U.S. Army Corps of Engineers
Southeast and Pacific IMA Region

FINAL

Technical Project Planning Memorandum & Associated Documentation

In Support of

FUDS MMRP Site Inspections Project

Project Site:

Passage Key Air-to-Ground Gunnery Range Manatee County, Florida

FUDS Project No. I04FL040101

Prepared By:

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Prepared For:

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and

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Contract: W912DY-04-D-0005
Task Order: 0008

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April 23, 2007

U.S. Army Engineer Center Huntsville
CEHNC-OE-DC – Mr. Doug Garretson
4820 University Square
Huntsville, AL 35816-1822
(256)895-1066

Subject: Contract W912DY-04-D-0005, Delivery Order 0008
MMRP SI for SE and Pacific IMA Region - Final TPP Memo
Passage Key Air-to-Ground Gunnery Range, Manatee County, Florida

Dear Mr. Garretson:

Parsons has prepared this Final Technical Project Planning (TPP) Memorandum to document the Project Team's concurrence with the Site Inspection approach (detailed herein) following the March 01, 2007 TPP Meeting held in the Fort De Soto Park 3500 Pinellas Bayway S, Tierra Verde, Florida for the Passage Key Air-to-Ground Gunnery Range FUDS site located in Manatee County, Florida. All information included in this Final TPP Memorandum Package has been reviewed by the Project Team and revised accordingly. The State regulators, FDEP, have verbally agreed to the presented Technical Approach.

We have simultaneously forwarded 5 copies of the document to Mr. Charles Fales of the Jacksonville District (to include distribution to FDEP – 2 copies), and single copies to HTRW CX, MM CX, and Heidi Novotny. Electronic copies have also been provided.

If you have any questions or comments, please contact me at (678) 969-2384 or (404) 606-0346 (cell) or the Project Manager, Ms. Laura Kelley, at (678) 969-2437.

Sincerely,

PARSONS

Don Silkebakken, P.E.
MMRP SI Project/Program Manager

cc: Charlie Fales - 5 copies/5 CDs
Betina Johnson - Deborah Walker – 1 copy/1 CD
Heidi Novotny - 1 copy/1 CD
Laura Kelley - (Parsons PM)
Project File (744647.45000)

Technical Project Planning Memo:

Subject: FUDS Military Munitions Response Program (MMRP) Documentation of Technical Project Planning Project Team Concurrence for Site Inspection Phase

Site: **Passage Key Air-to-Ground Gunnery Range, I04FL040101, Manatee County, Florida**

Contract: Contract Number W912DY-04-D-0005, Delivery Order 0008

This document is intended to provide a record of Technical Project Planning (TPP) for the ***Passage Key Air-to-Ground Gunnery Range, Manatee County, Florida***. The Project Team members listed below indicated concurrence with the Site Inspection (SI) Technical Approach as developed during the TPP meeting held at the Fort DeSoto Park, 3500 Pinellas Bayway S, Tierrra Verde, FL on March 01, 2007. An initial Technical Approach (as presented) was developed using the collaborative experience of Parsons and USACE technical experts in conjunction with available site information including the Archives Search Report (ASR) Supplement, and other pertinent documents and interviews. The Project Team discussed and refined the initial Technical Approach during the course of the TPP meeting yielding a Final Technical Approach for implementation at the ***Passage Key Air-to-Ground Gunnery Range.*** The Project Team's agreed upon Final Technical Approach is documented herein and will be further detailed in the forthcoming Draft Site-Specific Work Plan (SS-WP). The Draft SS-WP will be submitted to the Project Team members for review to ensure the key aspects of the TPP Meeting resolutions are fully captured. The details of the TPP meeting incorporated in this TPP Memorandum document include sample location maps, revised TPP Worksheets, and a revised Conceptual Site Exposure Model (CSEM).

The Passage Key Air-to-Ground (ATG) Gunnery Range (FUDS project number I04FL040101) is a small, uninhabited island at the mouth of Tampa Bay, about 10 miles northwest of the City of Bradenton, in Manatee County, Florida. The 36-acre island was used for practice dive bombing, skip bombing, and strafing from 1943 to 1945, with use discontinued for three months each summer due to the wild fowl nesting season. Two banks of targets were known to be present at the site. The property is currently a wildlife refuge under the control of the U.S. Fish and Wildlife Service, Department of the Interior, and is accessible only by boat

Due to the presence of munitions and the potential for MEC contamination it was agreed by the Project Team that at this time, the SI approach for the Passage Key Air-to-Ground Gunnery Range will proceed in a manner to support a Remedial Investigation/Feasibility

Study (RI/FS) recommendation. In the event that no Munitions and Explosives of Concern (MEC) or Munitions Constituents (MC) (above levels of concern as discussed below) are identified during the SI, the Project Team will evaluate the applicability of the RI/FS recommendation in light of the findings. If warranted, the SI information may be used to determine the applicability of no further action or a No Department of Defense (DoD) Action Indicated (NDAI) scenario.

To accomplish the primary SI project objective (anticipated RI/FS), the TPP Project Team has agreed that the SI data collection efforts will focus on placement of MC sampling locations on parts of island with the greatest mass (due to the constant changing of the island from tidal currents) at the time of SI Visit that represent the highest likelihood for the presence of MC contamination. Two discrete shallow soil samples (#1 and # 2), with the option of collecting 3 additional discretionary samples from 2 to 6 inches in depth will be collected from site locations with maximum bias for the presence of MC contamination. The sample locations selected by the project team are depicted on the attached site maps. All environmental samples collected during this SI will be analyzed for metals and explosives on all samples as defined in the attached documentation.

The Qualitative Reconnaissance (QR) will be performed to primarily focus on the current remaining areas of the island during the SI Visit but also will be inclusive of the entire site to further confirm the absence of MEC. The QR will implement the use of magnetometers, Trimble™ global positioning systems (GPS), Garmin™ handheld global positioning systems (GPS) with two-way radio, and digital photography in an integrated format. The QR and MC field efforts will be performed so as to minimize any intrusion on any environmental or ecological factors on the island. Procedural details of the field work will be provided in a Draft Site-Specific Work Plan (an addendum to the Programmatic Work Plan) for stakeholder review and comment. The U.S. Army Corps of Engineers, Jacksonville District (CESAJ) will coordinate the rights of entry (ROE) to the site, as applicable.

In addition to the above listing TPP Project Team determinations stated above, the following issues and resolutions are noted:

- The TPP Project Team concurs with the Technical Approach (likely an anticipated RI/FS) as agreed at the TPP meeting on March 01, 2007 inclusive of number, type, and location of samples as well as sampling methodology and laboratory analyses.

- The TPP Project Team concurs with location of the two soil samples with the option of 3 discretionary samples. The location of the sample sites are shown on the attached Figure maps 3A and 3B, in the Conceptual Site Model Section.

- TPP Project Team agreed to not have ambient samples or surface water samples collected for this site.

- No composite sampling will be conducted, but will be replaced with discrete sampling.

- TPP Project Team agreed to remove all but two samples and add 3 discretionary samples (if needed) from the sampling list due to the drastic reduction in the size of the island. Map Figures 3A and 3B are the most current licensed version showing the size of the island at the time of the aerial photo, no newer version have been located. Due to recent visual observations by the U.S. Fish and Wildlife officials, the island has been reduced by gulf current erosion to a size of 20 feet x 20 feet during high tide. The SI field team will attempt to visit the island during low tide which will constitute the possible need of discretionary samples.

- The TPP Project Team agrees that the Florida Administrative Code (FAC) 62-777, FDEP Soil Cleanup Target Levels for Direct Residential Exposure, Region 9 Residential Preliminary Remediation Goals (PRGs), and the Ecological Screening Values Listed in Table 1 will be used for comparison of explosives and metals contamination on all samples.

- The TPP agreed that Jim Crane and Eric Nuzie should be designated as the regulator associated with the FDEP.

- U.S. Fish and Wildlife must have 30 day advance notice for Special Use Permit. Prior notice to the beginning of any field work so coordination can be arranged for the use of boat transportation to the island.

- Passage Key is currently a popular public gathering place, U.S. Fish and Wildlife requested that they should be present during the Field SI to deter any possible problems.

- U.S. Fish and Wildlife gave the coordinates to possible ordnance near the island. (N 27 33.372’ W 82 44.465’)

All QR and MC results will be fully documented in an SI Report for the TPP Project Team and other stakeholder review. The SI Technical Approach described above will not be modified without consultation and agreement by the TPP Project Team whose names appear below.

All QR and MC results will be fully documented in an SI Report for stakeholder review. The SI Technical Approach described above will not be modified without consultation and agreement by the project team whose names appear below.

