act, is not required for candidate species. However, if early evaluation of the project indicates that it is likely to affect a candidate species, technical assistance should be requested from the U.S. Fish and Wildlife Service

Species of concern are taxa for which further biological research and field study are needed to resolve their conservation status or are considered sensitive, rare, or declining on lists maintained by Natural Heritage Programs, State wildlife agencies, other Federal agencies, or professional/academic scientific societies. Species of concern are included for planning purposes only.

No additional information on the occurrence of rare or endangered species or natural communities is known at this time. This does not mean that other State or Federally listed species may not be present within the areas of interest. An on-site inspection by a biologist familiar with the project site and with the species listed is recommended to verify the presence, absence, or location of listed species or natural communities, and to definitively assess the potential for direct, indirect, and cumulative effects likely to result if remedial action is recommended as part of the final ASR.

3.4 Physical Property Characteristics

3.4.1 Topography

The topography of the Benedict Field site is a mix; it is mostly flat in the southern and western part and gently sloping in the northeastern portion. The surface slopes down towards the Caribbean Sea from a high altitude of 200 feet in the northeastern corner.

3.4.2 Climate Data

According to the Air Force Combat Climatology Center website, the source of climatological data for this site is located at Hamilton Field near Christiansted on St. Croix, Virgin Islands. Data recorded at this airport during 1973 through 1995 are given in Table 3.4.2.1. The average annual snowfall at this airport is zero inches.¹³

Month	Temperature		Precipitation	Wind	
	Mean Minimum (°F)	Mean Maximum (°F)	Mean (inches)	Mean Speed (knots)	Prevailing Direction
January	73	83	3.2	11	E
February	73	83	2.2	12	E
March	74	84	2.1	12	ESE
April	76	84	3.1	11	ESE
May	78	86	4.5	11	ESE
June	80	87	3.2	12	ESE
July	80	88	3.9	12	E
August	80	88	5.2	12	ESE
September	79	88	6.2	11	ESE
October	78	87	6.4	11	ESE
November	76	86	6.2	10	E
December	74	84	4.1	11	E

¹³ Air Force Combat Climatology Center.
Website http://www.afccc.af.mil/cgi-bin/index_mil.pl?afccc_info/products.html

Month	Temperature		Precipitation	Wind	
	Mean Minimum (°F)	Mean Maximum (°F)	Mean (inches)	Mean Speed (knots)	Prevailing Direction
Annual Mean	77	86	50.3	11	ESE

According to the National Climatic Data Center website, the nearest location for which narrative climatic information has been developed is San Juan L.M. Marin International Airport, Puerto Rico. This airport is about 70 miles from St. Croix, Virgin Islands.¹⁴

The waters of the Atlantic Ocean and San Juan Bay surround San Juan, located on the north coast of the island of Puerto Rico. Local custom assigns the name San Juan to the old city that lies right on the coast, but the modern metropolitan area extends inland about 12 miles. These inland sections have a temperature and rainfall regime that is significantly different from that of the coastal area. Isla Verde Airport, where weather observations are made, lies on the coast about seven miles east of old San Juan. The surrounding terrain is level, with a gradual upslope inland. Mountain ranges with peak elevations of 4,000 feet extend east and west through the central portion of Puerto Rico, and are located 15 to 20 miles east and south of San Juan. These mountain ranges have a decided influence upon the rainfall of the San Juan metropolitan area and upon the entire island in general.

The climate is tropical maritime, characteristic of all tropical islands. The predominant easterly trade winds, modified by local effects such as the land and sea breeze and the particular island topography, are a primary feature of the climate of San Juan. These factors have a significant influence upon both the temperature and the rainfall. During daylight hours, the wind blows almost constantly off the ocean. Usually after sunset, the wind shifts to either the south or the southeast and blows off land. This daily wind variation is a contributing factor to the delightful climate of the city. The annual temperature range is small, with about a five to six degree difference between the temperatures of the warmest and the coldest months. The inland sectors have warmer afternoons and cooler nights. In the interior mountain and valley regions, even greater daily and annual ranges of temperature occur. The highest temperatures recorded in Puerto Rico have exceeded 105 degrees and the lowest have been near 40 degrees. Seawater temperatures range from 78 degrees during March to about 83 degrees during September.

Although annual rainfall in San Juan is nearly 60 inches, the geographical distribution of rainfall over the island shows the heaviest rainfall (about 180 inches per year) to be only 23 miles distant from San Juan in the Luquillo Range. The driest area, with annual rainfall of 30 to 35 inches, is located in the southwest corner of the island. Rain showers occur mostly during the afternoon and during the night. The nocturnal showers, which are usually light, are a characteristic feature

¹⁴ National Climatic Data Center.

Website <http://www.ncdc.noaa.gov/oa/climate/stationlocator.html>

of the San Juan rainfall pattern. Rainfall is generally of the brief showery type, except for the continuous rains that occur with the passage of tropical disturbances, or when the trailing edge of a cold front out of the United States reaches Puerto Rico. Cold fronts reaching Puerto Rico from the United States normally occurs from about November through April.

Puerto Rico is in the tropical hurricane region of the eastern Caribbean Sea. The hurricane season begins June 1 and ends November 30. Only a few hurricanes have passed close enough to San Juan to produce hurricane force winds or damage.

Mild temperatures, refreshing sea breezes during the daytime, plenty of sunshine and adequate rainfall, characterize the climate of San Juan. These characteristics make San Juan enjoyable for both tourists and residents.¹⁵

3.4.3 Geology and Soils

The former Benedict Field site is located in the United States Virgin Islands, on St. Croix Island. St. Croix Island is the largest island and the easterly most possession of the United States. A mountainous area in the northern part and a broad, rolling coastal plain in the southern part, characterizes the island topography. The mountainous area is separated into east and west ranges by ancient marine sediments that extend in a southwest direction from an area near Christiansted and include the south-central and southwestern parts of St. Croix.

