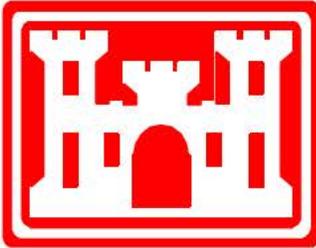

DECISION DOCUMENT



BROOKSVILLE TURRET GUNNERY RANGE

MRS01 – 2.36-INCH ROCKET RANGES

HERNANDO COUNTY, FLORIDA

FORMERLY USED DEFENSE SITE PROPERTY NUMBER: I04FL0778

**U.S. Army Corps of Engineers
Jacksonville District
701 San Marco Boulevard
Jacksonville, Florida 32207**

09 September 2013

This Decision Document for the Brooksville Turret Gunnery Range, MRS01 – 2.36-Inch Rocket Ranges, supersedes all previous Action Memoranda or other Decision Documents, including the Engineering Evaluation and Cost Analysis Action Memorandum of 17 June 2004. All future Five Year Reviews will be based on the date of this document.

EXECUTIVE SUMMARY

This Decision Document is being presented by the United States Army Corps of Engineers (USACE) to describe the Department of Defense (DoD) selected remedy for the munitions response site (MRS) MRS01 – 2.36-inch Rocket Ranges within the former Brooksville Turret Gunnery Range (BTGR) Formerly Used Defense Site (FUDS), Property Number I04FL0778 located in Hernando County, Florida.

The Secretary of Defense designated the Army as the Executive Agent for FUDS, regardless of which DoD component previously owned or used the property. The Secretary of the Army further delegated the program management and execution responsibility for FUDS to the USACE. The USACE is the lead agency for investigating, reporting, evaluating remedial actions, and implementing remedial actions at the former Brooksville Turret Gunnery Range.

A low explosive safety hazard is anticipated at the BTGR MRS01 – 2.36-inch Rocket Ranges MRS. There is currently no evidence of a release of MC to the soil due to munitions activities at this MRS. However, since MEC hazards were identified, the Education Program with Five-Year Reviews Alternative is the appropriate selected remedy for BTGR MRS01 – 2.36-inch Rocket Ranges.

The remedy was selected in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S. Code § 9601 et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986, and, the National Oil and Hazardous Substances Pollution Contingency Plan, 40 Code of Federal Regulations Part 300 et seq., as amended.

Representatives of the Florida Department of Environmental Protection (FDEP) support the selected remedy.

Based on information currently available, the selected remedy is protective of human health and the environment and satisfies the statutory requirements of CERCLA §121(b).

The estimated cost for the selected remedy is summarized in Table E.1

TABLE E.1

SUMMARY OF SELECTED REMEDY AND COST

MRS	SELECTED REMEDY	COST
MRS01 – 2.36-INCH ROCKET RANGES	Education Program with Five-Year Reviews	\$317,595

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ATTACHMENT

Figure 1 Site Location Map

LIST OF ACRONYMS AND ABBREVIATIONS

AOI	Area of Interest
ARAR	Applicable or Relevant and Appropriate Requirements
ASR	Archives Search Report
BTGR	Brooksville Turret Gunnery Range
cal	caliber
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COPC	Chemical of Potential Concern
COPEC	Contaminant of Potential Ecological Concern
CWA	Clean Water Act
DERP	Defense Environmental Restoration Program
DGM	Digital Geophysical Mapping
DoD	Department of Defense
EE/CA	Engineering Evaluation/Cost Analysis
FDEP	Florida Department of Environmental Protection
FUDS	Formerly Used Defense Sites
GIS	Geographic Information System
HE	High Explosive
IC	Institutional Controls
MC	Munitions Constituents
MD	Munitions Debris
MDAS	Material Documented As Safe
MEC	Munitions and Explosives of Concern
MRS	Munitions Response Site
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NTCRA	Non Time-Critical Removal Action
OE	Ordnance and Explosives
RAO	Remedial Action Objectives
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
ROE	Right-of-Entry
SARA	Superfund Amendment and Reauthorization Act
TBC	To Be Considered
USACE	U.S. Army Corps of Engineers
USC	United States Code
UXO	Unexploded Ordnance

PART 1: DECLARATION

1. SITE NAME AND LOCATION

Site Name: Brooksville Turret Gunnery Range MRS01 – 2.36-inch Rocket Ranges

Formerly Used Defense Site Property Number: I04FL0778

Federal Facility Identifier: FL49799F36300

The former BTGR property, consisting of approximately 10,194 acres is located in Hernando County, Florida, approximately 42 miles north of Tampa, Florida. MRS01 – 2.36-inch Rocket Ranges is approximately 3.5 miles west of Brooksville, Florida and about 17 miles east of the Gulf of Mexico and consists of 279.33 acres of two noncontiguous parcels of land to the north and east of the High Point subdivision along Weeping Willow Street. The current BTGR land use is a mix of commercial, professional and residential properties. Figure 1 shows the former BTGR boundaries, with two MRSs identified as MRS01 – 2.36-inch Rocket Ranges and MRS02 – Remaining Lands. MRS01 consists of the Phase 1 and Phase 2 Removal Areas associated with the 2.36 Inch Rocket Range 1 PAOI and 2.36 Inch Rocket Range 2 PAOI within the D1 and D3 Sectors.

2. STATEMENT OF BASIS AND PURPOSE

This Decision Document presents the Selected Remedy for MRS01 – 2.36-inch Rocket Ranges. The Selected Remedy was chosen in accordance with the CERCLA, as amended by the Superfund Amendment and Reauthorization Act (SARA), and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

The FDEP concurs with the Selected Remedy.

3. ASSESSMENT OF PROJECT SITE

An evaluation of site data indicates a potential for human receptors to come in contact with munitions and explosives of concern (MEC) at MRS01 – 2.36-inch Rocket Ranges. The most likely MEC exposure scenario in the MRS is associated with human receptors (e.g. residents, construction workers, commercial workers, recreational users, and visitors) interacting with MEC on the surface or in the subsurface during intrusive activities. If sufficient activation energy is applied, MEC could be a safety hazard and could constitute an imminent and substantial endangerment to on-site personnel. Therefore, response actions, such as those selected in this Decision Document, could better protect the public health and welfare and the environment from the actual and threatened hazards of MEC.

4. DESCRIPTION OF SELECTED REMEDY

There is low risk anticipated for explosives safety hazards at the BTGR MRS01 – 2.36-inch Rocket Ranges MRS. There is no evidence of a release of munitions constituents (MC) to the soil due to munitions activities at this MRS. However, since MEC hazards were identified, the Education Program with Five-Year Reviews Alternative is the appropriate selected remedy for Brooksville TGR MRS01 – 2.36-inch Rocket Ranges.

5. STATUTORY DETERMINATIONS

Based on the information currently available, the selected remedy for MRS01 – 2.36-inch Rocket Ranges

is protective of human health and the environment and satisfies the statutory requirements of CERCLA §121(b). Education Program with Five-Year Reviews will protect human health and the environment by educating landowners (and land users) of the possible dangers associated with the area. Education will make landowners and land users more likely to respond appropriately if suspect MEC are found. Long term protection is assessed through a statutory review conducted every five years after initiation of the selected remedy to ensure that the remedy continues to minimize explosives safety hazards and continues to be protective of human health, safety, and the environment.