Mr. Charles Fales
USACE, Jacksonville District
Project Manager

Ms. Chris Cochrane
USAESCH
Program Manager

Mr. Jim Crane
Florida Department of Environmental Protection (FDEP)
Project Manager

Mr. Eric Nuzie
Florida Department of Environmental Protection (FDEP)
Project Manager

Mr. Jim Kraus
Chassahowtzka National Wildlife Refuge Complex
Project Leader

Mr. Jeff Ulmer
Parsons
Project Coordinator

Mr. Tim Nowicki
Parsons
Project Coordinator

Mr. Mike Gooding
USAESCH
Lead OE Engineer

Mr. Doug Garretson
USAESCH
Project Manager

Mr. Richard Meyers
U.S. Fish & Wildlife Service

Mr. David McCullough
USACE, Jacksonville District

Mr. Michael Goff
Fort DeSoto Park
Park Naturalist

Mr. Stan Garner
U.S. Fish & Wildlife Service

TECHNICAL PROJECT PLANNING
ATTENDANCE SIGN-IN SHEET

MULLET KEY BOMBING AND GUNNERY RANGE, PINELLAS COUNTY, FL
AND

Project: Passage Key Air-to-Ground Gunnery Range, Manatee County, Florida
Date: 01 March, 2007
Place: Fort De Soto Park, 3500 Pinellas Bayway S, Tierra Verde, Florida 33715

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Project: Passage Key Air-to-Ground Gunnery Range, Manatee County, Florida
Date: 01 March, 2007
Place: Fort De Soto Park, 3500 Pinellas Bayway S, Tierra Verde, Florida 33715

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Passage Key Air-to-Ground Gunnery Range
Manatee County, Florida

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Manatee County, Florida

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GENERAL OVERALL SI TECHNICAL APPROACH – SOUTHEAST

The text presented below was excerpted from Parsons' proposal to conduct Site Inspections submitted to USAESCH in April 2005 and provides a general understanding of our planned Technical Approach to Site Inspection. Procedural details are presented in the Programmatic Work Plan and augmented by the Site Specific Work Plan (to be prepared following completion of the Technical Project Planning process for each individual site).

UNDERSTANDING OF THE REQUIREMENTS

The primary objective and purpose for this Site Inspection (SI) project at multiple CONUS and OCONUS sites is to ensure existing sites within the Formerly Used Defense Site (FUDS) inventory are sufficiently evaluated to comply with Engineer Regulation (ER) 200-3-1 SI requirements and to collect sufficient data to determine whether individual project sites warrant further response action or can proceed to a no Department of Defense (DOD) action indicated (NDAI) status. The requirements of this project will be met when the following objectives have been satisfied:

- The Technical Project Planning (TPP) process has been initiated for each individual site to include determination of the necessary data to develop Data Quality Objectives (DQOs), develop the initial Conceptual Site Model (CSM), execute the field work, and satisfy SI close-out requirements.
- A Site Visit (Digital Field Reconnaissance and Munitions Constituent Sampling) is conducted to augment the data collected during the Preliminary Assessment (PA) and to gather additional historical and site-specific data to confirm data needs and the nature and scope of the SI, as required by ER 200-3-1 paragraph 4-4.1.2.1.
- Sufficient data has been collected or developed for Hazard Ranking System (HRS) scoring by the Environmental Protection Agency (EPA).
- Sufficient data has been collected to complete the Munitions Response Site Prioritization Protocol (MRSPP).

OVERALL TECHNICAL APPROACH

Upon comprehensive review of the existing data provided by the United States Army Corps of Engineers (USACE) and other supplemental sources, all sites can be grouped into one of three general categories. The significance of this determination aided development of the appropriate reconnaissance level and Munitions Constituent (MC) sampling strategy to meet the objectives of the SI. The three categories are:

- Category 1 Sites – Anticipated No Department of Defense Action Indicated (NDAI)
- Category 2 Sites – Anticipated Remedial Investigations and Feasibility Studies (RI/FS)
- Category 3 Sites – Sites for which a preliminary determination of the next course of action (NDAI or RI/FS) is not readily apparent.

Typically the characteristics displayed by **Category 1 – Anticipated NDAI** sites include one or more of the following qualities:

- Limited military use;
- Unsubstantiated munitions and explosives of concern (MEC) or unexploded ordnance (UXO) presence;
- Minimal or nonexistent component of risk to public health or the environment; or
- Lack of or suspect evidence to support historical training activities would leave a residual risk.

Obviously, the presence of confirmed UXO would preclude the site from further consideration for grouping in this category. However, the presence of confirmed "practice" munitions requires additional evaluation as to whether their presence is strictly confined to wholly inert items (without spotting charge or active fuzing).

The SI field approach has been formulated, to the extent possible, to reflect the anticipated outcome. The SI guidance states the minimum amount of information necessary should be collected as part of the SI to meet the project objectives. Further, "***The SI is not intended as a full-scale study of the nature and extent of contamination or explosives hazards***" per ER 200-3-1. That being said this project requires extensive coordination with regulators and other key stakeholders as part of the TPP process. The justification for an SI-level NDAI recommendation (followed by MEC/MC site closeout) is viable for some sites but requires sufficient sampling and groundtruthing to satisfy the Project Team's concerns. As such, a successful SI field approach for Category 1 sites must recognize this paradigm and be focused to yield a sufficiently compelling argument for an NDAI determination. To accomplish this objective the site field investigations for Category 1 sites are tailored to include expanded reconnaissance coverage as well as a defensible MC sampling strategy.

Parsons reviewed U.S. Environmental Protection Agency's (EPA's) "Guidance on Choosing a Sampling Design…" (EPA/240/R-02/005) and other pertinent sampling guidance documents in an effort to identify a MC sampling strategy to adequately address the data needs for Category 1 sites. The basis for the strategy included the expectation that non-detect (or background) will be the 'typical' analytical result, that the variability will be low, and that a false-negative result is of greater concern in than a false-positive. Parsons concluded that, in general, 15 soil samples distributed throughout the site to achieve representative coverage would be sufficient for most sites. The assumptions inherent in developing this proposed sampling plan will be discussed and perhaps modified during the TPP process.

The second site type, **Category 2 – Anticipated RI/FS**, typically display one or more of the following characteristics:

- Confirmed discovery or presence of UXO;
- Documented injury of fatality incident on file attributable to UXO presence;
- Archive Search Report (ASR) designated Risk Assessment Code (RAC) score of 1 or 2;
- Prior post-ASR investigations, Time Critical Removal Action (TCRA), or other response actions; or

- Overwhelming evidence of former military usage or training that might pose a significant risk to public health or the environment.

Parsons anticipates that ***screening*** for MC presence (as opposed to delineation or characterization) is sufficient for Category 2 sites with bias toward high probability areas such as ranges, targets, and locations of prior MEC recoveries. As such, a representative template sampling design could not be developed for Category 2 sites and site-specific reconnaissance and MC sampling has been developed on a case-by-case basis using professional judgment.

Category 3 sites display attributes of both Category 1 and Category 2 sites. Similar to Category 2 sites, a representative template sampling design could not be developed for Category 3 sites. Furthermore, some Category 3 sites have sub-areas that require RI/FS but at the same time large land areas where no evidence of MEC or MC contamination is likely. Therefore, site-specific reconnaissance and MC sampling has been developed on a case-by-case basis using professional judgment.

PROJECT ORGANIZATION

Several organizations are directly involved in this MMRP SI project. Exhibit 1 identifies the key project reporting structure. The Project Team consists of the USACE geographic Design Center (Southeast and Pacific IMA Region), Parsons and Severn Trent Laboratories (STL), and includes eight USACE Districts (comprising the Southeast and Pacific geographic Design Center region). In addition, EPA, state, and local regulatory agencies, as well as other key stakeholders will comprise individual site project teams. The roles of these team members are described below.

U. S. Army Corps of Engineers, Design Center

The U.S. Army Engineering and Support Center, Huntsville (USAESCH) provides program management as well as technical expertise support to the project. For the Military Munitions Response Program (MMRP) SI Southeast and Pacific geographic Design Center region, USAESCH also serves as the USACE Design Center PM and will provide technical management and execute the project. The Design Center responsibilities include procurement of contractor services; review and coordination of project plans and documents; interaction with the news media and the public; and monitoring the project schedule for this performance-based FFP project.

U.S. Army Engineer Districts

Representatives from one of the eight local USACE Districts within the Southeast and Pacific IMA Region (depending on individual site jurisdiction) will participate on the Project Team and attend the applicable TPP meetings. Individual USACE District PMs are responsible for obtaining rights-of-entry (ROE), coordinating with regulators and other stakeholders, and working closely with the geographic Design Center assigned to execute the SI. Additional District responsibilities may include review of project plans and documents, working with the news media and the public, and coordinating with federal, state and local regulatory agencies on issues pertaining to implementation of this SI and protection of ecological and cultural resources. The specific USACE District will be identified in the Site Specific Work Plan (SS-WP).

Parsons

A Programmatic Work Plan (PWP) has been prepared which provides overall engineering support and services for implementation of the SI. Parsons is responsible for performance of the activities detailed in the PWP. Personnel performing work in support of this study will meet the qualifications required by Contract No. W912DY-04-D-0005, Section C, para. 5.0, Personnel Qualifications.

Other Subcontractors

Parsons has subcontracted laboratory services to ensure successful completion of the Delivery Order. Chemical analytical services on this project will be provided by STL – Denver, in accordance with the Programmatic Sampling and Analysis Plan (PSAP) and site-specific SAP (SS-SAP). Specifically, STL will perform chemical analysis on samples collected from each of the sites and provide results to Parsons for validation. No other subcontractors are anticipated.

Federal, State, and Local Agencies

The roles of site-specific federal, state, and local agencies include active participation in the TPP process and review of project plans and documents.

PROJECT PERSONNEL

Parsons will utilize a highly experienced project team to support the FUDS SI project. Our key project personnel have each served in their proposed capacity on many other hazardous and toxic waste (HTW) and MEC CERCLA and NCP-related projects for USAESCH at FUDS and active and inactive installations. Personnel performing work in support of this MMRP project will meet the qualifications required by Section C, para. 5.0 of the basic contract. Parsons' project team consists of dedicated personnel to effectively manage this SI project. In addition, Parsons' depth of project resources ensures a sufficient number of project personnel remain available to manage multiple, concurrent SI taskings and any unforeseen surge capacity requirements. The SI team is familiar with USACE Districts and regulatory personnel within the Southeast and Pacific USACE geographic Design Center region. All of Parsons' support personnel possess MEC work experience directly applicable to this project.