The alluvium transported from these ranges is deposited in wide, frequently merging, alluvial fans that have buried ancient marine sediments at variable depths. More recent, exposed marine terraces are in the south-central, southwestern, and coastal areas, including the Frederiksted area. The site is located on one of these ancient marine beds in south-central St. Croix.

The Virgin Islands constitute the eastern extremity of the Greater Antilles, which are interpreted to have been old, extinct magmatic arc that trended in a roughly east-west direction. Subduction-related magmatism in the Greater Antilles arc began in the Early Cretaceous and continued until the Eocene. During the Eocene era, the Greater Antilles arc collided with the continental crust of the North American plate and subduction-related magmatism ceased. The movement today is typically a left-lateral strike-slip motion along the northern boundary of the Caribbean plate.

The rocks of the island are basalt, andesite, keratophyre and other volcanoclastic equivalents. Most of the rocks are leftover marine elements. The stratified rocks are several thousand of feet thick. Dikes and small plutons ranging in composition from gabbro to granite intrude all pre-surficial stratified rocks. Surficial deposits include beach rock, bay mouth bars, playa deposits, alluvium, boulder fields, and artificial fill.

The rocks of the Virgin Island form a generally north-dipping homoclinal sequence. Folds of various degrees of intensity crinkle the bedrock strata. The islands to the south and east of St.

¹⁵ United States Virgin Islands.
Website <http://www.usvi.net>

Thomas Island represent a structural block that runs along a series of strike-slip faults with left-lateral offset.

The topography of the Benedict Field site is a mix; it is mostly flat in the southern and western part and steeply sloping in the northeastern portion. The surface slopes down towards the Caribbean Sea from a high altitude of 200 feet in the northeastern corner.

There is typically one type of soil found in the Benedict Field site. The surface layer of the soil is dark brown gravelly silty clayey sand about 4 inches thick. The subsurface layer is dark brown gravelly silty sandy clay to a depth of 10 inches. The subsoil is dark yellowish brown gravelly silty sandy clay and very gravelly silty sandy clay to a depth of 27 inches. The substratum is yellowish brown very gravelly sandy clay for 5 inches, light olive brown very gravelly clay for 9 inches, and light olive brown very gravelly sandy clay to a depth over 60 inches.

There are several areas on the site where the soils have been altered for construction for construction of roads, runways and buildings. In these areas, there is no known soil profile, a random intermixing of the soils has occurred.

The soil has a moderate permeability and the available water capacity is moderate. Organic matter content is high. The risk of corrosion to uncoated steel is high and to concrete is low. There is little or no potential for frost development in the soil of the Benedict Field site.¹⁶

3.4.4 Hydrogeology

3.4.4.1 Surface Water

United States Geological Survey (USGS) topographic mapping was used for the analysis of site drainage. The north-south border between the Fredericksted and the Christiansted quadrangles runs through this site. The Fredericksted quadrangle is located west of the Christiansted quadrangle. Elevations cited on the Fredericksted quadrangle are referenced to Mean Sea Level. Elevations cited on the Christiansted quadrangle are referenced to the National Geodetic Vertical Datum of 1929. At the north-south border between the two quadrangles, contours that are numerically equal appear to practically intersect one another on the respective quadrangles.

Most of this site is topographically rather flat or gently sloped, with the exception of steep terrain on its extreme northern side. Land surface elevations range from about 0-200 feet. This site is highly developed. Alexander Hamilton Airport lies on this site, as well as other elements of development. These elements include airport facilities, a road network and various buildings. The runoff from this site is highly influenced by the development on it. However, only general drainage patterns are discussed below.

¹⁶ Davis, John R., *Soil Survey of the United States Virgin Islands*, 1998, USDA, NRCS in cooperation with the Virgin Islands Department of Planning and Natural Resources.

All runoff from this site eventually enters the Caribbean Sea. Runoff enters this sea via three major pathways. These three pathways are overland flow, a stream network and a natural low-lying area.

The vast majority of this site drains directly into the Caribbean Sea via overland flow. The topographic mapping shows no streams on this portion of the site. Runoff from this portion of the site flows generally southward toward natural or man-made low-lying areas, and eventually enters the Caribbean Sea.

Some steep terrain exists on the extreme northern side of this site. Runoff from the northern side of this steep terrain, which is a very small portion of this site, flows generally northward into an unnamed intermittent stream. This stream flows generally eastward and joins another unnamed intermittent stream. Downstream of the confluence of these two streams, the new stream flows generally southward and is intermittent for a short distance. This stream then becomes perennial prior to entering the Caribbean Sea. It is not known if the perennial portion of this stream is the result of headwater influences or Caribbean Sea backwater influences.

Runoff from part of the northeastern portion of this site, and from a very small part of the southeastern portion, flows generally southeastward. This runoff enters the intermittent/perennial stream that flows generally southward and enters the Caribbean Sea.

Runoff from both the extreme western and the extreme northwestern portions of this site flows generally southwestward toward a natural low-lying area. The Caribbean Sea is at the downstream end of this low-lying area, so the runoff entering the low-lying area eventually flows into this sea.

There are two relatively small areas on this site that both contain surface features that are classified as "intricate surface area" in information on USGS topographic map symbols. It is unknown how these areas influence surface-water runoff. One of these areas is located within the northwestern portion of this site, and the other is located within the northeastern portion.

Also located within the northeastern portion of this site is a catchment basin. It is likely that this catchment basin has an attenuating effect on some of the runoff from this site. However, the size of the watershed upstream of this basin is unknown. It is possible that this basin fulfills the dual purpose of flood damage mitigation and water quality enhancement.