The Selected Remedy is protective of human health and the environment. In addition, the remedy is cost-effective and utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable. There is also a statutory preference for treatment as a principal element of the remedy, and although the Educational Awareness does not include a treatment process, this remedy reduces the potential hazards to human health, welfare, and the environment.

The remedy for this MRS will result in hazardous substances, pollutants or contaminants (i.e., MEC) remaining on-site above levels that allow unlimited use and unrestricted exposure; therefore; a statutory review will be conducted every five years after initiation of the selected remedy to ensure that the remedy continues to minimize explosive safety hazards and the remedy is, or will be, protective of human health and the environment.

6. DATA CERTIFICATION CHECKLIST

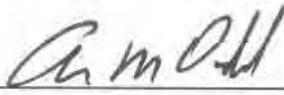
The following information is included or otherwise addressed in the Decision Summary section of this Decision Document. Additional information can be found in the Administrative Record file for this site.

- Information on MEC and munitions debris (MD) encountered at the project site.
- Hazard assessment of MEC.
- A summary of the MC risk.
- How source materials constituting principal threats will be addressed.
- Current and reasonably anticipated future land use assumptions for the project site.
- Key factors that led to selecting the remedies for the MRS.
- Estimated cost related to the Selected Remedy.
- The basis for an education program regarding the MEC hazards. MC cleanup levels are not necessary and have not been established for this site.

7. AUTHORIZING SIGNATURES

This Decision Document presents the Educational Program with Five-Year review recommendation for this MRS. The U.S. Army Corps of Engineers, Jacksonville District, is the lead agency under the Defense Environmental Restoration Program at the BTGR Formerly Used Defense Site and developed this Decision Document consistent with CERCLA, as amended by SARA, and the NCP. This Decision Document will be incorporated into the existing Administrative Record File, which is available for public review at the Hernando County Public Library, West Hernando Branch located at 6335 Blackbird Avenue, Brooksville, Florida 34613. The addition of this Decision Document completes the Administrative Record File and becomes the Administrative Record for the BTGR. The Administrative Record is protected from additional documents being added. This document, presenting the Educational Program with Five-Year review recommendation, is approved by the undersigned pursuant to Memorandum, DAIM-ZA, September 9, 2003, Subject: Policies for Staffing and Approving Decision Documents, and to Engineer Regulation 200-3-1, *Formerly Used Defense Sites Program Policy*.

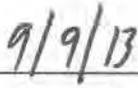
APPROVED:



ALAN M. DODD

Colonel, Corps of Engineers

Commanding



Date

PART 2: DECISION SUMMARY

1. PROJECT NAME, LOCATION, AND BRIEF DESCRIPTION

The former BTGR property, consisting of approximately 10,194 acres, is located in Hernando County, Florida, approximately 42 miles north of Tampa, Florida. The former BTGR is approximately 3.5 miles west of Brooksville, Florida and about 17 miles east of the Gulf of Mexico. The former BTGR is contained within the area enclosed by County Road 476 (Centralia Road) to the north, State Highway 50 (Cortez Blvd.) to the south, County Roads 491 (Citrus Way) and 484 (Fort Dade Ave.) to the east, and high tension transmission lines to the west paralleling State Highway 55/US Highway 19 (Commercial Way/Nicasto Road). Based on the results of the RI fieldwork, the site has been divided into two MRSs: MRS01 - 2.36-inch Rocket Ranges and MRS02 - Remaining Lands. MRS01 – 2.36-Inch Rocket Ranges is 279.33 acres and includes residential and commercial/industrial areas. Figure 1 shows the former BTGR boundaries, with two munitions response sites (MRS) identified as MRS01 – 2.36-Inch Rocket Ranges and MRS02 – Remaining Lands. This Decision Document addresses MRS01 – 2.36-Inch Rocket Ranges. There is a separate Decision Document for MRS02 – Remaining Lands.

The USACE, Jacksonville District, is the lead agency under the Defense Environmental Restoration Program (DERP) for this FUDS (Site Property Number: I04FL0778). The FDEP supports this Decision Document and concurs with the Selected Remedy.

2. PROJECT HISTORY AND ENFORCEMENT ACTIVITIES

2.1 PROJECT HISTORY

The BTGR was established in late 1943 following the acquisition of lease agreements via condemnation for the 10,969 acres of land by the War Department. Prior to acquisition, the land was primarily privately owned and used for cattle grazing. No residential dwellings were located within the range property.

The BTGR was initially established to support turret gunnery training for bomber crews stationed at Drew Field as part of the 3rd Army Air Force Fighter Command School. No permanent buildings were erected and minimal construction was performed on the one range established for training. This range was designated as the Moving Target Range and located in the southeastern portion of the BTGR property. An unmanned Jeep was used to carry targets around an elliptical track as gunners in turrets mounted on mobile trucks fired .50-caliber (cal) machine guns. An earthen berm in front of the track protected the Jeep from damage. Portions of the berm and Jeep track were visible during site visits conducted in February and November 1997.

A second .50-caliber (cal) machine gun range, designated as the Static Target Range (Fixed Machine Gun Range), was added sometime shortly after the facility became operational. According to the Archives Search Report (ASR), the location of this range was approximately 0.5 mile north of the Moving Target Range. Based on the configuration, static targets were fired upon from static locations.

A third .50-cal machine gun range was later added near the western edge of the BTGR property. Interviews with local residents indicated that wall-mounted machine guns were fired northward at static targets. This .50-cal machine gun range is suspected to have existed in the vicinity of the 2.36-inch Rocket Range 1.

In early 1944, training activities were expanded at the BTGR to accommodate Army infantry training. Additional training capabilities included jungle warfare training and firing practice with rifles, rifle grenades, machine guns, bazookas, mortars, and anti-tank guns. Range and perimeter towers were added to increase the efficiency and security of the facility operation. A fourth range was added in the western portion of the BTGR property and designated as a 2.36-inch rocket range (2.36-inch Rocket

Range 2). Bazookas were fired southward on this range toward State Highway 50. As a result of increased demand for firing practice, two of the existing .50-cal machine gun firing ranges subsequently began doubling as 2.36-inch rocket bazooka ranges. In addition, the .50-cal Moving Target Range (also referred to as the Jeep Track Range in historical documents and as the Machine Gun Range in the Remedial Investigation [RI] report) was also reportedly used as an 81mm mortar firing point; however, no evidence of 81mm deployment has been identified.

Shortly after World War II, the BTGR was no longer needed for turret gunnery training. The facility was transferred to the control of MacDill Field, outside of Tampa, Florida, because troops from the airfield were actively utilizing the ranges at the time. Within a year, the facility was turned over to the War Assets Administration for disposition. By November 1946 all leases to the property associated with the BTGR were terminated and the government divested itself of all ties to the property.

2.2 PREVIOUS INVESTIGATIONS

In 1995, the U.S. Army Corps of Engineers, Rock Island District conducted a site inspection and archives search of the former BTGR. The final report, dated August 1995, outlined the nature and degree of potential ordnance and explosives/unexploded ordnance (OE/UXO) contamination at the site. This report listed the probable ordnance used at each former range as well as estimated depth at which ordnance may be present (by area) and probable end usage for the land. The qualitative results of the visual inspections are included in the following subsections.