Project Manager

The Parsons' PM, Mr. Don Silkebakken, will be the direct point-of-contact for USAESCH and the geographic MMRP Design Center. Mr. Silkebakken is a registered Professional Engineer with 15 years of government project experience addressing HTW and MEC contamination at FUDS. Mr. Silkebakken is responsible for managing all requirements of the project, overseeing the performance of all individuals on the SI project team, coordinating contract work, and overseeing specific task identification and resolutions. He will also schedule field efforts, identify the site personnel to accomplish the specific SI tasks as defined in the PWP and subsequent SS-WP, implement project QC and safety procedures, and direct personnel to achieve successful and timely completion of the project tasks. He will promptly implement approved and authorized changes to ongoing work orders, as necessary. Mr. Silkebakken will be assisted by the following key personnel.

Deputy Project Managers

To enhance communication and foster a stronger partnership between Parsons, regulators, and the MMRP USACE geographic Design Center the Parson's PM will rely on Deputy Project Managers (DPM) that will help expedite planning and project execution. Ms. Laura Kelley and Mr. Michael Short will serve in the capacity of DPM on the SI project under Mr. Don Silkebakken's direction. Both have years of government project experience and are savvy with regards to addressing HTW and MEC contamination at FUDS. This team has a history of success working together on MEC projects, including major MEC programs for USAESCH under our DACA87-95-D0018 and DACA87-00-D0038 contracts. Ms. Kelley and Mr. Short will be responsible for the day to day implementation of the SI components and processes. Mr. Short's primary area of responsibility will be the Southwest USACE geographic Design Center region and Ms. Kelley's primary focus will be the Southeast and Pacific USACE geographic Design Center region. However, both will be familiar with and involved in all aspects of both regions.

In addition to her DPM role, Ms. Kelley has extensive experience with environmental sampling and will provide oversight and technical direction for the QC of field and laboratory data. Mr. Short's project duties will also include oversight and technical direction for the project safety program, TPP presentations, and UXO technician assignments.

Field Team Leader

Dedicated Parsons' Site Visit Teams (SVTs) will conduct all field work associated with each individual site during a single mobilization effort. Each SVT will include a Field Team Leader (FTL) who will manage all field activities under the direction of the Parsons' PM and DPM. The SI project team will include several pre-trained FTLs to ensure consistency of the individual site data collection efforts.

Specific responsibilities of the FTL include scheduling daily safety meetings, scheduling and coordinating field team activities, and submitting a Daily Progress Report (Appendix F) to the Parsons' PM. The FTL will be responsible for direct oversight of all field activities during the SI. The FTL will coordinate with the Parsons' PM as necessary to take corrective actions to assure that budgets and schedules are enforced. FTL duties will also include enforcing compliance with the Programmatic Accident Prevention Plan (PAPP) and general daily field operating procedures.

The FTL reports to the Programmatic QC Manager (PQCM) on quality matters and has responsibility for overall quality of work performed on site.

Project Chemist

Ms. Tammy Chang is the Project Chemist. She will assist in preparation and review of the PWP and SS-SAP, provide technical support to the field sampling teams, review analytical results, provide analytical QC, and prepare laboratory data validation reports in compliance with project requirements. As stated above, Ms. Laura Kelley will also provide Ms. Chang with oversight and technical support.

UXO Personnel

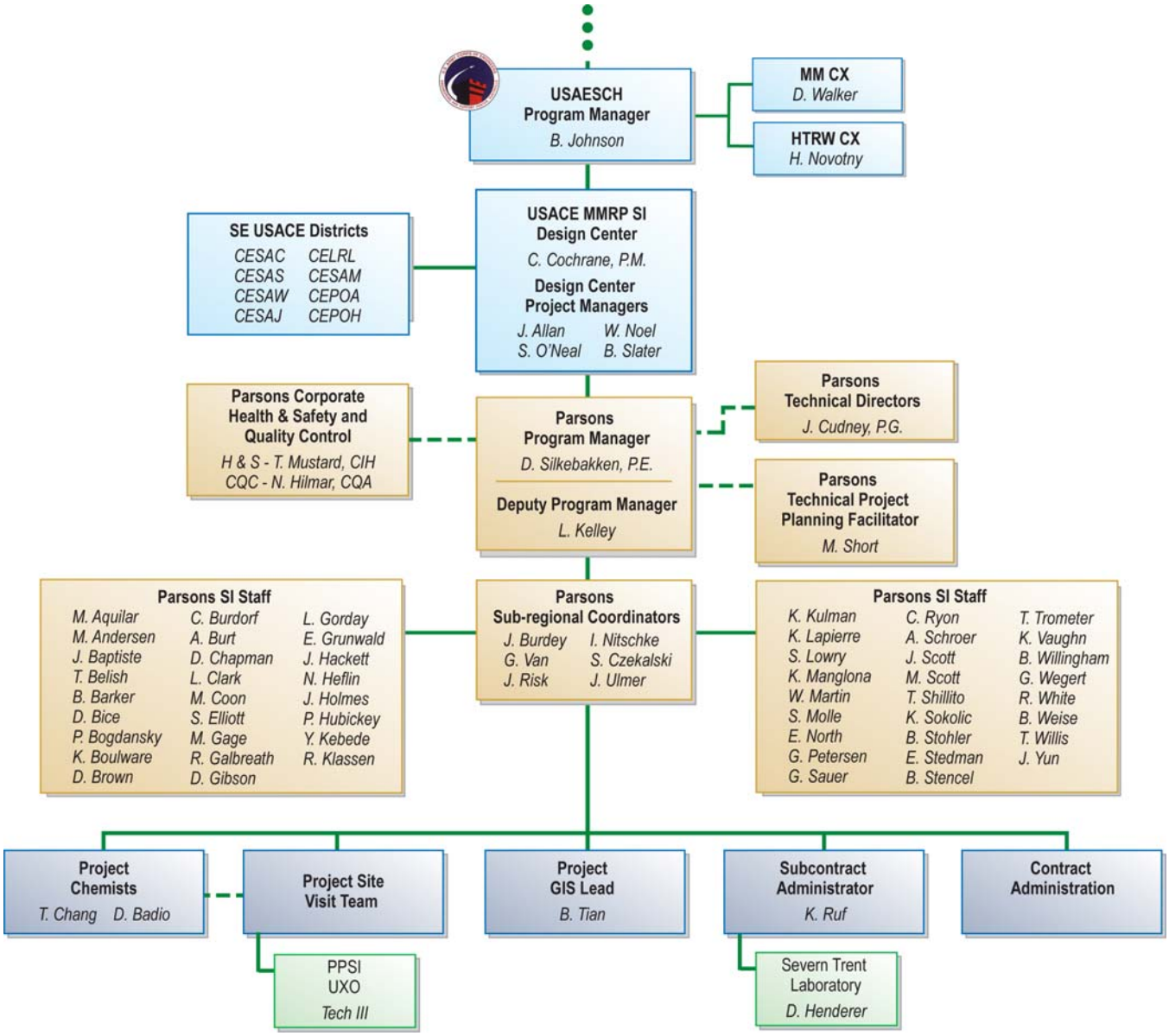
Each SVT will include a UXO Technician III (or higher). The UXO Technician will ensure safety protocols are followed, provide UXO avoidance, and MEC identification. For this project, UXO will

not be handled by UXO field personnel and non-UXO qualified personnel never handle MEC under any circumstances. In the unlikely event UXO or suspect UXO is encountered, Parsons will notify the property owner, the USACE geographic Design Center (USAECH), and the local USACE District PM. In addition, Parsons will provide the appropriate emergency response contact information, upon request. SI activities in the immediate area of the finding will cease.

The UXO Technician reports to the PQCM on quality matters and is the key MEC-related QC person onsite. The UXO Technician reports to the Parson Safety and Health Manager (PSHM) for safety related issues and serves as the SVT safety officer.

Dedicated Parsons Site Visit Teams (SVTs) will conduct all field work associated with each individual site during a single mobilization effort. The duration of the field portion of the SI will vary by site and will be dependent on the amount of data collection planned following the TPP process. Each SVT will, at a minimum, include one senior scientist, geologist, or task order engineer with prior SI expertise, who will serve as the team leader and be familiar with the unique characteristics of the site pursuant to our individual site evaluations. A UXO Technician III (or higher) will accompany each SVT and will ensure safety protocols are followed, provide UXO avoidance, and MEC identification. SVT's may be augmented from a pool of prequalified additional personnel, as warranted, to support coincident reconnaissance and environmental sampling efforts. In accordance with the March 2005 Munitions Constituent (MC) Sampling Technical Update, all personnel performing environmental sampling will be trained in appropriate sampling procedures and associated documentation requirements under the supervision of a qualified chemist. Similarly, personnel performing reconnaissance (described in detail below) will have either significant prior field experience or will receive training prior to mobilization to the site.

Exhibit 1 – Organization Chart



WORK PLANS

Parsons has prepared a Draft and Final Programmatic SI Work Plan (PWP) for this project in accordance with the applicable sections of Data Item Description (DID) MR-001. ***After review and revision the Final PWP was approved in October 2005.***

The PWP describes the goals, methods, procedures, and personnel used for all of the field activities for the entire project and includes those components and sub-plans applicable to the project work. The overall geographic information system (GIS), site visit, and reconnaissance methodology is described in detail. In addition, the MC sampling approach is outlined. Since the site locations and conditions are highly variable, Parsons included to the extent practicable a wide array of safety factors.