According to the National Ocean Service website, the nearest tidal gaging station to this site is located on Lime Tree Bay at St. Croix, Virgin Islands. Tidal datums for this gaging station are given in TABLE 3.4.1. Elevations of tidal datums are referenced to Mean Lower Low Water (MLLW) in meters.¹⁷

¹⁷ National Ocean Service
Website <http://www.co-ops.nos.noaa.gov/>

Table 3.4.4.1	
Tidal Datums (in meters) for Lime Tree Bay at St. Croix, Virgin Islands (referenced to Mean Lower Low Water (MLLW))	
Highest Observed Water Level (17 November 1999)	0.788
Mean Higher High Water (MHHW)	0.216
Mean High Water (MHW)	0.214
Mean Sea Level (MSL)	0.112
Mean Tide Level (MTL)	0.109
Mean Low Water (MLW)	0.004
Mean Lower Low Water (MLLW)	0.000
Lowest Observed Water Level (26 May 1990)	-0.233

Flooding could occur on this site from a number of sources. Flooding could occur as the result of drainage problems along the runways, and near the facilities, of Alexander Hamilton Airport. Flooding could occur as the result of drainage problems either along or under any of the roads that traverse this site. If the intermittent/perennial stream that flows through the extreme eastern portion of this site overflows its banks, flooding might occur. Flooding on this site also could potentially be caused by tidal fluctuations and wave action. No USGS stream gaging stations exist on this site.¹⁸

3.4.4.2 Ground Water

The main aquifers in the United States Virgin Islands are the Kingshill aquifer and the volcanic rock aquifer in the three major islands. The Kingshill aquifer is not near the site. On St. Croix Island, most urban areas rely on desalinated seawater for their domestic supplies. Rural areas depend mainly on rainwater collected from rooftop run catchments, or cisterns. The main problems associated with using groundwater for domestic uses are the excessive depth to groundwater, the intrusion of seawater, and the contamination of aquifers by wastewater and petroleum. Many once-dependable wells have gone dry or become contaminated. Groundwater only produces about 20 percent of the freshwater supply. The water from these wells is of poor quality, more than 1,000 milligrams of dissolved solids per gallon. Typically, these wells yield only about 15 gallons per minute.

3.4.5 Historical Significance

¹⁸ United States Geological Survey Frederiksted, Virgin Islands, 7.5-Minute Series Quadrangle, 1958, photorevised 1982, Christiansted, Virgin Islands, 7.5-Minute Series Quadrangle, 1958, photorevised 1982.

An original plantation homestead named “Betty’s Hope” lies to the west of the site on airport property. The old plantation was labeled as “ruins” when the DoD purchased the land in 1940. The site contains remains of the home and a concrete block silo for sugar cane. Views of the ruins are shown in **Appendix M** Photographs 7 and 8. The Betty’s Hope homestead was in the bombing area during World War II. This investigation discovered no other archeological sites, cemeteries, or national historical landmarks at the former Benedict Field.

3.4.6 Wetland Data

The southeast corner of the former Benedict Field contains wetlands in the form of:

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Lake
- Freshwater Pond
- Freshwater Forested / Shrub Wetland

The Estuarine and Marine Deepwater include Krause Lagoon Channel and the Caribbean Sea. Krause Lagoon Channel of approximately 72 acres feeds into the sea and is surrounded by approximately 20 acres of Estuarine and Marine Wetlands. Another small patch Estuarine and Marine Deepwater wetland of approximately 2 acres is located west of the Lagoon. The Estuarine and Marine Wetlands continue intermittently westward along the coast for the length of the site for approximately 36 acres. The low wetlands inland and to the west of the lagoon are classified as Lake wetlands and cover approximately 146 acres. This area is also scattered with approximately 9 acres of Freshwater Ponds. A small pocket of Freshwater Forested / Shrub Wetland are also present west of the Lake wetlands in about 5 acres.

4.0 HISTORICAL PROPERTY SUMMARY

4.1 Chronological Property Summary

St. Croix, one of the United States owned Virgin Islands, lies about 65 miles southeast of Puerto Rico. Benedict Field was located on the southeasterly shore, about six miles from Frederiksted and nine miles from Christiansted. Approximate position is 17° 46' North, 64° 44' West.

In 1940 the location was chosen for use as an airfield for two reasons; hard surface roads connected with the nearby towns and a small harbor existed to the south where supplies could be lightered from ships. The pier could accommodate only small craft and barges due to a 6 feet draft. Large vessels would lie at anchorage.

On review of the historic documentation on Benedict Field, similar but different names are used throughout its history. These also known as (AKA) names are as follows:

- Saint Croix Airdrome
- St. Croix Auxiliary Airdrome
- Benedict Field
- St. Croix Benedict Field
- Benedict Field Air Corp Station
- Alexander Hamilton Airport
- Benedict Field Military Reservation
- Henry E. Rohlsen Airport

The Benedict Field project consisted of constructing houses and facilities for a garrison of approximately 1,000 men, a landing field with two runways, roads, utilities, storage facilities, and an air warning station on a nearby hill. The plan for the construction of Benedict Field was approved in August 1940. WPA labor supervised by Department Engineers began the construction of Benedict Field 7 October 1940. By 1 January 1941, all construction work was taken over the District Engineer, Puerto Rico District, and carried on under a purchase and hire system.¹⁹

The original runways were labeled as north runway and south runway and were 150 feet by 4,000 feet long. Of the two housing areas, one was originally a Civilian Conservation Corps (CCC) camp and later became known as Princess Camp. The other housing area for troops was at Negro Bay, northwest of north runway.²⁰ Army Air Corp personnel stationed at Benedict Field included the 12th Bomb Squad (Heavy) of the 25th Bomb Group along with 1st Platoon of the 484th Ordnance Company.²¹

Benedict Field, St. Croix, Virgin Islands was an Army Air Corp installation and belonged to the War Department from approximately August 1940 to November 1948. Benedict Field was

¹⁹ CP-011305-012

²⁰ CP-011105-010

²¹ CP-011305-001

officially declared surplus to the needs of the War Department on 30 May 1946. In December 1947 the Municipality of St. Croix requested all of Benedict Field under the Surplus Property Act of 1944. The municipality used tract no. 2 & 3 by interim permit until a permanent transfer of all of the tracts could be made. By 4 March 1948 all tracts were designated as surplus. The Federal Farm Mortgage Corporation was designated disposal agent for surplus property in Puerto Rico and the Virgin Islands. A quitclaim deed was dated 2 November 1948 deeded the Municipality of St. Croix the airport property. The property remains with the Municipality of St. Croix, and is currently referred to as the Alexander Hamilton Airfield.^{22 23 24}