The ASR initially subdivided the former BTGR into four Areas of Interest (AOIs), identified in the ASR as Areas A through D. The ASR evaluated each AOI to determine whether the presence of OE/UXO was “confirmed” or “potential,” or the AOI was considered “uncontaminated.” Confirmed ordnance contamination was based on verifiable evidence, direct witness of ordnance items, or reliable indirect witness accounts. Potential ordnance contamination was based on inferred presence of OE/UXO from records or indirect witness accounts when the presence of ordnance was not confirmed. The AOI was designated as uncontaminated if there was no reasonable evidence, either direct or inferred, to suggest the presence of residual ordnance contamination.

The ASR concluded that the presence of ordnance was “confirmed” in Areas A and B based on verifiable historical evidence and direct witness of ordnance items; and “potential” in Areas C and D based on inference from records and indirect witness accounts. No historical recorded evidence was located to suggest the presence of chemical warfare materiel or radiological waste at the site.

Based on the findings of the ASR, portions of the property within the former BTGR boundary were recommended for an OE investigation, and an Engineering Evaluation/Cost Analysis (EE/CA) was subsequently conducted at the site. The EE/CA began in 1999 and focused on characterizing OE contamination, analyzing risk management alternatives, and recommending feasible OE exposure reduction alternatives for eight areas of interest (AOI). The findings were presented in a Draft Final OE EE/CA Report. Only a Draft Final of this report was prepared.

For OE risk evaluation purposes, the original four AOIs were divided into eight AOIs (Areas A through C, Area D [split into three sub-areas - D1, D2, and D3], and Areas E and F). The new designations were based on information gathered during the EE/CA field investigation including ordnance location, land use, and activities occurring at the site. Data collected during the EE/CA investigation were used to estimate the locations and density of ordnance in different areas. This information was then compared with the current and future land use activities.

No MEC or MD was present in Areas A, B, C, and E. Each of the remaining AOIs contained MD with positively identified MEC (specifically Rockets, 2.36 inch, high explosive (HE) present in Area D). All of the MEC and MD recovered were consistent with those documented in historical records of the former

BTGR with the exception of the 3.5-inch rockets which were not documented historically. No munitions constituents (MC) sampling was conducted during the EE/CA.

Data collected from the EE/CA were also used to develop response alternatives designed to reduce the exposure to OE and UXO within AOIs. OE response action alternatives were evaluated for each of the eight AOIs within the former BTGR. For each of the eight AOIs, potential alternatives were initially screened against the general evaluation criteria of effectiveness, implementability, and cost. The screening of alternatives was used to identify candidate OE response alternatives for further qualitative evaluation. Results of this alternative comparison indicated there were selected AOIs of the former BTGR that would require removal of UXO to ensure public safety. The results also indicated that implementation of site-wide institutional controls (IC) would be necessary to modify behavior. Several AOIs within the former BTGR were considered safe in their current state and therefore did not require any OE response actions.

As a result of the comprehensive evaluation of alternatives by AOI, four AOIs were designated for “No DoD Action Indicated”: Areas A, B, D2, and F. Institutional controls were selected, in addition to those proposed on a site-wide basis, for Areas C and E. Removal actions were recommended for Areas D1 and D3. An additional “footprint reduction” investigation was recommended for Areas D1 and D3 to maximize the cost-effectiveness of the recommended OE/UXO removal actions.

After the Draft Final OE EE/CA Report was issued, new risk evaluation guidance was released and new interpretations were made of historical data. To incorporate the new guidance and data interpretations for two specific AOIs (2.36-Inch Rocket Ranges on the western portion of the former BTGR in Area D1 and Area D3), the contractor was asked to prepare a revised EE/CA. A report was issued to present the findings and recommendations of the revised EE/CA investigation at the two AOIs.

In 2006, the USACE conducted a Non Time-Critical Removal Action (NTCRA), Phase I at the 2.36 Inch Rocket Range 1 and 2.36 Inch Rocket Range 2. Several MEC items (Rockets, 2.36 Inch HE and practice) and MD were recovered in both ranges. MC sampling for soil was performed in areas where MEC/MD items were found during the removal action and no MC was found at concentrations exceeding the screening levels.

From 2007 to 2010, the USACE conducted NTCRA Phase II at the 2.36 Inch Rocket Range 1 and 2.36 Inch Rocket Range 2. MEC recovered included rockets, 2.36-inch, HE and mortar 60mm, HE. Numerous munitions debris including practice rockets have also been recovered.

A Remedial Investigation (RI) was conducted on the project site from February 2012 to May 2012 to characterize the former BTGR with regard to location, concentration, and nature of MEC, and possible MC). A baseline MC risk assessment was conducted with the data collected during previous investigations and the RI. Given the results of these investigations and laboratory analysis, the risk assessment concluded that no unacceptable human health or ecological risk due to MC remains at MRS01 – 2.36-Inch Rocket Ranges. A qualitative MEC Hazard Assessment was conducted to assess potential explosive hazards to human receptors associated with complete exposure pathways within this area. Previous investigations within the limits of MRS01 (including ASR, EE/CA and NTCRAs) have found both MEC and MD related to M6 2.36-inch anti-tank rockets, M7 2.36-inch practice rockets, M49A2 60mm HE mortars (only one HE mortar was found during the NTCRA) and .50-cal small arms projectiles. No additional MEC or MD were found during the RI. The explosive hazards presented by the munitions potentially remaining are associated with their explosives fillers and fuzes. Based on available information, MRS01 has a total MEC Hazard Assessment score of 445, which equates to a Hazard Level of 4 (“low potential hazard conditions”).

2.3 ENFORCEMENT ACTIVITIES

There have been no CERCLA enforcement activities at this project site.

3. COMMUNITY PARTICIPATION

In accordance with CERCLA, DoD, and U.S. Army regulations, the USACE Jacksonville District has kept the local community involved throughout the RI process. Community involvement was facilitated through public notices and meetings, which allowed members of the community to provide comments and recommendations during the site characterization and remedy selection process.

The USACE has conducted multiple public information workshops to provide the community with information on the BTGR and the activities that were to be conducted. Below is a list of meetings that were conducted.

- June 5, 2007 – A public information session was conducted at Central High School to introduce the second phase of the BTGR project.
- September 11, 2008 – A public information session was conducted at Central High School to discuss the second phase of munitions removal that was to occur on several streets in Brooksville, Southwest Hernando County.
- January 14, 2010 – An additional public information session was conducted at Central High School to discuss the second phase of munitions removal work that was to occur on additional streets in Brooksville, Southwest Hernando County.

Notices were published in the *Hernando Today* newspaper to announce the public information workshops.

A public meeting took place on June 25, 2013 to present the public with the Proposed Plan for the former BTGR including MRS01 – 2.36-inch Rocket Ranges. A notice was placed in the local newspaper to invite the public to this meeting. At this meeting, USACE Jacksonville District representatives answered questions related to the proposed remedy. Attendees included representatives from USACE, FDEP, contractors, and seventeen (17) members of the public. The meeting was also followed by a public comment period that began on June 25, 2012.

The Proposed Plan was made available to the public prior to the comment period through the Administrative Record filed at the Hernando County Public Library, West Hernando Branch located at 6335 Blackbird Avenue, Brooksville, Florida. Comments were received from two members of the public during the comment period.

4. SCOPE AND ROLE OF RESPONSE ACTION

There is low risk anticipated for explosives safety hazards at the BTGR MRS01 – 2.36-inch Rocket Ranges MRS. There is currently no evidence of a release of MC to the soil due to munitions activities at this MRS. However, since MEC hazards were identified, the Education Program with Five-Year Reviews Alternative is the appropriate selected remedy for Brooksville TGR MRS01 – 2.36-inch Rocket Range.