For each site a draft and final SS-WP to the PWP will be prepared stipulating key site-specific information. The SS-WP will reference the Final PWP to the extent practical and focus on describing the relevant project components and logistical details pertaining to the specific site. Potentially dangerous local flora and fauna will be addressed in the SS-WPs and associated site-specific Safety Plan. Further, only cursory evaluation of endangered species information will be required because of the generally non-intrusive nature of field activities. For sites partially or wholly within wildlife management areas or similar protected areas the local governing agency will be consulted to ensure the most current information of protected species, sensitive environments, and culturally significant areas is captured and avoided during SI field activities.

The PSAP presents the details for environmental sampling that will be conducted during the project. As part of the SS-WP, a site-specific SAP annex (SS-SAP) will be prepared outlining the sampling strategy for each individual site.

ESTABLISHMENT AND MAINTENANCE OF GIS

A GIS database will be developed and managed for this project in accordance with DID MR 005-07 that will include spatial data from all of the different sites. Where available, spatial data from ASRs, Topographic Engineering Center (TEC) analyses, or previous MEC or HTW investigations will be used to form the baseline GIS data layers. At a minimum, the scanned USGS topographic sheets (Digital Raster Graphics also known as DRGs) and Digital Orthophoto Quandragles (DOQs) will be acquired.

Data for each project will be stored in the appropriate UTM coordinate system, using NAD 1983 datum. Mapping and data manipulation will be performed using ESRI ArcGIS software. Final output will be in ESRI Shapefile (ArcView) format. Maps will be generated in the standard USAESCH GIS format. Final maps for all sites will have a consistent format that will facilitate use in reports.

TECHNICAL PROJECT PLANNING

For each individual FUDS MMRP site, the TPP process will be initiated to determine the data needs to reach project closeout, develop DQOs, and develop the initial CSM. The TPP process will be conducted regardless of whether the completed PA efforts in support of the INPR or ASR (or any other prior site investigations) indicate confirmed or potential presence of MEC, as required by ER 200-3-1 paragraph 4-4.1.2.1. However, the extent of TPP activities may vary by site, as appropriate, to reflect the available body of data and presumptive remedies. For example, sites for which UXO presence has been either

confirmed or overwhelming evidence supports UXO presence, the TPP will be tailored to focus toward anticipated RI/FS follow-on activities and approaches. As such, the SI field data collection for sites falling into this category (Category 2) will be oriented primarily toward *qualitative* definition of MEC contamination extent and concentration. In addition, screening will be conducted for MC presence in environmental media. However, "characterization" of contamination (both MEC and MC) is not the objective of SI. In contrast to Category 2 sites, TPP objectives for Category 1 sites (anticipated NDAI based on desktop review of existing data) will gravitate toward a vision of closeout. As such, the SI field data collection for sites falling into this category will be oriented primarily toward production of sufficient and compelling evidence to satisfy regulator and other stakeholder concerns. In all cases, the TPP efforts will comply with EM 200-1-2 and EM 1110-1-1200 to ensure that the project establishes DQOs that are agreed to by all stakeholders prior to commencement of SI field activities.

The TPP process will be implemented at each site in coordination with the USACE Design Center and USACE District. Parsons' regional PM and one other key project individual (SI Program Manager, Technical Lead, etc.) will attend two TPP meetings per site. The duration of each meeting will vary depending on a number of factors including, but not limited to, location, site complexity, community and regulatory interest, and confirmed MEC presence. In conjunction with the two (or more) site-specific TPP meetings these individuals will collect peripheral data (County property records, incident reports, interviews, etc) and thereby complement the efforts of the SVT.

At the conclusion of the TPP meetings a post TPP Memorandum document will be prepared for each site identifying the agreed project DQOs and other pertinent decisions for subsequent inclusion in the site-specific SI-WP. A Draft and Final document will be prepared with all comments addressed.

CONCEPTUAL SITE MODEL

As part of the TPP process, CSMs have been developed (graphical, tabular, and animated) for each site in accordance with EM 1110-1-1200. The CSM will periodically be revised throughout the course of the project following TPP and the field effort. The current CSM will be included in the SI Report for use during follow-on activities, if applicable, outside the SI scope.

SCHEDULES

The programmatic and site-specific schedules will be revised and updated as part of the TPP process and in accordance with DID MR-085. Site-specific schedules will be submitted after completion of the TPP process.

SITE VISIT

ER 200-3-1 paragraph 4-4.1.2.1 requires a Site Visit for all MMRP SI efforts. For this project a dynamic field team will be deployed from a pool of dedicated pre-qualified and pre-trained individuals to optimize the effectiveness of the Site Visit data collection effort at each site. The primary objective of the Site Visit is to gather additional historical data and site-specific data to confirm data needs and the nature and scope of the SI. This effort will be closely coordinated with the TPP process. At a minimum, the following field components will be conducted as part of each Site Visit.

- Ground truth and confirm site boundaries, former targets, and ground scars.
- Evaluate vegetation and topographic conditions.

- Confirm soil characteristics and variability over site.
- Evaluate potential exposure pathways.
- Collect and update ASR (PA equivalent) documented archival research and incident reports.
- Conduct qualitative geophysical (hand-held instrument) reconnaissance of all or select portions of the site;
  - To qualitatively evaluate extent of ferrous contamination on the surface and in the subsurface.
  - To identify ground scars.
  - To assist with selection of MC sampling locations.
- Update property ownership.
- Review onsite and regional growth and development.
- Conduct supplemental interviews.
- Establish key points of contact.
- Photograph the site and significant features.
- Conduct limited MC sampling.
- Determine drinking water sources.
- Collect all data necessary for EPA to conduct Hazard Ranking System (HRS) scoring.
- Collect all data necessary to complete the Munitions Response Site Prioritization Protocol (MRSPP).

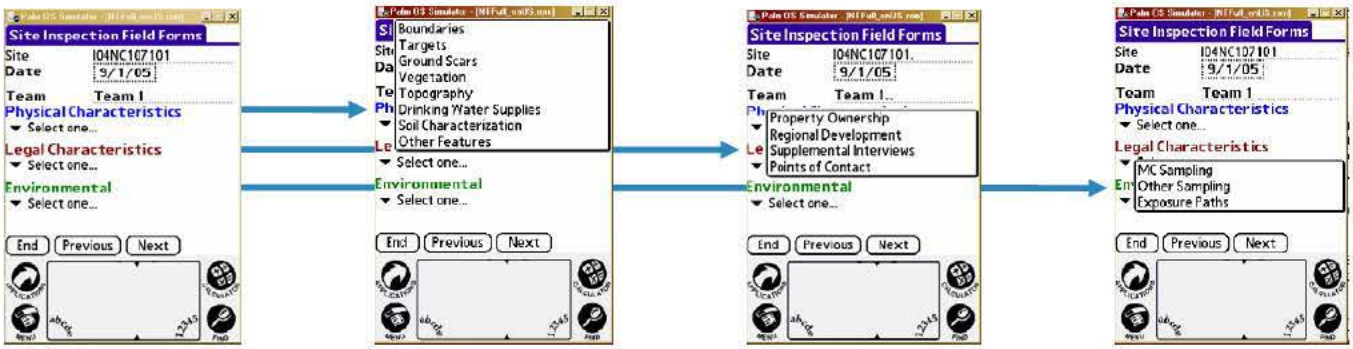
The duration of each Site Visit will vary depending on a number of factors including, but not limited to, location, site size and complexity, level of reconnaissance, MC sampling approach, and extent of existing historical data.

FIELD RECONNAISSANCE

In conjunction with the Site Visits, Qualitative Reconnaissance (QR) of "selected" areas within each site will be conducted, as warranted (and agreed upon during TPP). The primary objective of the QR is to reaffirm MEC presence, if previously documented, or to further support the absence of MEC within the entire site or specific sub-sites. In addition, the QR will:

- Aid in screening of rough lateral extent of MEC contamination areas (if present) based on visual observations and audible geophysical equipment signals;
- Aid in providing preliminary qualitative data on subsurface ferrous concentrations (if present - none, low, medium, high) based on audible geophysical equipment signals;
- Confirm site boundaries, former targets, and ground scars; and
- Provide photographic documentation of vegetation, topographic conditions and other significant features.

The duration of the QR will vary by site depending on a number of factors including, but not limited to, location, site size and complexity, vegetation, and professional judgment of the necessary level of reconnaissance. Additional site-specific QR (SS-QR) data collection and justifications are presented below for each site based on Parsons desktop review of existing site data.



The same dedicated multi-purpose SVT will be used for all components of the field effort including the QR. The QR efforts will be refined and further developed during the TPP. In order to streamline data collection, ensure consistency, quality, and subsequent GIS manipulation, we will utilize a digital system to integrate textual, photographic, and GPS position data into a single Microsoft Access database. With few exceptions, a Palm Operating System based personal digital assistant (PDA) with a built-in megapixel camera and Bluetooth wireless connectivity and common PDA functionality will be used. The GPS with employ Bluetooth wireless link to transmit position information to nearby computers or PDAs. It has an internal point logging capability, so tracks can be kept and downloaded for later reference. It can also log raw data, which can be used to post process positions to sub-meter accuracy if necessary. The unit itself is a 12 channel parallel receiver with Wide Area Augmentation System (WAAS) capability. Rated accuracy with WAAS enabled is <3 meters.