4.2 Military Operations

The installation was used as an auxiliary airfield for Borinquen Field in Puerto Rico. A fighter squadron was also stationed there. Their mission was to operate as close-in aerial defense of the installations in Puerto Rico and Virgin Islands. The field was also used as an aircraft reconnaissance outpost and training base for missions required in the Caribbean Frontier.²⁵

4.2.1 Operations Involving Military Munitions

4.2.1.1 Temporary Magazine Area

The first ammunition feature appears on the maps in July of 1941. A Temporary Magazine Area was constructed consisting of a Bomb Shelter & Fuse Shed (see **Appendix I-2**). The original Temporary Magazine Area records indicate 270,500 square feet of open storage. The open storage included a large bomb shelter, consisting of a bermed or earth barricaded open areas.^{26 27} This area was used to store inert practice bomb bodies. Later this area is referred to as the Bomb Shelter Revetment Area.

4.2.1.2 Bombing Range Area

By September of 1941, an area southwest of the runways is designated a Bombing Range Area (see **Appendix I-3**). Official approval was received for what was referred to as a Night Bombing Facility in October 1941. The Night Bombing Range Area consisted of two targets, one 50 feet in diameter and one 200 feet in diameter. The range was located in Tract No. 1 southwest of the airstrip. Construction documents list a project for lighting of the field, although it is unknown if this was completed.^{28 29}

4.2.1.3 Skeet Range and 1,000 Inch Range Never Built

²² CP-012705-313

²³ Ibid, CP-012505-232

²⁴ Ibid, CP-012805-302

²⁵ Ibid, CP-012605-305

²⁶ CP-012505-312

²⁷ CP-011005-256

²⁸ CP-011105-007

²⁹ CP-012705-302

A request that a Skeet Range and a 1,000 Inch Range be installed at Benedict Field was received 31 October 1941. The request was sent as a priority with justification that these ranges were necessary to provide initial training of aerial gunners. Neither a Skeet Range nor 1,000 Inch Range ever appears on any historic maps.³⁰

4.2.1.4 Original Ammunition Storage Buildings

The next feature appearing at Benedict Field are two Ammunition Buildings, two Small Arms Buildings, and an Ordnance Building in November of 1942 (see **Appendix I-6**). The Small Arms Buildings and Ordnance Building are located off the road leading north off post. The Ammunition Buildings are out past the Temporary Magazine Area south of the catchment. The Ammunition Buildings were most likely used for items such as smoke charges, flares, etc.

4.2.1.5 Air Defense

Field Defense consisted of two machine gun emplacements.³¹ The emplacements were north of the north runway and north of the south runway. See **Appendix I-6** for exact locations.

4.2.1.6 Permanent Ordnance Area

By November 1942, the permanent ordnance storage area is finished northeast of the runway. This storage facility was built on Tracts No. 4 and 5. The area consisted of the following buildings:

- 3A through 25A – Ammunition Storage
- 26A & 27A - Fuse and Fin Storage Buildings
- 28A & 29A – Warehouses (Small Arms)
- 30A – Office and Guardhouse
- 31A – Latrines
- 32A – Old building to be rehabilitated
- 33A & 34A – Ammunition Storage

These structures are laid out on the Ordnance Area Map in **Appendix I-7**. These magazines were for the storage of defense reserve and training ammunition for both the air cops and ground troops. The defense reserve stock requirements prescribed by the Chief of Army Air Forces for all of the outlying bases in Puerto Rico and St. Croix was 4,500 tons. These basic stocks were stored at Benedict Field, St. Croix and Fort Buchanan, Borinquen Field, and Losey Field, Puerto Rico. Included in these stocks were bombs, fixed ammunition, black powder, and small arms.³² All magazines were located 2,155 feet or more in all directions from inhabited building and major roads, and at minimum intervals of 400 feet for magazine distance. It is unknown if these were steel or concrete igloos.

³⁰ CP-120704-100

³¹ Ibid, CP-012705-302

³² CP-020205-300

4.2.1.7 Rifle Range

On a partially illegible May 1946 map (see **Appendix I-10**), one new feature that is legible is an area square southeast of the south runway labeled as Rifle Range. This is the only map on which the range is delineated.

4.2.1.8 Report of Decontamination

A certificate of decontamination and neutralization was found dated 18 June 1946. The certificate listed the following areas as having been inspected and decontaminated and / or neutralized:³³

- Bombing and Gunnery Ranges
- Ammunition Dumps
- Target Areas

The letter is obviously a generic form used for all sites. It does not specify any certain acreage or location.

4.2.2 Operations Involving HTRW

4.2.2.1 Building listing

The legend from a January 1943 construction progress map (see **Appendix I-8**) includes the following buildings on Benedict Field:

Bldg. No.	Building
1	Mess, Officer, Std.
2 & 3	Mess, E. M., Std.
4 & 5	Lavatories
7	Administration
8	Post Exchange
9	Recreation
10	Dispensary
11	Operations
12	Parking Area
13	North Runway
14	South Runway
15	Roads
16	Catchment Area
17	Reservoir
20	Septic Tank
21-24	Detachment Bldgs.