5. PROJECT MRS CHARACTERISTICS

Based on results of previous investigations and the 2012 RI, if isolated MEC remains within the former BTGR, it is expected to be present within MRS01 – 2.36-inch Rocket Ranges, with the majority of the properties having a low probability of encountering MEC. Therefore, the MEC exposure pathways are potentially complete for this MRS. Soil sampling has indicated the absence of complete MC soil exposure pathways. Complete surface water and sediment MC exposure pathways were identified at the pond within MRS01 – 2.36-inch Rocket Ranges. The slightly elevated concentrations are limited to the pond, and therefore, the extent of MC contamination is assumed to be minimal and highly localized in the pond. Similarly, one contaminant of potential ecological concern (COPEC) was identified in one of the eight surface water samples. This elevated concentration is limited to one sample, and therefore, the extent of MC contamination is assumed to be minimal and highly localized.

5.1 SITE FEATURES

Most of the land has been graded due to the development of shopping centers and residential districts, but gently rolling hills are still prominent throughout this area. The degree of slope varies from zero to eight percent, with the majority at five percent or less. The vegetation varies and consists of no vegetation in shopping center parking lots to manicured residential lawns and forested areas.

5.2 SAMPLING STRATEGY

During the RI, teams searched 91.03 acres and dug 11,613 metallic objects to identify if the metal objects were munitions related. No unexploded munitions were found anywhere, and only 8 pieces of MD were recovered. Eight surface water samples with one duplicate sample and eight sediment samples with one duplicate sample were collected at the pond within MRS01 – 2.36-inch Rocket Ranges during the RI and analyzed for explosives and metals. The sampling results were analyzed, and surface water and sediment were determined not to have been impacted by MC.

Data collected during the previous investigations and the RI were sufficient to characterize the site. The data were used to support a risk assessment approach as agreed to by the project team. Results of the RI indicate the potential, albeit quite low, for munitions to still be present within MRS01 - 2.36-inch Rocket Ranges. For MRS01 – 2.36-Inch Rocket Ranges, one human health chemical of potential concern (COPC; 2,4,6-trinitrotoluene [TNT]) and several COPECs (barium, copper, lead, and zinc) in sediment were identified at the drainage retention pond. These elevated chemical concentrations are limited to the pond, and therefore, the extent of MC contamination is assumed to be minimal and highly localized in the pond. Similarly, one COPEC was identified in one of the eight surface water samples. This elevated chemical concentration is limited to one sample, and therefore, the extent of MC contamination is assumed to be minimal and highly localized. No explosives constituents were detected in the soil samples collected. Therefore, there is currently no evidence of a release of MC to the soil due to munitions activities at this MRS. In addition, the MC risk assessment indicated no unacceptable human health or ecological risks. No MEC was recovered during the RI intrusive investigation.

5.3 CONSTITUENTS OF CONCERN

No known contaminants or constituents of concern have been identified at MRS01 – 2.36-inch Rocket Ranges MRS.

5.4 MEC CONTAMINATION

MEC and MD were confirmed at MRS01 - 2.36-inch Rocket Ranges during previous investigations including the EE/CA and in particular, during the NTCRA. MEC was identified at several of the parcels within the inferred footprints of these ranges. The total acreage for these two ranges is 279.33 acres. The MEC encountered at these ranges included Mortar, 60mm, HE and several Rockets, 2.36-Inch, HEAT (High Explosive Anti-Tank). MD included Rocket, 2.36-inch Practice, and expended small arms projectiles up to .50 cal. MEC and MD have been found both on the surface and subsurface to a depth of 30 inches below ground surface. The source of these items is from training exercises conducted at the site by the U.S. military during WWII.

6. CURRENT AND POTENTIAL FUTURE LAND AND RESOURCE USES

6.1 LAND USES

The Hernando County Comprehensive Plan (as amended, October 26, 2010) was reviewed and it projected the continued development of the area with a mix of commercial, professional, public facilities, and residential development. The Future Land Use Plan and Zoning Map also predict current

development patterns to continue with infill of undeveloped land. Since completion of the Suncoast Parkway in 2000, significant growth in the area has occurred mostly along the major roads.

6.2 GROUNDWATER AND SURFACE WATER USE

The majority of Hernando County residents are provided water for personal consumption from the Hernando County Utility Department. The department supplies water extracted from 57 deep groundwater wells all screened within the Floridan aquifer. Based on the Southwest Florida Water Management District database, private wells are also found locally with the majority of these wells screened in the Floridan aquifer. According to US Geological Survey groundwater data (Weeki-Wachee well 11 – 5.25 miles east of Masaryktown, USGS Groundwater Watch), the average monthly depth to water ranges from approximately 42 to 44 feet for the referenced well. Regional groundwater flow is to the west.

The former BTGR has no well-defined streams in the vicinity. Most of the property is drained through numerous sinkholes, closed depressions, ponds, lakes and grassy prairies. The Weekiwachee River in the western part of the county and the Withlacoochee and little Withlacoochee Rivers in the eastern part are the only permanent, major surface drainage conduits in the county. The Weeki-Wachee River is the closer of the three to the former BTGR but none of these rivers directly affects the site.

7. SUMMARY OF SITE RISKS

Based on results of previous investigations and the RI, if isolated MEC remain within the former BTGR, they are expected to be present within MRS01 - 2.36 Inch Rocket Ranges; however, the majority of the properties have a low probability of encountering MEC. Therefore, the MEC exposure pathways are potentially complete for this MRS.

Previous soil sampling has indicated the absence of complete MC soil exposure pathways. Complete surface water and sediment MC exposure pathways were identified at the pond within MRS01 - 2.36 Inch Rocket Ranges. Potential exposure of ecological receptors to COPECs in surface water at the pond could occur via incidental ingestion and root/dermal contact, as well as ingestion of fish and other biota that have been exposed to MC in surface water. However, no COPCs were identified for human receptors, so the surface water exposure pathways are incomplete for current and future residents, commercial/industrial workers (e.g., site workers), site visitors, and construction workers. Potential exposure of human receptors to COPCs in sediment at the pond could occur via incidental ingestion and dermal contact. Potential receptors that could be exposed to COPCs through these pathways include current and future residents, commercial/industrial workers (e.g., site workers), site visitors, and construction workers. These receptors could come into contact with MC in sediment. Finally, potential exposure of ecological receptors to COPECs in sediment at the pond could occur via incidental ingestion and root/dermal contact, as well as ingestion of fish and other biota that have been exposed to MC in sediment. The extent of MC contamination within MRS01 - 2.36 Inch Rocket Ranges is limited to this pond, and therefore, the extent of MC contamination is assumed to be minimal and highly localized. Risk assessment of the sampling data indicates there is no unacceptable human health or ecological risk due to MC. A review of water wells in the former BTGR area reveals the nearest well is located approximately 0.6 miles southwest of the pond.

8. REMEDIAL ACTION OBJECTIVES

Remedial Action Objectives (RAOs) address the goals for reducing the MEC hazards and/or MC risks to ensure protection of human health, safety and the environment. The RAOs are intended to be as specific as possible but not so specific that the range of alternatives that can be developed is unduly limited.

Based on the findings of the RI and previous investigations, there is a potential for human receptors to come into contact with UXO at MRS01 – 2.36 Inch Rocket Ranges. Based on an analysis of the sampling results, there is no unacceptable human health or ecological risk due to MC.