For sites where the forest canopy or other cultural interference precludes use of all or part of the digital system hardcopy data collection will be available as a backup.

Parsons has already developed the electronic forms and pick lists to be utilized by the SVT, which ensures uniformity and completeness. In the event, UXO is discovered during the site reconnaissance effort, the item will be clearly marked and the property owner contacted. The SVT will not handle or be responsible for disposal or destruction of any MEC encountered.

MUNITIONS CONSTITUENTS SAMPLING AND ANALYSIS

In conjunction with the Site Visits, MC Sampling will be conducted within "selected" areas of each site, as warranted (and agreed upon during the TPP). The primary objective of the sampling effort will be to identify and screen the site for MC contamination. The sampling strategy will include collection of samples in areas with confirmed MEC presence and therefore the highest likelihood of having MC presence. In addition, samples will also be collected from low probability areas. For sites where RI/FS will follow the SI (Category 2), these samples will serve as background samples (when MC is not detected). For sites where NDAI is plausible (Category 1), high probability sample locations are generally not present. Thus, the number of site samples will be expanded and distributed throughout the site in an effort to present a compelling argument for NDAI to decision makers/regulators.

The location of each sample will be recorded with a GPS point taken for inclusion in the GIS database. In addition, tapes will be used to measure distances from significant nearby features.

The installation of groundwater monitoring wells during the SI phase is not standard industry practice and is not anticipated during the course of this project. ER 200-3-1 and other regulations and guidance documents support this assertion. As an alternative, existing residential drinking water wells (when derived from groundwater sources) may be sampled for some sites. In addition, surface water, existing monitoring well, or irrigation well sources may also be appropriate. All facets of the sampling effort will be refined for each individual site as part of the TPP process.

Sample Collection

Before sampling at any location, the UXO Technician III (assigned to every SVT) will use an appropriate magnetic locator to confirm the selected sample location is free of surface and subsurface ferrous debris (potential MEC). If the selected location is not quiet (based on audible signals from the instrument) then an alternate sample location will be selected near the original location. This process will be conducted iteratively until a location can be deemed safe by the UXO Technician III.

The heterogeneity of explosives in soils, particularly in impact and open burn/open detonation OB/OD areas, poses significant challenges for MC sampling efforts. Several options are available for overcoming this problem, such as collecting more samples, compositing samples, and homogenizing samples. Each of these methods may be used to improve the SI MC sampling effort, as appropriate. The sampling details will be included in the SS-WP for each site.

At each surface soil sampling location the Cold Regions Research Engineering Laboratory (CRREL) seven-wheel sampling approach will be used, as discussed in the Munitions Constituent Sampling Technical Update, March 2005. Seven discrete (grab) surface soil samples will be collected from the perimeter and center of a four foot diameter circle. A disposable spade will be used to remove the vegetation and a two-inch deep hole will be excavated at each sampling location. A new scoop will be used to scrape soil from the walls of the hole across the entire depth interval from the surface to the two-inch depth. Care will be taken to remove approximately equal amounts of soil across the full depth interval to provide a representative vertical composite. The sample will be homogenized to ensure sample consistency for analysis. The sample preparation effort for this purpose will include; removal of large stones and pieces of vegetation; kneading by hand to break up large clumps, and mixing. The composited sample will be thoroughly mixed, coned, and quartered and the appropriate volume of soil

will be used for extraction of explosives compounds. Comprehensive details of this sampling technique will be provided in the PSAP and SS-SAP Annex.

Surface water samples are proposed for some sites. Surface water will be obtained as grab samples by submerging sample bottles into the water medium to fill up the sample containers. If a sediment sample is to be taken, the sampling site will be cleared by placing a magnetic locator in the water over the site to ensure there are no ferrous objects present. Sediment samples will be collected by lowering a stainless steel auger into the water body and into the bottom sediment, advancing the disposable auger bucket approximately one foot into the sediment, withdrawing the auger, and retrieving the sediment sample from the auger bucket with a disposable spoon into the appropriate sample containers. If surface water and sediment samples are co-located surface water will be collected first to reduce disturbance in the water sample. Additional details on sampling procedures for both surface water and sediment are specified in the Munitions Constituent Sampling Technical Update, March 2005 and PSAP and will be described in the SS-SAP.

In the event, UXO is discovered during the MC sampling effort, the item will be clearly marked and the property owner contacted. The sampling team will not handle or be responsible for disposal or destruction of any MEC encountered.

Analytical Procedures and Data Validation

Parsons will determine, in consultation with its subcontractor laboratory, appropriate analytical methodology to meet the DQOs developed during the TPP process. In addition, all applicable components of the PSAP (prepared by USACE) and the SS-WP will be addressed. STL's reporting limits and method detection limits will be incorporated in the PSAP, SS-SAP, and other appropriate documents. Standard laboratory operating procedures for sample preparation for the explosive analysis will be incorporated in the work plan.

Criteria listed in the DID MR-005-10 shall be followed by the laboratory and Parsons. In general, data validation for laboratory hardcopy reports will be performed by the Parsons' project chemist for all sample results in accordance with the requirements contained in the PSAP, SS-SAP, applicable USEPA Region SOPs, and the USEPA *National Functional Guidelines for Data Review* (USEPA, 1999, 2002). Data qualifiers applied during the data validation process will be added to the electronic files. Laboratory results will be assessed for compliance with required precision, accuracy, completeness, comparability, and representativeness.

SI SAFETY

For this program, Tim Mustard, a CIH with over 26 years of experience implementing health & safety (H&S) policies and procedures at HTW and munitions response sites, will be the safety officer. He brings extensive field experience and has either developed or reviewed over 20 Accident Prevention Plans in compliance with DID MR-005-05 specifications. Furthermore, Mr. Mustard reports directly to our PI&T Safety Manager, Jim Owen. This independent reporting structure ensures that any differences of opinion with the Project Manager are reconciled quickly and effectively with minimal impact to the project and no conflict of interest.

Parsons evaluates and mitigates risk by the use of a Four-Phase Risk Model, which states: identify the risk, assess the risk (probability, consequence and risk level), plan risk mitigation (avoidance, reduction, mitigation), and execute.

Each SVT will include a dedicated UXO Technician III solely responsible for site safety with stop work authority. The safety technician will conduct site-specific safety training and, when applicable, UXO recognition training for all site personnel prior to commencing site activities. At some sites unique site-specific safety factors will be considered.

SI QUALITY CONTROL

Parsons' approach to quality is to define mutually agreed upon goals and objectives for each project site, and achieve these goals and objectives through a system of audits, enforcement, and feedback. The inclusion of the TPP process will ensure that the appropriate emphasis is placed on attaining the DQOs established early in the process. Norman Hilmar serves as the CQC Manager on this project. Norman is an ASQC Certified Quality Auditor and has 25 years of quality control experience including developing and reviewing HTW and munitions response QC Plans (QCP) to USACE MR-005-11 specifications. As in our safety program, the Quality Manager also has independent reporting to our Company QC Manager, Sabash Damle.

Parsons will develop an overriding Program QCP that defines the processes and procedures for addressing quality. This plan defines the responsibilities at the program and project levels, as well as the overall procedures and process to be implemented at the site level. Each site will have a clearly defined QCP developed as part of the work planning process that defines site-specific procedures, metrics, and goals. These procedures incorporate the requirements of DID MR-005-10, Munitions Constituents Chemical Data Quality Deliverables, and ensures independent quality control audits of the sampling laboratory are conducted on a periodic basis.

SITE SPECIFIC SI TECHNICAL APPROACH

Passage Key Air-to-Ground Gunnery Range

The Passage Key Air-to-Ground (ATG) Gunnery Range (FUDS project number I04FL040101) is a small, uninhabited island at the mouth of Tampa Bay, about 10 miles northwest of the City of Bradenton, in Manatee County, Florida. The 36-acre island was used for practice dive bombing, skip bombing, and strafing from 1943 to 1945, with use discontinued for three months each summer due to the wild fowl nesting season. Two banks of targets were known to be present at the site. The property is currently a wildlife refuge under the control of the U.S. Fish and Wildlife Service, Department of the Interior, and is accessible only by boat.

The 1993 Inventory Project Report (INPR) provides a limited description of the activities at the Passage Key ATG Gunnery Range, determining that the site was eligible for the FUDS program. The INPR assigned a Risk Assessment Code (RAC) of 3 to the property. The 2002 Archives Search Report (ASR) presents additional historical information and describes a site visit by USACE personnel to assess the presence of munitions and explosives of concern (MEC) and/or munitions debris at the property. Between 1998 and 2002, four ordnance items were found and destroyed on or near Passage Key, including two 100-pound photoflash bombs and two 100-lb general-purpose bombs. In addition, historical records imply that the island may have been used as a chemical spray range, although no documentation obtained actually stated that it was used for that purpose. Although the field team did not identify any munitions debris during the site visit, an underwater concrete structure was tentatively identified as one of the targets. It was noted in aerial photographs that the size and shape of the island is constantly changing as a result of natural processes. The 2004 ASR Supplement determined the RAC at the Passage Key ATG Gunnery Range Target to be 2, based on a *critical* hazard severity and a *probable* hazard probability.