³³ CP-012805-312

25	Detachment Headquarters
26	Squadron Headquarters
27 & 28	Barracks
29	Mess, E. M., Std
30 & 31	Barracks
33	Deep Well Water System
34	Cold Storage Plant
35 & 36	Officer's Quarters
37	Warehouse
38	Projection Booth
39	Bomb Shelter
40	Fuse Shed
41	Gas Storage
42	Signal Corps Storage Shed
43	Open Air Theater
44	Undrumming Plant
45	Bombing Range
46	Chlorinator
47	U.S. E. D. Bldg.
48	Plane Revetments
49	Ordnance Shop
50	Recreation
51	Medical Ward
52	Small Arms Bldgs. (two)
53	Gas Distribution Station
54	Gas Distribution Pits
55	Ammunition Bldgs. (two)
56	Machine Gun Turrets
59	Subsistence Warehouse
60	Radio Communication
61	Post Office
62	Morgue
63	Hard Standings (nine)
64	AC Storage Tanks (five)
65	Truck Loading Pits
66	Water Separator
67	Under Sea Filling Line
68	Mess (Negro Bay)
69	Cistern (Negro Bay)
70	Wash House (Negro Bay)
71	Recreation (Negro Bay)
72	Housing (fourteen, Negro Bay), Property of Virgin Island Company
73	Hospital

4.2.2.2 *Petroleum, Oil, and Lubricants (POL)*

Bulk fuel capacity at Benedict Field was 300,000 gallons aircraft (AC) fuel and 24,000 gallons Quartermaster (QM) fuel. The AC fuel was stored in six underground 50,000-gallon tanks with a buried connecting fuel line. Historic construction photographs in October of 1941 show two sunken gasoline tanks of approximately 50,000 gallons (see **Appendix H-6**). The QM fuel was stored in two tanks of 12,000-gallon capacity.^{34 35 36}

The Marine Terminal (Christiansed Harbor) also had a petroleum unloading installation with a submarine pipeline 8 inches wide and 3,000 feet long (1 ½ mile). This line was .6 miles under the sea from shore to pier. The fuel was then pumped up to the fueling system gasoline lines surrounding the field. The field contained nine hard stand fueling points located along the gasoline line. A water separator was located on the field. Truck loading pits were also placed along the line to load and transport fuel.³⁷

An undrumming plant and gas storage area are delineated on a November 1942 map (see **Appendix I-6**). This area is northeast of the north runway. Most QM fuel arrived in drums that had to be undrummed and stored in the tanks.

4.2.2.3 *Sewer*

The sanitary sewer system consisted of 4, 6, and 8 inch vitrified clay pipelines, 22 manholes and a septic tank 31 feet 6 inches by 11 feet 6 inches for the collection and treatment of all domestic sewage. The septic tank was of ordinary sedimentation type with a capacity of 15, 184 gallons flush with the ground with reinforced concrete walls. The overflow line from this septic tank discharged into a creek on the southeastern boundary of the reservation.³⁸

4.2.2.4 *Water*

Originally the installation had six shallow water wells located south of the camp area. The water from these wells was brackish and used for flushing purposes only. Finally, wells No. 4, 5, and 6 were abandoned, as they became unsuitable. This flushing water was stored in a 30,000 gallon elevated redwood tank, distributed throughout camp in a cast iron pipe system.

The deep-water well system consisted of three wells having an average of about 85 feet. This water was intended to provide a source of drinking water to augment the fresh water supply obtained from the catchment area. Water from these wells was pumped into a 5,000-gallon redwood tank located north of the officers' quarter. A water chlorinator was installed for treating the drinking water by February 1942.³⁹

³⁴ Ibid, CP-011005-256

³⁵ CP-012505-303

³⁶ Ibid, CP-012605-305

³⁷ Ibid, CP-012705-302

³⁸ CP-011005-300

³⁹ Ibid, CP-011005-300

4.2.3 General Area Map Analysis

Map analysis was performed on the following USGS quadrangles:

United States Department of the Interior, Geological Survey, Virgin Islands of the United States, Office of the Governor, Christiansted Quadrangle, Virgin Islands – Municipality of St. Croix, from aerial photographs taken 1954, field checked 1958, photorevised 1982.

United States Department of the Interior, Geological Survey, Virgin Islands of the United States, Office of the Governor, Frederiksted Quadrangle, Virgin Islands – Municipality of St. Croix, from aerial photographs taken 1954, field checked 1958, photorevised 1982.

The above-mentioned quadrangles show planimetric and topographic features. The Alexander Hamilton Airport (Benedict Field) is clearly delineated. To the southeast of the runways is the Manning Bay Racetrack in the area of the former rifle range. The original North and South Runways have been extended and reconfigured into two long runways. An area southwest of the former site is still delineated as Betty's Hope, which is the original homestead where the bombing range was. There are no identifiable ordnance features noted on the quadrangle map and no references to military use of the land. This map is used as the base map to overlay the historic maps for **Plate No. 3** and **Plate No. 5**.

4.2.4 Site Specific Map and Drawing Analysis

Appendix I-1

c. 30 April 1941 NARA II College Park (Textual), Maryland (CP), VI, Benedict Field, 77, Records of the Office of the Chief of Engineers, 1011, Formerly Security Classified Subject Files, 1941-1945 (Geographic Files), 180, Map, CP-012505-312A, *Location Plot Plan for Saint Croix Airdrome*, 30-Apr-41, Date circa.

This early map of the installation shows the first construction projects on Benedict Field. The water and sewer systems, runways, a water catchment, mess halls, detachment buildings, barracks, recreation buildings, and mess halls are finished. A 500-Man Tent Camp is shown at the east end of the north runway, along with a **Septic Tank**.

Appendix I-2

c. 15 July 1941 NARA II College Park (Textual), Maryland (CP), VI, Benedict Field, 77, Records of the Office of the Chief of Engineers, 1011, Formerly Security Classified Subject Files, 1941-1945 (Geographic Files), 180, Map, CP-012505-312B, *Location Plot Plan for Saint Croix Airdrome*, 15-Jul-41, Date circa.

This is the same map a few months later. New construction items are No. 34 through 41 on the legend. The **Septic Tank** still shows. Items added of interest include:

- **Bomb Shelter (39)**
- **Fuse Shed (40)**
- **Gasoline Storage Distribution (41)**

The **Bomb Shelter** and the **Fuse Shed** are later referred to as the Temporary Magazine Area. The area was basically open ammunition storage with earthen berms. The small Fuse House is delineated in the northwest corner of the area. The 500-Man Tent Camp is still showing at the east end of the northern most runways.