Current land use at the MRS consists of private residences with widespread access. Future land use is expected to remain the same. Typical residential activities involve excavation for landscaping, fences, utilities, and structures. Activities such as excavating for foundations and installing subsurface utilities may expose residents and workers to subsurface UXO. Because of the potential for UXO to become exposed due to these activities, both surface and subsurface exposure pathways are considered potentially complete for human receptors.

MRS01 RAO

MEC hazards have been identified in the form of unexploded 60 mm mortars and 2.36-inch anti-tank rockets at subsurface depths as deep as 30 inches within MRS01. This area has already been subject to a subsurface MEC removal; consequently, the areas with the potential for remaining UXO are under structures (homes, driveways, streets, sidewalks, ponds, and swimming pools) and some properties without ROE (13.93 acres) that were not investigated.

- Exposure Routes for MEC: Exposure pathways for MEC are considered potentially complete for human receptors conducting subsurface activities. Potential human receptors include:
 - Current residents and site visitors; and
 - Future residents, commercial/industrial workers, site visitors, and trespassers.
- RAO for Human Exposure to MEC in Subsurface Soil: Reduce or eliminate the potential for human receptors to be exposed to UXO while conducting current and anticipated future subsurface construction activities in areas not covered by the MEC removal actions.

9. DESCRIPTION OF ALTERNATIVES

Six remedial alternatives were evaluated during the Feasibility Study and major components of each alternative are summarized below.

9.1 DESCRIPTION OF REMEDY COMPONENTS

Alternative 1: No Further Action Alternative

- No remedy implemented to reduce the potential safety hazards posed by MEC.
- Assumes continued use of the site in its current condition.

Alternative 2: Education Program with Five-Year Reviews

- Development of educational fact sheets aimed at making the public aware of potential hazards and reducing the risk of exposure.
- Five-year reviews to determine if the response action continues to minimize explosives safety hazards and continues to be protective of human health, safety, and the environment.

Alternative 3: Deed Notices and Education Program with Five-Year Reviews

- Recording of the boundaries of the area of potential MEC contamination in the associated deeds along with the implementation of a required disclosure statement prior to deed transfers about the potential MEC hazards associated with the land.
- Educational awareness program and Five-year reviews (see Alternative 2).

Alternative 4: Surface MEC Removal with Five-Year Reviews

- Brush clearing of dense vegetation to facilitate personnel access and to free space for sweeping with handheld metal detection equipment (e.g., Schonstedt).
- Instrument-aided visual surface inspection for potential MEC.
- Removal of recovered surface MEC by trained UXO technicians;
- Destruction of recovered MEC;

- Inspection and certification of MD for shipment offsite as material documented as safe (MDAS);
- Restoration of detonation locations to original condition; and
- Educational awareness program and Five-year reviews (see Alternative 2).

Alternative 5: MEC Removal to Maximum Depth of UXO with Five-Year Reviews

- Removal of brush and lower story vegetation to facilitate access to the MRS;
- Detection and demilitarization of MEC by qualified personnel using the most advanced, efficient, and economical technology;
- Interpretation of digital geophysical mapping (DGM) data to identify potential locations of subsurface MEC;
- Destruction of recovered MEC;
- Inspection and certification of MD for shipment offsite as MDAS;
- Restoration of detonation locations to original condition; and
- Implementation of an Educational Awareness program and Five-year reviews (see Alternative 2).

Alternative 6: Excavation, Sifting and Restoration

- Removal of all vegetation, including tree cover, to facilitate excavating site soil;
- Removal of all of the soil within the area so that it can be processed through a mechanical sifter to remove MEC and MD
- Detection and demilitarization of MEC by qualified personnel using the most advanced, efficient, and economical technology;
- Interpretation of DGM data to identify potential locations of subsurface MEC;
- Destruction of recovered MEC;
- Inspection and certification of MD for shipment offsite as MDAS;
- Restoration of site to original condition; and
- Implementation of an Educational Awareness program (see Alternative 2).

9.2 COMMON ELEMENTS AND DISTINGUISHING FEATURES OF EACH ALTERNATIVE

Applicable or Relevant and Appropriate Requirements

There are no applicable or relevant and appropriate requirements (ARARs) or CERCLA to be considered (TBC) information that had an effect on the remedy selection process.

Long-term Reliability

Alternatives 5 and 6 are expected to provide the best long-term effectiveness based on the ability to significantly reduce the potential hazards due to MEC. Alternative 4 may remove MEC currently on the surface but also relies on educational awareness for long-term effectiveness. Although Alternatives 2 and 3 can deter inappropriate interaction with MEC, it cannot prevent it. All alternatives except Alternative 1 require five-year reviews to verify that the remedies remain effective.

Time Required for Implementation

The USACE conducted a public outreach campaign during the EE/CA and RI projects; therefore, time required to implement Alternative 2 would be minimal. Alternative 3 would require time to coordinate with landowners and local governments. Alternatives 4, 5, and 6 would require extensive planning and work plans would be required prior to implementation of the work. Work plan development and approval is estimated to take approximately one year to complete.

Cost

Estimated capital, annual O&M, and present worth costs are presented in Table 2.

Quantity of Untreated Waste

If MEC are encountered during implementation of Alternatives 4, 5, or 6, it is expected that the munitions would be destroyed using blow in place procedures. It is not anticipated that MEC will be disposed off-site or managed on-site in a containment system.

9.3 EXPECTED OUTCOMES OF EACH ALTERNATIVE

Alternative 1: No Further Action Alternative

Alternative 1 does not reduce potential current and future MEC exposure hazards, if present. The NCP requires the No Further Action alternative to be evaluated and it means simply that a remedial action will not be implemented. No restrictions or limitations would be placed on land use and no costs are associated with this alternative, since there would be no action.

Alternative 2: Education Program with Five-Year Reviews

The educational awareness program has the goal of public awareness of existing hazards and providing information regarding the appropriate response if MEC are encountered. An educational awareness program will consist of development of educational tools and materials (e.g., fact sheets). Factsheets will be provided to the municipalities who have agreed to provide these to current and future residences. No restrictions or limitations would be placed on land use. Five-year reviews would be conducted to determine if the response action continues to minimize explosives safety risks and continues to be protective of human health, safety and the environment.

This alternative will meet the RAOs by helping to influence behavior through educational awareness to reduce the risk of exposure. Landowners and potential land users would both receive information regarding the risks associated with land use provided through educational awareness efforts. Specifically, a person who has seen a fact sheet is more likely to respond appropriately if a suspect item is found (versus a person who has not seen a fact sheet). Long-term effectiveness will be monitored through five-year reviews. There is no source reduction of potential MEC associated with this alternative.

Alternative 3: Deed Notices and Education Program with Five-Year Reviews

The Deed Notices would involve recording the boundaries of the area of potential MEC contamination in the associated deeds along with the implementation of an associated required disclosure statement prior to deed transfers about the potential MEC hazards associated with the land. The implementation of a deed notice would require the cooperation of the local government and the property owner. The Deed Notice would be accessed whenever a deed search was conducted or whenever there is a property transfer. This would notify prospective new owners of the potential for MEC to remain at the property.

It is desirable to try to use a “layered approach” when using Land Use Controls to ensure the protectiveness of the remedy. An educational awareness program, similar to that described under Alternative 2, would provide additional protection by providing information to the public concerning MEC hazards at the site. Reports, fact sheets, and other information would also be placed in the information repository.