Based on our understanding of the project site, Parsons sees this site as an ***anticipated Remedial Investigation and Feasibility Study (RI/FS) site (Category 2)***. The lateral extent and overall concentrations of ordnance and debris are unknown at the project site. Exposure pathways are potentially complete as a result of past use and a lack of access restrictions. Therefore, in accordance with ER 200-3-1, sufficient data need to be collected during the Site Inspection (SI) to evaluate the potential presence of MEC and to screen for the presence of munitions constituents for effective and rapid initiation of an RI/FS. In addition, the data necessary for the USEPA to complete the Hazard Ranking System (HRS) scoring and for Parsons to complete the Munitions Response Site Prioritized Protocol (MRSPP) will be collected and developed. Parsons proposes the following activities in support of the SI for the former Passage Key ATG Gunnery Range:

- **Site Visit** – Parsons will conduct a Site Visit in accordance with the Programmatic Work Plan (PWP), focusing on site aspects that may affect implementation of the RI/FS. Data will be gathered to support the RI/FS assumption, including the limitations of vegetation and topography pertaining to site characterization, the property owners' receptiveness to potential intrusive actions, and potential limitations on subsequent recommended actions associated with the site.

- **Qualitative Reconnaissance (QR)** – Parsons will conduct QR in accordance with the PWP. For the bomb and strafing target site, the QR will focus on identifying targets and impact areas within the 36-acre target area, or however much is still remaining at the time of the field SI visit.

Use or disclosure of data contained on this sheet is subject to the restrictions set forth on the title page

Limited reconnaissance of the surrounding lands and waters will be collected to the extent practical and will evaluate the range boundaries and focus the RI/FS.

- **MC Sampling** – Parsons will conduct MC sampling in accordance with the PWP. Surface soil samples will be collected at the discretion of the field team at areas identified during the QR to have the highest likelihood of MEC or MC presence, such as craters, targets, or areas with debris. Discretionary soil samples may also be collected in the lesser-probability areas to aid in the development of a potential subsequent RI/FS sampling strategy. Approximate sample locations will be discussed and determined as part of the Technical Project Planning (TPP) process and will be further described in the Site-Specific Work Plan (SS-WP). A detailed rationale for sample location selection will be described in the SS-WP after coordination with the TPP Project Team.

Parsons MC Sampling Approach
Passage Key Air-to-Ground Gunnery Range, FL

Sample Type	Number of Samples/ Analyses	Justification
Surface Soil	2 – MC Constituents List Up to 3 discretionary - MC constituents List	• Discretionary samples collected within Passage Key ATG Gunnery Range property at areas of highest likelihood for MEC or MC presence. Will assist in development of RI/FS sampling strategy.
Appropriate QC samples are not included in above sample count.		

MMRP SI PROCESS FLOW

PASSAGE KEY
AIR-TO-GROUND GUNNERY RANGE
MANATEE COUNTY, FLORIDA

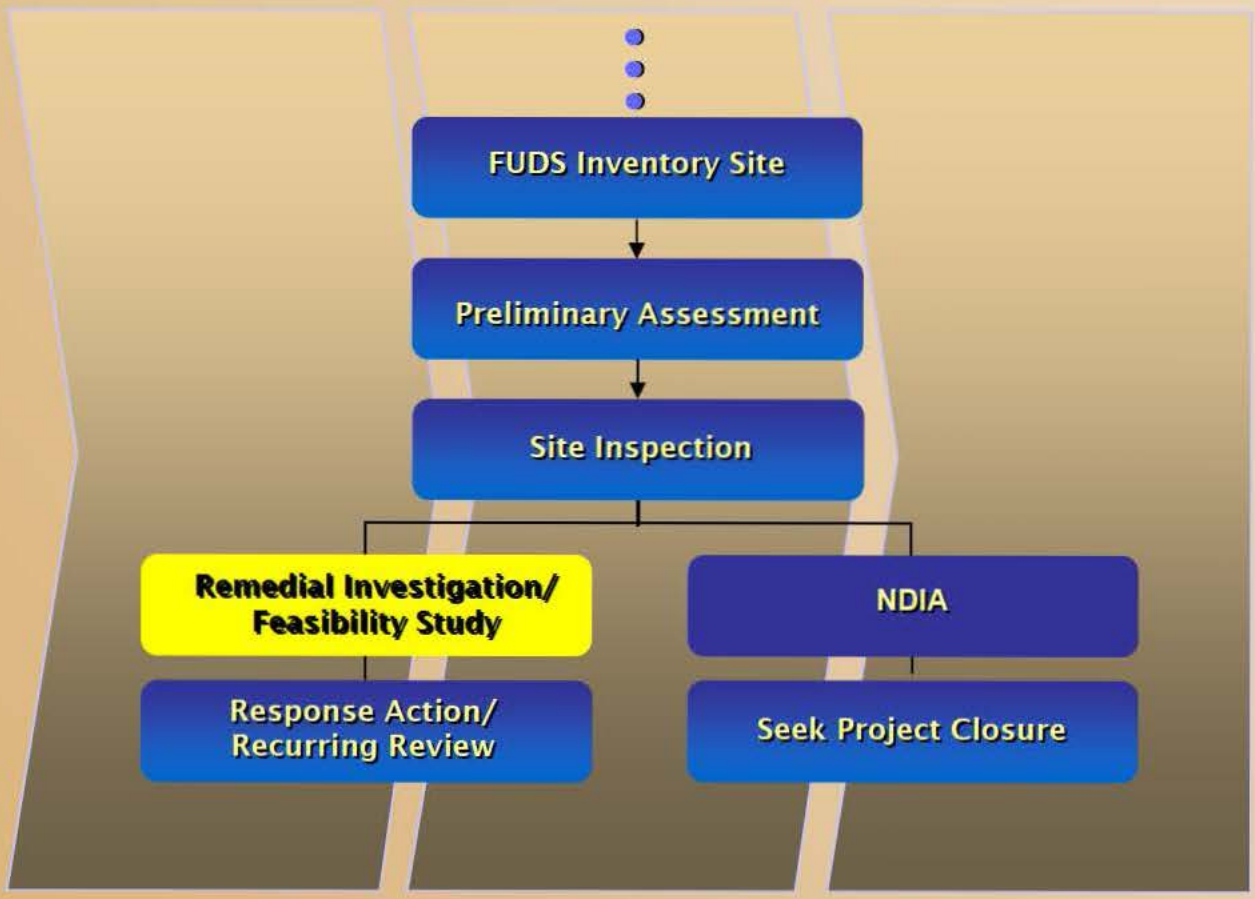
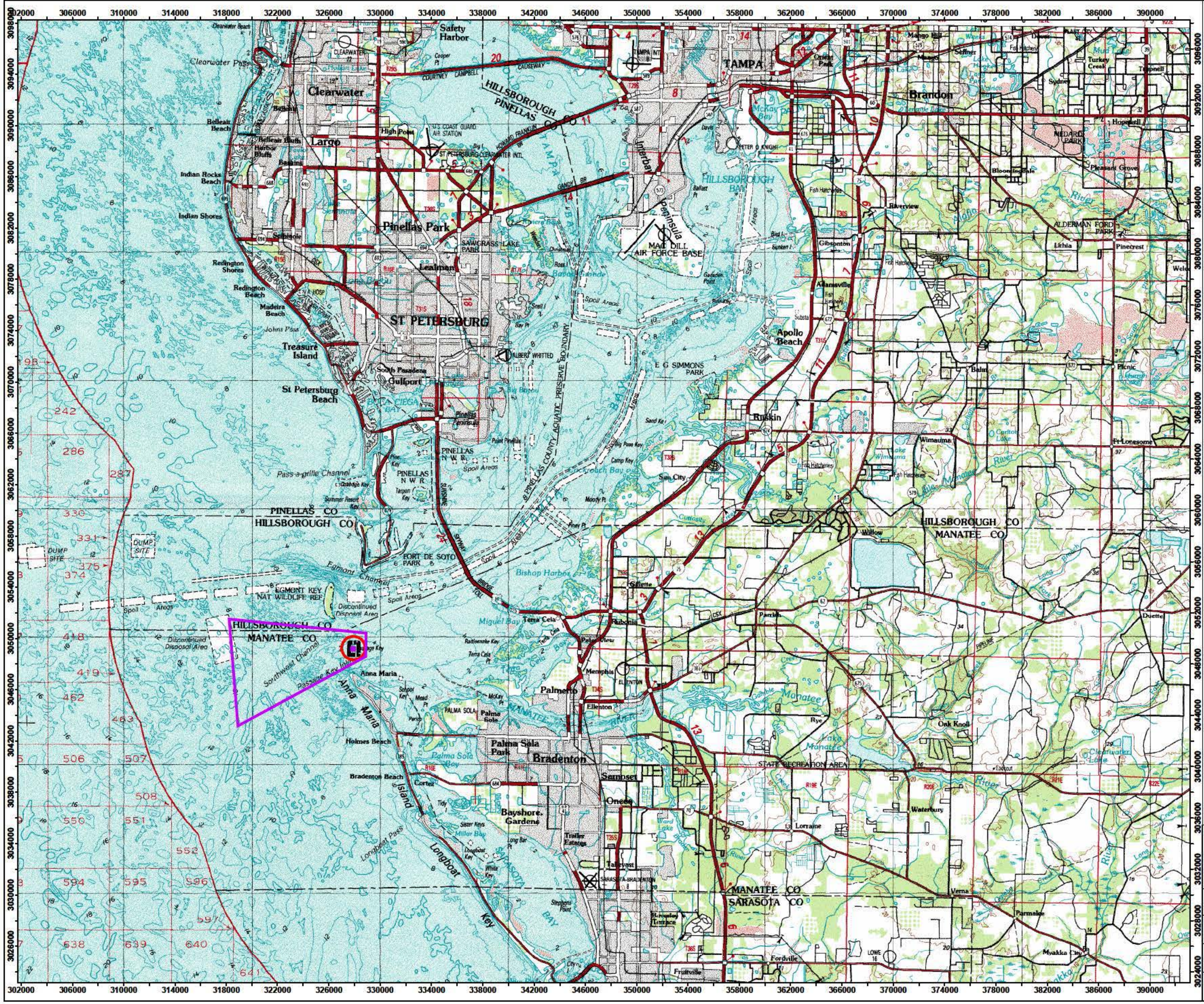