Appendix I-3

27 September 1941 NARA II College Park (Textual), Maryland (CP), VI, Benedict Field, 160, 54, Records of the Headquarters Army Service Forces, 189, Map, CP-012705-401, *Location Plot Plan of Benedict Field, St. Croix, VI, 27-Sep-41.*

This September 1941 map of the installation shows several major changes. This is the first map that titles the installation **Benedict Field** versus **Saint Croix Airdrome**. The 500-Man Tent Camp is marked "To Be Abandoned", and finished barracks are showing. A **Motor Pool** area is outlined in dashed lines north of the north runway beside a road now marked **Range**. It is unknown why this road is marked Range; other maps later in the year repeat the labeling of the road as such. The **Temporary Magazine Area** is labeled as such and delineated with a dashed line. Finally, the **Bombing Range Area** is shown on the inset southwest of the runways.

Appendix I-4

c. 30 September 1941 NARA II College Park (Textual), Maryland (CP), VI, Benedict Field, 77, Records of the Office of the Chief of Engineers; 1011, Formerly Security Classified Subject Files, 1941-1945 (Geographic Files), 180, CP-012505-312, *Location Plot Plan for Benedict Field, Island of St. Croix, V. I., Construction program at Air Corps Stations, Benedict Field, St. Croix, V.I., 8-Jan-42.*

This map, the same time period as Appendix I-3, shows the Bombing Range Area more clearly and in relationship to the Airfield. An area on the field is labeled as Betty's Hope, the name of the original homestead prior to condemnation by the War Department.

Appendix I-5

31 December 1941 NARA II College Park (Textual), Maryland (CP), VI, Benedict Field, 77, Records of the Office of the Chief of Engineers, 1011, Formerly Security Classified Subject Files, 1941-1945 (Geographic Files), 180, CP-012505-312, *Location Plot Plan Benedict Field, St. Croix, V.I., Construction program at Air Corps Stations, Benedict Field, St. Croix, V.I., 8-Jan-42.*

Final additions of interest to the map for the year of 1941 include actually adding to the legend the **Bombing Range** (44) and an **Undrumming Plant** (45) in front of the **Gasoline Storage** and next to the **Transformer Platform**. Also, three out of six wells south of the southern runway are labeled as **Abandoned Wells** (4, 5, & 6) that feed the flushing water supply line.

Appendix I-6

c. 30 November 1942 NARA II College Park (Textual), Maryland (CP), VI, Benedict Field, 338, Records of United States Army Commands 1942, US Army Caribbean, 141, Map, CP-012505-302, *Location Plot Plan Benedict Field, St. Croix, V. I.*, Map of Benedict Field, 30-Nov-42, Date circa.

A year later expansions to the installation are evident. Of interest to this PA are the added features listed below:

- **Chlorinator (46)**
- **Ordnance Shop (49)**
- **Small Arms Buildings, two each (52)**
- **Gas Dispensing Station (53)**
- **Gas Distribution Pits (54)**
- **Ammunition Buildings, two each (55)**
- **Machine Gun Turrets, two each (58)**
- **Hard Standings, nine each (63)**
- **AC Storage Tanks, five each (64)**
- **Truck Loading Pits (65)**
- **Water Separator (66)**
- **Under Sea Filling Line (67)**
- **Wash House at Negro Bay (70)**
- **Motor Pool**

Petroleum, oil, and lubricant (POL) activities include aviation fuel (AC fuel) that is delivered by barge to the pier and piped through the **Under Sea Filling Line** to a fueling system at the field. Trucks at the **Truck Loading Pits** fill and transport the AC fuel up to the **A.C. Storage Tanks** north of the airstrips. The quarter master fuel (motor fuel) is brought in by barrels and off loaded at the **Undrumming Plant** into **Gas Storage** south of the **Motor Pool**.

Ammunition activities include the two new **Ammunition Buildings** located east of the **Catchment Area**. A **Machine Gun Turret** is positioned north of each runway. North of Motor Pool on the former Range Road is an **Ordnance Shop** and two new **Small Arms Buildings**. The **Bombing Range** remains marked as a general area southwest of the runways. The **Bomb Shelter** revetment area and **Fuse Shed** are still showing, although the new **Ordnance Area** is built (see Appendix I-7). It is possible this area is now was used to store inert practice bombs in open storage.

Also shown is an insert of the Negro Bay Housing Area with housing, mess hall, recreation building, and **Wash House**.

Appendix I-7

c. 30 November 1942

NARA II College Park (Textual), Maryland (CP), VI, Benedict Field, 338, Records of United States Army Commands 1942, US Army Caribbean, 141, Map, CP-012505-301, *Location Plot Plan Ordnance Area, Benedict Field, St. Croix, V.I.*, Map of Benedict Field, Ordnance Area, 30-Nov-42, date circa.

This map is a completed drawing of the new **Ordnance Area**, located north east of the runways on Tracts No. 4 and 5. The Ordnance Area consists of the following completed buildings:

- **3A through 25A – Ammunition Storage**
- **26A & 27A - Fuse and Fin Storage Buildings**
- **28A & 29A – Warehouses (Small Arms)**
- **30A – Office and Guardhouse**
- **31A – Latrines**
- **32A – Old building to be rehabilitated**
- **33A & 34A – Ammunition Storage**

The area is fenced. There are also showing three gates, one each on the west, north, and east sides of the Ordnance Area.

Appendix I-8

c. 31 January 1943

NARA II College Park (Textual), Maryland (CP), VI, Benedict Field, 77, Records of the Office of the Chief of Engineers, 1011, Records of the Office of the Corps of Engineers. Security-Classified Subject Files 1941-1945, 240, Caribbean Defense Command 600.914 thru Caribbean Defense Command 600.914, Map, CP-011005-249, *Location Plot Plan Benedict Field, St. Croix, V. I.*, 31-Jan-43, date circa, map of facility.

This map a year later shows no changes in the installation. The small location map in the left hand corner gives an overall view of the **Bombing Range Area**, Airdrome Area, and the **Bomb Storage Area** (formerly called **Ordnance Area**).

Appendix I-9

24 March 1944

NARA II College Park (Textual), Maryland (CP), VI, Benedict Field, 77, Records of the Office of the Chief of Engineers, Real Estate Division, Map, CP-012705-002, Map entitled *Real Estate Benedict Field*, 24-Mar-44, War Department Headquarters-Antilles Department Antilles Engineer Division A.P.O. 851 c/o Postmaster-Miami-Florida, Drawing No. A4-2.116.