A five-year review would be required under Alternative 3 to monitor and review the effectiveness of the alternative.

Alternative 4: Surface MEC Removal with Five-Year Reviews

Surface MEC clearance will be conducted by trained UXO technicians using metal detectors to aid in the discovery of potential MEC on the ground surface (those items lying on the ground or protruding from the ground). Suspect MEC will be removed and disposed of on-site using demolition procedures. All MD will be inspected, certified as MDAS, and shipped offsite for disposal.

No restrictions or limitations would be placed on land use. This alternative may not provide protection to human receptors where current and future planned land use activities are expected to penetrate the

ground (e.g., residential). Alternative 4 would reduce the MEC risk for future residents, but it would not completely eliminate risk since MEC would only be removed from the surface and only in areas accessible during brush removal and surface sweep operations and within areas where ROE has been granted. There would still be potential hazards, since property owners may encounter MEC while conducting intrusive activities (i.e., construction, gardening, fence installation). There would be some reduction of toxicity, mobility, or volume through removal of MEC on the surface. Long-term effectiveness would be monitored through five-year reviews.

Alternative 5: MEC Removal to Maximum Depth of UXO with Five-Year Reviews

This alternative uses a combination of activities to achieve a reduction in the MEC hazards and also minimizes receptor interaction with MEC to maximum depth at the MRS. The activities consist of geophysics and intrusive investigations (MEC removal).

The overall process would begin by obtaining written ROE from the landowners to allow access for the field work. Detection and identification of anomalies attributable to MEC is conducted primarily by DGM with mag-and-dig techniques used only in inaccessible areas (ditches, close to buildings, brushy areas that cannot be cleared sufficiently, rough terrain). Advanced anomaly discrimination technology may be used to reduce the numbers of anomalies selected for digging, if it can be shown to be cost effective. DGM is usually combined with GPS in open field areas to obtain accurate locations and with fiducial grids established by surveyors for areas with poor GPS coverage. Geophysical data would be processed and anomalies selected will be based on previous data collected at the Brooksville TGR, standardized instrument response curves, GPO test plot data, and other data specific to the munitions being targeted.

The objective of the MEC removal is to identify and remove MEC on the ground surface and in the subsurface to a maximum depth based on the deepest potential depth of MEC and depths of potential intrusive activities at the site. As shown in Table 1, the depth of typical intrusive activities at MRS01 exceeds the maximum depth that UXO found during intrusive investigations. For this reason, the maximum depth of MEC removal should be the same as the maximum depth that UXO was found, two feet (24 inches). Locations to be excavated would be based on anomalies from DGM data and on areas that are flagged using analog instruments. The MEC removal would not be conducted under existing roads, parking areas, bodies of water, and structures. Munitions would be destroyed using BIP procedures.

An education program, similar to that described under Alternative 2, would provide additional protection by providing information to the public concerning MEC hazards at the site. In addition, notices would be published and a meeting held to inform residents of MEC removal activities and to help plan for evacuations where needed. The meeting will be held prior to the removal work. Reports, fact sheets, and other information would also be placed in the information repository and website.

A five-year review would be required under Alternative 5 to monitor and review the effectiveness of the alternative.

**Table 1
Recommended Depth of MEC Removal Based on Land Use**

MRS	Current and Potential Future Intrusive Land Use Activities and Associated Maximum Depths (ft)	Recommended Depth of MEC Removal (Maximum Depth of UXO Identified at MRS)
MRS01 – 2.36 Inch Rocket Ranges	<u>Current:</u> Gardening and landscaping: 1-2 Utility repair: 1-6 Fence post installation: 1-2 <u>Potential Future:</u> Foundation excavation: 6-8 Utility installation: 1-6 Swimming pool construction: 6-8	2.0 Feet

Alternative 6: Excavation, Sifting and Restoration

Excavation, sifting, and restoration involve excavation to remove MEC from the entire site. Rather than use metal detectors to identify specific subsurface metallic items and excavate them, this alternative would use mechanical excavation to remove all of the soil within the area and process the soil through a mechanical sifter to remove MEC and MD. The initial excavation depth for this alternative would be based on the maximum depth of known exposure pathways coupled with the maximum depth of UXO found during the NTCRA (see Table 1). If the excavation has reached 2 feet and there is indication that additional or potential MEC may be present at a greater depth, the excavation would continue until the area has been cleared. Under this alternative, all existing vegetation, including tree cover, would be cleared to facilitate excavating site soil. Typically, no geophysical survey would be performed for this alternative, since all soil would be excavated.

All excavated soil would be sifted by trained UXO technicians to identify MEC. Engineering controls or evacuation may be needed when working close to residences or other inhabited structures and roads. Excavation would not be conducted under existing roads, parking areas, bodies of water, and structures. If UXO is encountered, it is anticipated that the munition would be destroyed using BIP procedures. Munitions that are acceptable to move could be moved to a nearby designated area for demolition. All MD would be inspected, certified as safe, containerized, and shipped to an offsite smelter for destruction.

Residents who reside within the exclusion zone during work hours would be required to evacuate. Excavation and sifting work cannot be conducted if non-essential personnel remain within the exclusion zone.

Soil would be reused at the site for backfilling the excavations. Upon completion of backfilling, these areas would be re-vegetated and restored to their original condition.

An education program, similar to that described under Alternative 2, would provide additional protection by providing information to the public concerning MEC hazards at the site. In addition, notices would be published and a public meeting held to inform residents of MEC removal activities and to help plan for evacuations where needed. It is estimated that one meeting would be held prior to the removal work. Reports, fact sheets, and other information would also be placed in the information repository and website.

10. COMPARATIVE ANALYSIS OF ALTERNATIVES

Alternatives 4, 5 and 6 were eliminated during the initial screening process. These three alternatives were not retained for further evaluation since a removal action has already been conducted. Because a removal action has already been completed for MRS01, additional removal work using the same technology is not necessarily expected to result in the discovery of more MEC items or the reduction in MEC hazard. The same areas that have already been cleared would be investigated with a low likelihood of encountering MEC; hence, a waste of time and money and therefore, not cost effective.

The three remaining alternatives were evaluated in relation to one another using each of the nine CERCLA evaluation criteria to identify the relative advantages and disadvantages of each alternative in terms of the threshold and balancing criteria. The comparative analysis of alternatives for MRS01 is presented in Table 2. The following conclusions were derived:

- Alternative 1 is ineffective in reducing risk to human health and the environment and has no long-term permanence. This alternative has no cost.
- The MEC HA score is not reduced by implementing Alternative 2; however, this alternative would reduce the risk by informing residents of the hazards associated with the potential presence of MEC. The estimated cost to implement Alternative 2 is the middle cost for the three alternatives evaluated for MRS01.
- Alternative 3 is similar to Alternative 2 with the added benefit of deed notices being placed for parcels with suspected MEC hazards. The cost is slightly more than Alternative 2.

11. PRINCIPAL MEC/MC ISSUES

A potentially complete MEC exposure pathway is possible in the MRS01 – 2.36 Inch Rocket Ranges. MEC found at the site includes rockets resulting from weapons training during World War II. If MEC is present, a receptor, and interaction between the MEC source and receptor, must also be present for a complete MEC exposure pathway to exist. Educational Awareness increases the likelihood of an appropriate response/interaction if a receptor does encounter MEC. This remedy is protective of human health and the environment. In addition, the remedy is cost-effective and utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable. There is also a statutory preference for treatment as a principal element of the remedy, and although the Educational Awareness remedy does not include a treatment process, this remedy reduces the explosive hazards to human health, welfare, and the environment.