Figure 1

Site Location
Passage Key Air-to-Ground Range
FUDS Property No. I04FL040101

Manatee County



Legend

- Air-to-Ground Gunnery Range Boundary
- Bombing Range Boundary
- Approximate FUDS Boundary

Site Location in Florida

3

Image Source: USGS Topo Quadrangles, 1981
Projection: UTM Zone 17 NAD83, Map Units in Meters

Miles: 5 2.5 0 5

PARSONS	U.S. ARMY CORPS OF ENGINEERS HUNTSVILLE CENTER

DESIGNED BY: BT	Site Location		
DRAWN BY: BT			
CHECKED BY: JU	SCALE: As Shown	PROJECT NUMBER: 744647.43000	
SUBMITTED BY: DS	DATE: April 2007	PAGE NUMBER:	
	FILE: X:\GIS\Site_inspections_ne\Maps\PassageKey_FL\Fig1.mxd		

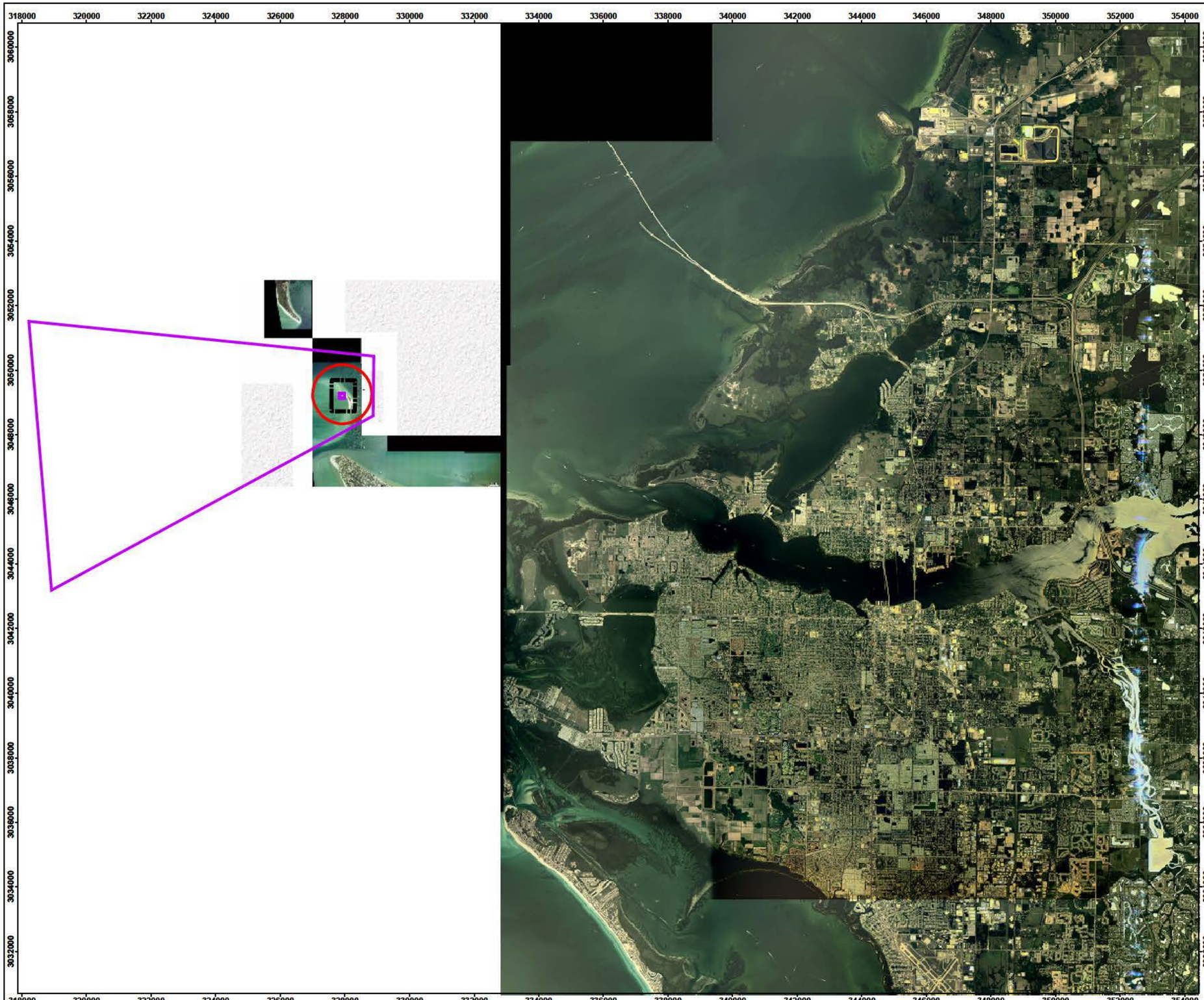


Figure 2

Site Location

Passage Key Air-to-Ground Range

FUDS Property No. I04FL040101

Manatee County

Legend

- Air-to-Ground Gunnery Range Boundary
- Bombing Range Boundary
- Approximate FUDS Boundary

Site Location in Florida

Image Source: Orthophotos, 2002, and 2006
Projection: UTM Zone 17 NAD83, Map Units in Meters

2 1 0 2 Miles

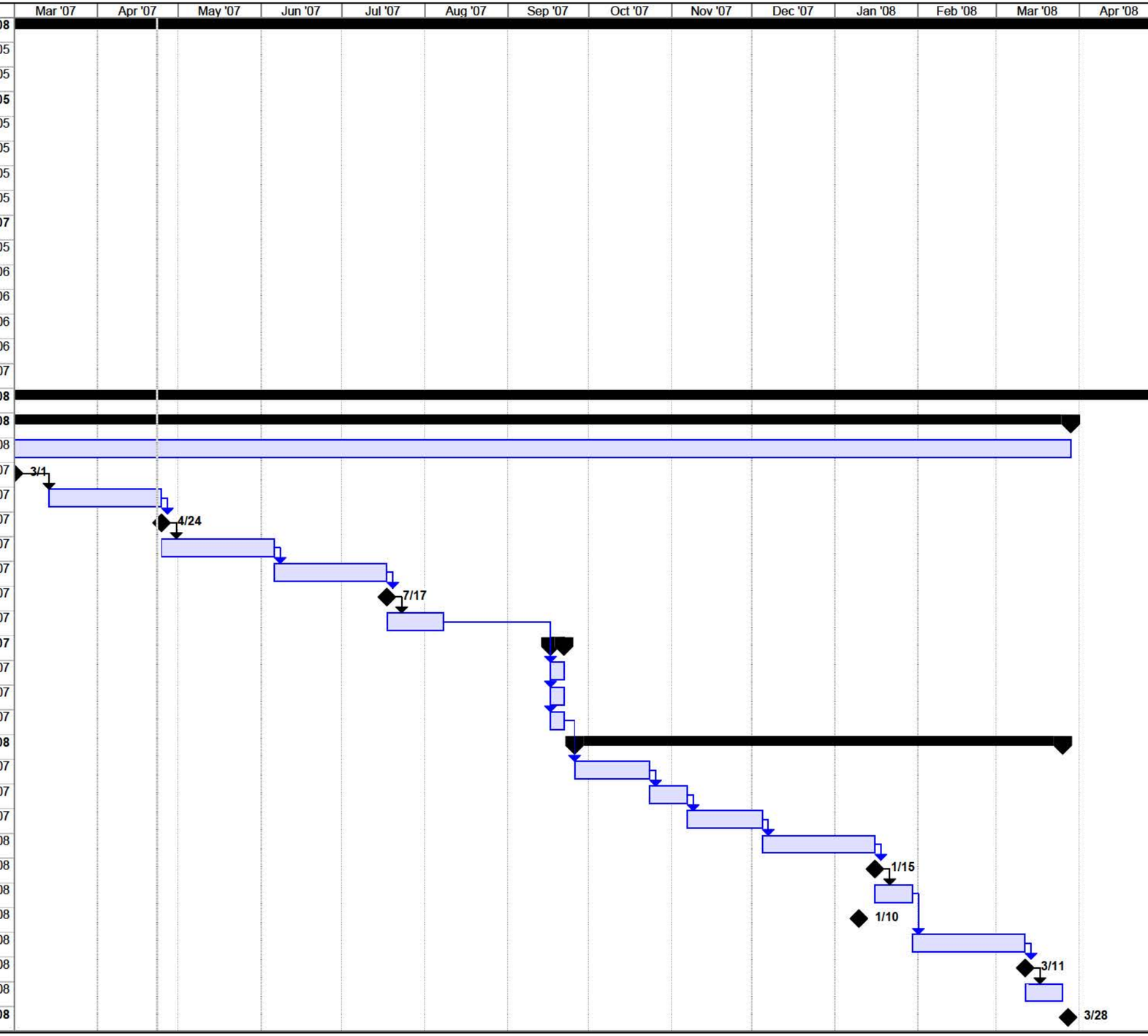
3

PARSONS	U.S. ARMY CORPS OF ENGINEERS HUNTSVILLE CENTER

DESIGNED BY: BT	**Site Location**		
DRAWN BY: BT			
CHECKED BY: JU	SCALE: As Shown	PROJECT NUMBER: 744647.43000	
SUBMITTED BY: DS	DATE: April 2007	PAGE NUMBER:	
	FILE: X:\GIS\Site_inspections_ne\Maps\PassageKey_FL\Fig2.mxd		