This is the official Real Estate map of Benedict Field. All six tracts area listed and delineated with former owner, acreage, how the estate was acquired, dates and civil case numbers. The final synopsis of the real estate is as follows:

Acres Owned by War Department	2,154.340
Acres Leased by War Department	0.0
Acres Transferred to War Department	213.72 (included in the 2,154.340)
Acres to War Department Use Permit	427.084
TOTAL ACRES	2,581.424

Appendix I-10

10 September 1946 NARA II College Park (Textual), Maryland (CP), VI, Benedict Field, 103, 1048, Records related to the surplus real property disposal program 1946-1948, 19, Map, CP-012805-308, *General layout of Benedict field, St. Croix, VI, 24-May-46*, Base map dated 10 September 1945.

As the last and final map, this map is in poor condition and illegible in places. Of note however are several details that are legible on the original copy. This is the only map that includes the **Bomb Storage Area** shown across the creek northeast of the runway. It is also the only map showing the housing area referred to as **Negro Bay or Zone 2** to the north west of the airstrip. There have been some building number changes, and many are marked as salvaged, proposed salvage, or abandoned. Building 40 is now the **Caribbean Atlantic Airlines Terminal**. Of greater interest though is an area delineated as **Rifle Range** south of the south runway. This range is located in the southeast corner of Tract No. 3. This is the only map the team discovered delineating this rifle range.

4.3 Aerial Photographic Interpretation

Government and contractor personnel conducted an aerial photography search to find available imagery that covers the site. Generally, the search was limited to imagery having a scale larger than 1:24,000 with stereo coverage. Smaller scale imagery was acquired when sufficient large-scale photography could not be found. Photographic analysis and land use interpretation were performed using the following photographic sources:

<u>PHOTOGRAPHY DATE</u>	<u>APPROXIMATE SCALE</u>	<u>SOURCE</u>	<u>FRAME IDENTIFIER (S)</u>
08 Feb 1971	1:20,000	USDA-APFO	PCFD 143 thru145; 168 through 170
09 Feb 1985	1:52,000	USDA-APFO	484-195, 196

Photos were referenced using the Central St. Thomas 1:24,000 USGS 7.5' quadrangle 1955 edition and the Eastern St. Thomas 1:24,000 USGS 7.5' quadrangle 1954 edition, plus maps described in the Map Analysis section (*Appendix I*).

The imagery was reviewed in detail, specifically looking for evidence of storage, disposal and usage related to military ownership that might pose current safety or environmental hazards (features noted in **bold type**). Note: Imagery with a collection date concurrent with military ownership was not available to this study.

4.3.1 1971 Imagery

The area of the airfield has been extensively reworked since the period of military use. The two-runway configuration has been changed to one long runway, approx. 7,000' in length. Much of the former base has been razed for the runway conversion. Features still visible include the **Catchment Reservoir**, Officer's Quarters, Detachment Area, Post Theater, and a structure in the same general location as the former **Ordnance Shop**. Structures in the former **Ordnance Storage Areas** (to the northeast of airfield) have been razed. **Revetments** for aircraft, **machine gun mounts** and **hazardous material storage buildings** have all been removed. **Storage tanks** (both above and below ground) delineated on Appendix I maps could not be identified on the imagery. Surface expressions of **underground pipelines** and **sewers** are visible as faint linear features. Determination of presence or removal of these items cannot be made from the imagery. The **Bomb Range** area (noted on **Appendix I-5** map and others, southwest of the airfield) shows no evidence of military use, although some structures are present in the area delineated as "Betty's Hope" on the above-mentioned source materials. The structures appear to have been constructed prior to the era of military use.

5.0 EVALUATION OF THE PRESENCE OF MILITARY MUNITIONS AND TECHNICAL DATA

5.1 General Evaluation of Conventional MEC Presence

The following munition items were used on Benedict Field on the Bombing Area and Small Arms Range. Activities at this former FUDS site occurred between 1940 and 1948. These items are illustrated and their constituents are listed in **Appendix F**:

- Cartridge, .30 Caliber
- Cartridge, .50 Caliber
- 12 Gage Shotgun Shells
- Miniature Practice Bombs, AN-Mark 5 Mod 1, AN-Mark 23, AN-Mark 4
- Bomb, Practice, 100-Pound, MK15 Series
- Signal, Practice Bomb, MK 4 Mods 3 & 4
- Signal, Practice Bomb MK 7

Munitions and Explosives of Concern (MEC) are not suspected at Benedict Field. The former Bombing Area was used for bombing practice. These practice bombs were most likely water or sand filled. A small smoke charge marked the bombs impact area. High Explosive bombs would not have been used due to the proximity to the runway. The property visit did not locate any debris from the Bombing Area. No reports were discovered of finding any debris or intact practice bombs from local residents. A certificate of decontamination and neutralization was found dated 18 June 1946. The certificate listed the bombing area and target as having been inspected and decontaminated. The Property Visit also confirmed no remains of the Rifle Range that is currently part of the Manning Bay Racetrack.

This installation was used as an auxiliary airfield for Borinquen Field in Puerto Rico. Their mission was to operate as close-in aerial defense of the installations in Puerto Rico and Virgin Island. A fighter squadron was stationed there for this defense. To support this mission, the ammunition storage area was built for storage of defense reserve stock requirements prescribed by the Chief of Army Air Forces. This basic load stock objective for all outlying bases in Puerto Rico and St. Croix was 4,500 tons. These stocks were stored at:

- Benedict Field, St. Croix
- Fort Buchanan, Puerto Rico
- Borinquen Field, Puerto Rico
- Losey Field, Puerto Rico

Stocks stored at Benedict Field for combat readiness included:

- High Explosive Bombs
- Fuzes
- Black Powder

- Fixed Ammunition from 20mm through 105mm
- Small Arms
- Flares and Signals

The majority of these original magazines is on the St. Croix Alumina property and was inaccessible for inspection during the property visit. These were former Building No. 8A through 25A, 33A and 34A. Aerial photography shows no evidence of these structures remaining. No remains were discovered of Magazines 3A through 7A that are not on St. Croix Alumina property. The earlier ordnance related buildings north of the airport shown on map legends as Ordnance Shop Building No. 49 and Small Arms Buildings No. 52 (a & b) remain as ruins.