The remedy will result in hazardous substances, pollutants or contaminants (MEC) remaining on-site above levels that allow unlimited use and unrestricted exposure; therefore, a statutory review will be conducted every five years after initiation of the selected remedy to ensure that the remedy is, or will be, protective of human health and the environment.

**Table 2
Comparative Analysis of Alternatives for MRS01**

Criteria		Alternative 1: No Further Action	Alternative 2: Education Program	Alternative 3: Deed Notices with Education Program
Threshold Factors	Protectiveness	Not Protective	Protective by modifying behavior if MEC is found.	Protective only by modifying behavior if MEC is found.
	Compliance with ARARs	Not Applicable	Not Applicable	Not Applicable
Balancing Factors	Reduction of Toxicity, Mobility, and Volume through Treatment	No Reduction	No Reduction	No Reduction
	Short-Term Effectiveness	No impact	No impact	No impact
	Long-Term Effectiveness and Permanence	Not Effective	Effective	Effective
	Implementability	Implementible	Implementible	Implementible for education Not implementible for deed notification
	Cost	\$0	\$317,595	\$475,158
Modifying Considerations	Community Acceptance	Community acceptance is unlikely.	Community acceptance is likely.	Community acceptance is less likely since landowners will not want deed notices placed on their properties.
	State Acceptance	State acceptance is unlikely since this alternative is not protective.	Likely to be accepted because risk of exposure is reduced	Likely to be accepted because risk of exposure is reduced.

12. SELECTED REMEDY

12.1 SUMMARY AND DESCRIPTION

The Education Program with Five-Year Reviews Alternative is the selected remedy. The USACE conducted public outreach during the removal actions, and determined that maintaining public awareness for the hazards that exist within the Brooksville TGR can be facilitated by continuing these already proven methods. An education program would focus on providing information on the areas containing the MEC hazards and the appropriate response if suspected MEC is encountered. These preventive measures would include educational fact sheets that have the goal of modifying behavior to reduce the risk of encountering MEC, to reduce the impact if a MEC encounter occurs, and to appropriately report the find. Letters and fact sheets would be sent to landowners and residents on parcels in areas identified during the RI as having potential MEC hazards. The fact sheets would contain information including which MEC hazards may remain at the site. Factsheets will be provided to the municipalities who have agreed to provide these to current and future residences. Letters with updates would be provided on a periodic basis, corresponding with the five-year reviews. This alternative includes costs for establishing and maintaining a website to provide information and project reports to the public. The CRP would also be updated in conjunction with the five-year reviews. The CRP provides the framework for public outreach activities that the USACE will use to communicate with the community and address their concerns and expectations. Updating the CRP will include revising the project summary, updating fact sheets and brochures, updating stakeholder lists, media contacts, and information on the community.

12.2 COST ESTIMATE

The 30-year total present worth cost of the remedy is estimated to be \$317,595, which includes the education program and a budget to conduct recurring five-year reviews.

12.3 ESTIMATED OUTCOMES

With the implementation of the Selected Remedy – Education Program with Five-Year Reviews, the expected outcomes are anticipated to include the following:

- Land use will remain unchanged.
- No restriction will be placed on current or future land use.
- No limitations will be placed on groundwater or surface water use.
- No MEC will be removed.

13. STATUTORY DETERMINATIONS

Based on the information currently available, the selected remedy for MRS01 – 2.36-inch Rocket Ranges is protective of human health and the environment and satisfies the statutory requirements of CERCLA §121(b). Education Program with Five-Year Reviews will protect human health and the environment by educating land owners (and land users) and informing MRS receptors of the possible dangers associated with the area. Education will make receptors more likely to respond appropriately if suspect MEC are found. Long term protection is assessed through a statutory review conducted every five years after initiation of the selected remedy to ensure that the remedy continues to minimize explosives safety hazards and continues to be protective of human health, safety, and the environment.

The Selected Remedy is protective of human health and the environment. In addition, the remedy is cost-effective and utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable. There is also a statutory preference for treatment as a principal element of the remedy, and although the Educational Awareness does not include a treatment process, this remedy reduces the potential hazards to human health, welfare, and the environment.

The remedy for this MRS will result in hazardous substances, pollutants or contaminants (i.e., MEC) remaining on-site above levels that allow unlimited use and unrestricted exposure; therefore; a statutory review will be conducted every five years after initiation of the selected remedy to ensure that the remedy continues to minimize explosive safety hazards and the remedy is, or will be, protective of human health and the environment.

14. DOCUMENTATION OF SIGNIFICANT CHANGES

The Proposed Plan was released for public comment on June 25, 2013. The Proposed Plan identified Educational Program with Five-Year review as the selected remedy. The comments received from the public did not warrant any significant changes to the Proposed Plan.

PART 3: RESPONSIVENESS SUMMARY

This Responsiveness Summary summarizes all comments for the Proposed Plan received from the public and FDEP regarding the preferred remedy and general concerns related to the Site.

1. STAKEHOLDER COMMENTS AND LEAD AGENCY RESPONSES

A 30-day comment period started on June 25, 2013. The USACE Jacksonville District provided information to the local community on the preferred remedy through a public meeting held on June 25, 2013, allowing the public an opportunity to convey any questions and/or concerns about the Site to the regulatory authority for consideration in the remedial selection process.

1.1 FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION COMMENTS

No FDEP comments were provided during the June 25, 2013 public meeting.

1.2 PUBLIC COMMENTS

Comments were received from two members of the public and are presented below with responses.

Comment from Marin R. Stevens:

"I have been trying to sell my property on Jacquelin Rd but when you people came with the study, people don't want to buy my property. What I want is to get a paper from you people, with your seal saying that the property is safe to live in it."

Response:

Comment Noted. However, the comment does not require a change to the content of the Proposed Plan.

Comment from Ralph Colon:

"At the meeting, held on 6-25-2013 at Central High School, I raised the issue of site topography when used during the war years vs. today. The PM stated from records available there has been no significant change. If that's the case, why is it that the USACE wont totally guarantee that my property is clear of any & all military ordnance & ordnance debris, except for under structures or hard cover driveways, when intrusive investigation of my property was completed? I also addressed the issue of the maximum depth to which the search would be limited for items to be removed. After the meeting, I spoke with two of the Parsons reps; they would not state if there was depth limit or what it might be. This is of concern to me as my property is in close proximity to sites of UXOs. After a previous meeting, a since-retired Parsons rep., said something to the effect that Vero Beach was a former bombing range; it was cleared of ordnance debris & sites were selling for millions of dollars. Well, the former BTGR isn't Vero Beach, I don't see alt. #6 occurring. Alt. #1 is the simplest to implement, but seems hollow. Those of us who are here now (as land owners) are rudely aware we are in what was the former BTGR, renters may be the ones unaware so alt. #2 is redundant, which leads to alt. #3, a sore point brought up at what I believe was the 1st informational meeting, this should have been done when the lease was terminated. Never during the purchasing process was the fact that the property was in a FUDS, doing so now is discriminatory. Alt. #4, a surface sweep, was to have taken place, I thought, just before or soon after lease termination, & only of value to areas not fully investigated to this point in time, where natural actions may have uncovered subsurface items. This brings me to alt.#5 & the depth issue. At the meeting to address issuing a final report for DI & D3 area removals, I seem to recall something to the effect that 3 feet would be the limit to which removal would take place. As natural action could bring subsurface items to the 2 foot level, will this alt be adopted, & future investigations be conducted? Thank you.

Response:

Comment Noted. The USACE never guarantees that a property is clear of any & all military ordnance & ordnance debris, given the limitations to available technology for ordnance investigation and removal. There are several factors involved in the depth of coverage (for example, type of soil, metal content, size, shape, etc.) during investigation and removal work that make it impossible to state a specific depth of coverage for a property. The NTCRA was conducted to a depth of 4 feet. The 5-year review process takes into consideration evaluation of potential conditions that could result in discovery of ordnance and if in fact there have been any discovery of ordnance over that period of time and requires review of the effectiveness of the recommended/selected alternative. The comments provided do not require a change to the content of the Proposed Plan.

2. TECHNICAL AND LEGAL ISSUES

None.

ATTACHMENT

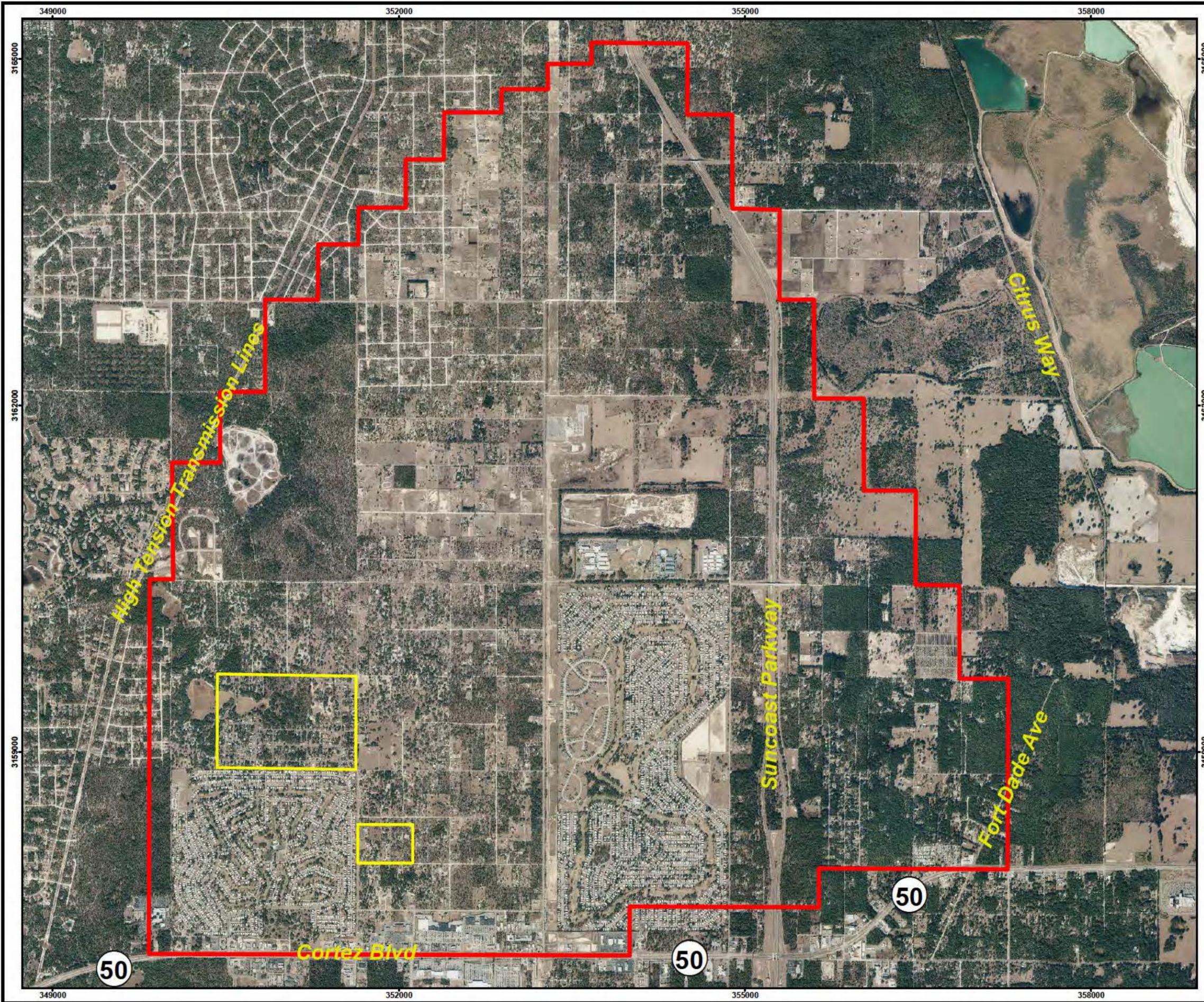


Figure 1

MRS Delineation Map
 Former Brooksville Turret Gunnery Range
 Brooksville Turret Gunnery Range
 Brooksville, FL
 FUDS Project No. 10FFL077801

Legend

- MRS01 - 2.36" Rocket Ranges (2.36" rocket, 60mm mortar)
- MRS02 - Remaining Lands (no evidence of concentrated munitions use)

Data is projected to the UTM Coordinate System:
 Zone 17N, NAD83, Units in feet.

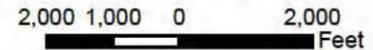
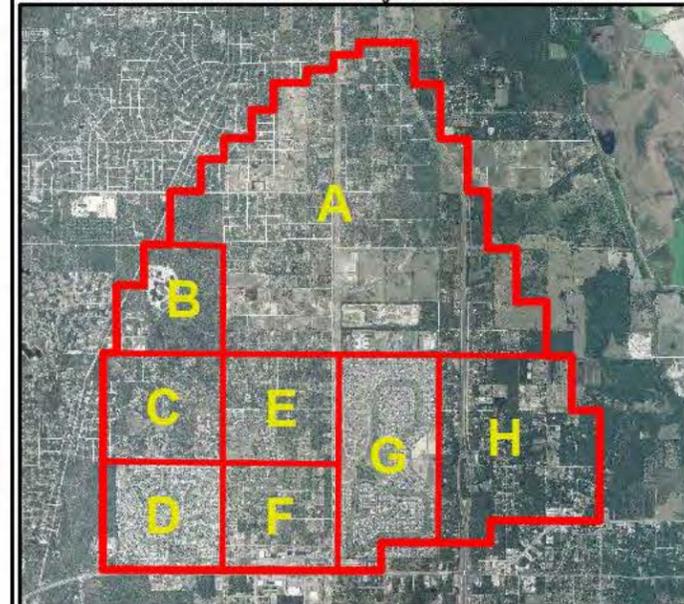


Image: 2011 Orthophoto

MRS Overview with Current Project Areas



Source: <i>Brooksville GIS</i>		U.S. Army Engineering And Support Center Huntsville, AL	
Drawn By: MS	Date Drawn: 15-07-2013	Checked By: OA	Project No: 747825
MXD: X:\gis\Brooksville_FL\RI_FSI\Fig1_DecisionDoc.mxd		PDF: X:\gis\Brooksville_FL\PDF\RI_FSI\Fig1_DecisionDoc.pdf	



MRS Delineation Map
 Former Brooksville Turret Gunnery Range