5.2 General Evaluation of MC Presence

The presence of Munition Constituents (MC) is not suspected at Benedict Field. No evidence remains in the Bombing Area of debris or intact practice bombs. The Small Arms Range is now part of the Manning Bay Racetrack.

5.3 General Evaluation of RCWM Presence

The investigation team did not uncover evidence of the use of Chemical Warfare Material (CWM) at Benedict Field. The activities at this property did not include the storage, disposal or use of CWM in training.

5.4 Property-Specific Locations

Although there is no Military Munitions Response Project (MMRP) suggested for this site, the location of the former Bombing Area and Small Arms Range are shown on Plate No. 5.

6.0 EVALUATION OF HTRW PRESENCE AND AREAS

6.1 General Evaluation of HTRW Presence

Based on the findings of this investigation, there is not a Hazardous, Toxic and Radioactive Waste (HTRW) potential on the former Benedict Field FUDS as a result of the military's previous use. The investigation team did not locate any evidence that previous use by the Army Air Corps/Force produced HTRW that may remain on site.

6.2 Property-Specific Locations

The investigation team did not locate any evidence or indication of HTRW presence that previous use by the Army Air Corps/Force produced.

7.0 EVALUTATION OF CON / HTRW AND BD/DR PRESENCE

7.1 Evaluation of CON / HTRW Presence and Areas

The inspection made an attempt to locate evidence of the 5 aircraft fuel storage tanks located north-northeast of the runway. No visible evidence of the tanks or platforms was located. The location of the tanks is property now occupied by the United States Virgin Islands (USVI) Air National Guard (see **Appendix M** Photographs No. 21 & 22). Storage tanks (both above and below ground) delineated on Appendix I maps could not be identified on the 1971 aerial photographic imagery.

7.2 Evaluation of BD / DR

Three buildings built by the DoD have potential for a BD / DR project. They are the former Ordnance Shop Building No. 49 and two Small Arms Magazines Building No. 52 (a) and (b). These buildings were in serviceable condition when property was transferred to the Municipality of St. Croix. These structures were the first ones built for ordnance related activities at Benedict Field, prior to the Magazine Storage Area being completed. They are located north of the airfield and are shown on a historic map in **Appendix I-6** dated circa 30 November 1942. Current photographs of the dilapidated condition of the buildings are shown in **Appendix M** Photographs No. 16 through 20. **Plate No. 3** also shows these buildings.

The Under Sea Filling Line also remains in place. The Marine Terminal (Christiansted Harbor) had a petroleum unloading installation with a submarine pipeline 8 inches wide and 3,000 feet long (1 ½ mile). This line was .6 miles under the sea from shore to pier. The fuel was than pumped up to the fueling system gasoline lines surrounding the field. The aerial photography of 1977 shows the system remaining in place. The property visit also shows the Sea Filling Line remaining in the harbor. This Under Sea Filling Line is first shown on historic map in **Appendix I-6**. Current photographs of the line are shows in **Appendix M** Photograph No. 13. **Plate No. 3** also shows this fueling line.

8.0 PATHWAY AND ENVIRONMENTAL HAZARD ASSESSMENT

This section is addressed as “Not Applicable”. There is no evidence to suggest the likelihood of a release of HTRW, MC, or RCWM from DoD use in the ground water, surface water, or soil. Hydrology, soils, wetlands, and natural resources are discussed in Section 3.4 Physical Characteristics.

9.0 SUMMARY AND CONCLUSIONS

9.1 Areas That May Warrant No Further Action By DoD

Although there are two ordnance related features with this site, this investigation purposes no MMRP projects for this site. The Bombing Area was used for practice bombing only. A certificate of clearance was issued for the Bombing Area in 1947. The 1971 aerial photograph shows no evidence of military use. The property visit did not find any debris, scarring, or other remains on the former Bombing Area. There have been no local reports or incidents involving the finding of ordnance debris in the area.

No evidence of the former Small Arms Range remains at Benedict Field. This area is now part of the Manning Bay Racetrack. Both the Bombing Area and the Small Arms Range are depicted on **Plate No. 3**.

9.2 Potential Hazards That May Warrant FUDS Project

9.2.1 BD / DR

Three buildings and an Under Sea Filling Line built by the DoD have potential for a BD / DR project. The buildings are the former Ordnance Shop Building No. 49 and two Small Arms Buildings No. 52 (a) and (b). These structures were the first ones built for ordnance related activities at Benedict Field, prior to the Magazine Storage Area being completed. The buildings are currently in a dilapidated state. The Ordnance Shop Building No. 49 lies in an overgrown area and is gutted and crumbling. The two Small Arms Buildings are also in dilapidated shape. One of the buildings is visible with walls in tact although there is no roof, windows, or door. There is a fence around the remains of this structure. The Small Arms Building is overgrown with vegetation and hidden in thick brush. They are located north of the airfield and are shown on a historic map in **Appendix I-6** dated circa 30 November 1942. Current photographs of the dilapidated condition of the buildings are shown in **Appendix M** Photographs No. 16 through 20. **Plate No. 3** also shows the location of these buildings.

The Under Sea Filling Line also remains in place. This is the remains of a petroleum unloading station with a submarine pipeline 8 inches wide and 3,000 feet long (1 ½ mile). This line was .6 miles under the sea from shore to pier. The fuel was than pumped up to the fueling system gasoline lines surrounding the field. This Under Sea Filling Line is first shown on historic map in **Appendix I-6** dated circa 30 November 1942. Current photographs of the line are shows in **Appendix M** Photograph No. 13. **Plate No. 3** also shows this fueling line.