Project Schedule - Passage Key

Task Name	Duration	Start	Finish
MMRP SI	**905 days**	**Wed 5/25/05**	**Fri 11/14/08**
Award Date	0 days	Wed 5/25/05	Wed 5/25/05
Kick Off Meeting	0 days	Tue 7/12/05	Tue 7/12/05
Programmatic SI Work Plan	**62 days**	**Fri 7/15/05**	**Mon 10/10/05**
Draft Programmatic Work Plan	0 days	Fri 7/15/05	Fri 7/15/05
USACE Review	24 days	Mon 7/18/05	Thu 8/18/05
Onboard Review Meeting	0 days	Fri 8/19/05	Fri 8/19/05
Final Programmatic Work Plan	0 days	Mon 10/10/05	Mon 10/10/05
Quarterly In-Progress Review Meetings	**340 days**	**Tue 11/1/05**	**Tue 2/20/07**
Quarterly IPR Meeting #1 - Atlanta, GA (Parsons/SE)	2 days	Tue 11/1/05	Wed 11/2/05
Quarterly IPR Meeting #2 - Annapolis, MD (Alion/NE)	0 days	Wed 2/22/06	Wed 2/22/06
Quarterly IPR Meeting #3 - Denver, CO (Shaw/NW)	2 days	Tue 5/16/06	Wed 5/17/06
Quarterly IPR Meeting #4 - San Diego, CA (Parsons)	1 day	Tue 8/15/06	Tue 8/15/06
Quarterly IPR Meeting #5 - Huntsville, AL (Parsons)	1 day	Tue 11/7/06	Tue 11/7/06
Quarterly IPR Meeting #6 - Washington, DC (Alion)	1 day	Tue 2/20/07	Tue 2/20/07
HNC - Huntsville Center MM Design Center	**904 days**	**Thu 5/26/05**	**Fri 11/14/08**
Passage Key	**391 days**	**Fri 9/29/06**	**Fri 3/28/08**
Site Specific Award Date - Mod #08	391 days	Fri 9/29/06	Fri 3/28/08
CSM/TPP Meeting 1	0 days	Thu 3/1/07	Thu 3/1/07
TPP Memorandum - Draft - Final	30 days	Wed 3/14/07	Tue 4/24/07
TPP Memorandum Approval/Acceptance	0 days	Tue 4/24/07	Tue 4/24/07
Draft Site Specific SI Work Plan	30 days	Wed 4/25/07	Tue 6/5/07
USACE/Stakeholder Review	30 days	Wed 6/6/07	Tue 7/17/07
Parsons Receives Comments	0 days	Tue 7/17/07	Tue 7/17/07
Final Site Specific SI Work Plan	15 days	Wed 7/18/07	Tue 8/7/07
Field Work	**5 days**	**Mon 9/17/07**	**Fri 9/21/07**
Site Visit	5 days	Mon 9/17/07	Fri 9/21/07
Qualitative Reconnaissance	5 days	Mon 9/17/07	Fri 9/21/07
MC Sampling and Analysis	5 days	Mon 9/17/07	Fri 9/21/07
SI Report	**130 days**	**Wed 9/26/07**	**Tue 3/25/08**
Laboratory Analyses	20 days	Wed 9/26/07	Tue 10/23/07
Data Validation	10 days	Wed 10/24/07	Tue 11/6/07
Submit Draft SI Report	20 days	Wed 11/7/07	Tue 12/4/07
USACE Review	30 days	Wed 12/5/07	Tue 1/15/08
Parsons Receives Comments	0 days	Tue 1/15/08	Tue 1/15/08
Submit Draft Final SI Report	10 days	Wed 1/16/08	Tue 1/29/08
TPP Meeting 2	0 days	Thu 1/10/08	Thu 1/10/08
USACE Backcheck & Stakeholders Review	30 days	Wed 1/30/08	Tue 3/11/08
Parsons Receives Comments	0 days	Tue 3/11/08	Tue 3/11/08
Submit Final SI Report	10 days	Wed 3/12/08	Tue 3/25/08
Site Completion Date	**0 days**	**Fri 3/28/08**	**Fri 3/28/08**



Project: MMRP SE Schedule Nov 06
Date: Mon 4/23/07

Task | Milestone | Summary | Rolled Up Milestone

CONCEPTUAL SITE MODEL

PASSAGE KEY AIR-TO-GROUND GUNNERY RANGE
MANATEE COUNTY, FLORIDA

Subsite/Range	Acreage	Suspect Past DoD Activities	Potential MEC/MD Presence	MEC/MD Found Since Closure	Previous Investigation/Clearance Actions	Post-DoD Land Use and Current Land Use	Potential Receptors	Potential Source and Receptor Interaction	Field Sampling/ Qualitative Reconnaissance
AIR TO-GROUND RAC SCORE: 2	36.37 (island)	Strafing and bombing	Small Arms General; 50 Cal. Machine Gun AN-M30, General Purpose Bomb, 100 lbs AN-M46, Photoflash Bomb, 100 lbs AN-Mk 5, AN-Mk 23, AN-Mk 43, Practice M38A2, Practice Bomb, 100 lbs Signal, Practice Bomb, Mk 4 Spotting Charge, M1A1 2.25-inch, Practice Rocket	USAF EOD detonated 1 100 lb photoflash bomb and 1 100 lb General Purpose bomb Nov, 1998 US Navy EOD detonated 2 projectile Dec, 1998	None	Wildlife Refuge	US Fish and Wildlife attempt to restrict Public Access due to the nesting birds on the island, but the island remains an open area.	Yes - Intrusive or non-intrusive activity, MEC at surface and subsurface, access available.	Surface soil samples # 1 and # 2 with 3 discretionary samples/ and associated QR path
ACRES OF RANGE IN WATER	13,110.35								
TOTAL ACREAGE OF RANGE	13146.72								

Source
1 = Private account - nonconfirmed
2 = EOD response
3 = ASR
4 = ASR Supplement
5 = Other government correspondence

ASR = Archives Search Report
DoD = Department of Defense
EOD = Explosives Ordnance Disposal
MEC = Munitions and explosives of concern
N/A = Not Available
TBD = To be determined
QR = Qualitative Reconnaissance

PRE-MC SAMPLING CONCEPTUAL SITE EXPOSURE MODEL

Site: **PASSAGE KEY AIR-TO-GROUND GUNNERY RANGE**
MANATEE COUNTY, FLORIDA

Completed By: **PARSONS**
Date Completed: **4/23/2007**

(1) Check the media that could be directly affected by the release.

(2) For each medium identified in (1), follow the top arrow and check possible transport mechanisms. Briefly list other mechanisms or reference the report for details.

(3) Check exposure media identified in (2).

(4) Check exposure pathways that are complete or need further evaluation.

(5) Identify the receptors potentially affected by each exposure pathway: Enter "C" for current receptors, "F" for future receptors, or "C/F" for both current and future receptors.

Media	Transport Mechanisms	Exposure Media
☑ **Surface Soil (0-2 ft bgs)**	**Direct release to surface soil** → *check soil* ☑ Migration or leaching to subsurface → *check soil* ☐ Migration or leaching to groundwater → *check groundwater* ☐ Volatilization → *check air* ☐ Runoff or erosion → *check surface water* ☑ Uptake by plants or animals → *check biota* ☐ Other (list):_____	☑ **soil**
☐ **Subsurface Soil (0-15 ft bgs)**	**Direct release to subsurface soil** → *check soil* ☐ Migration to groundwater → *check groundwater* ☐ Volatilization → *check air* ☐ Other (list):_____	☐ **groundwater**
☐ **Groundwater**	**Direct release to groundwater** → *check groundwater* ☐ Volatilization → *check air* ☐ Flow to surface water body → *check surface water* ☐ Flow to sediment → *check sediment* ☐ Uptake by plants or animals → *check biota* ☐ Other (list):_____	☐ **air**
☐ **Surface Water**	**Direct release to surface water** → *check surface water* ☐ Volatilization → *check air* ☐ Sedimentation → *check sediment* ☐ Uptake by plants or animals → *check biota* ☐ Other (list):_____	☐ **surface water**
☐ **Sediment**	**Direct release to sediment** → *check sediment* ☐ Resuspension, runoff, or erosion → *check surface water* ☐ Uptake by plants or animals → *check biota* ☐ Other (list):_____	☐ **sediment** ☑ **biota**

Current & Future Receptors

Exposure Pathways	Residents (adults or children)	Commercial or industrial workers	Site visitors, trespassers, or recreational users	Construction workers	Ecological
☑ Incidental Soil Ingestion			C/F		C/F
☑ Dermal Absorption of Contaminants from Soil			C/F		C/F
☐ Ingestion of Groundwater					
☐ Dermal Absorption of Contaminants in Groundwater					
☐ Inhalation of Outdoor Air					
☐ Inhalation of Indoor Air					
☐ Inhalation of Fugitive Dust					
☑ Ingestion of Surface Water					
☑ Dermal Absorption of Contaminants in Surface Water					
☑ Direct Contact with Sediment					
☑ Ingestion of Wild Foods			C/F		C/F

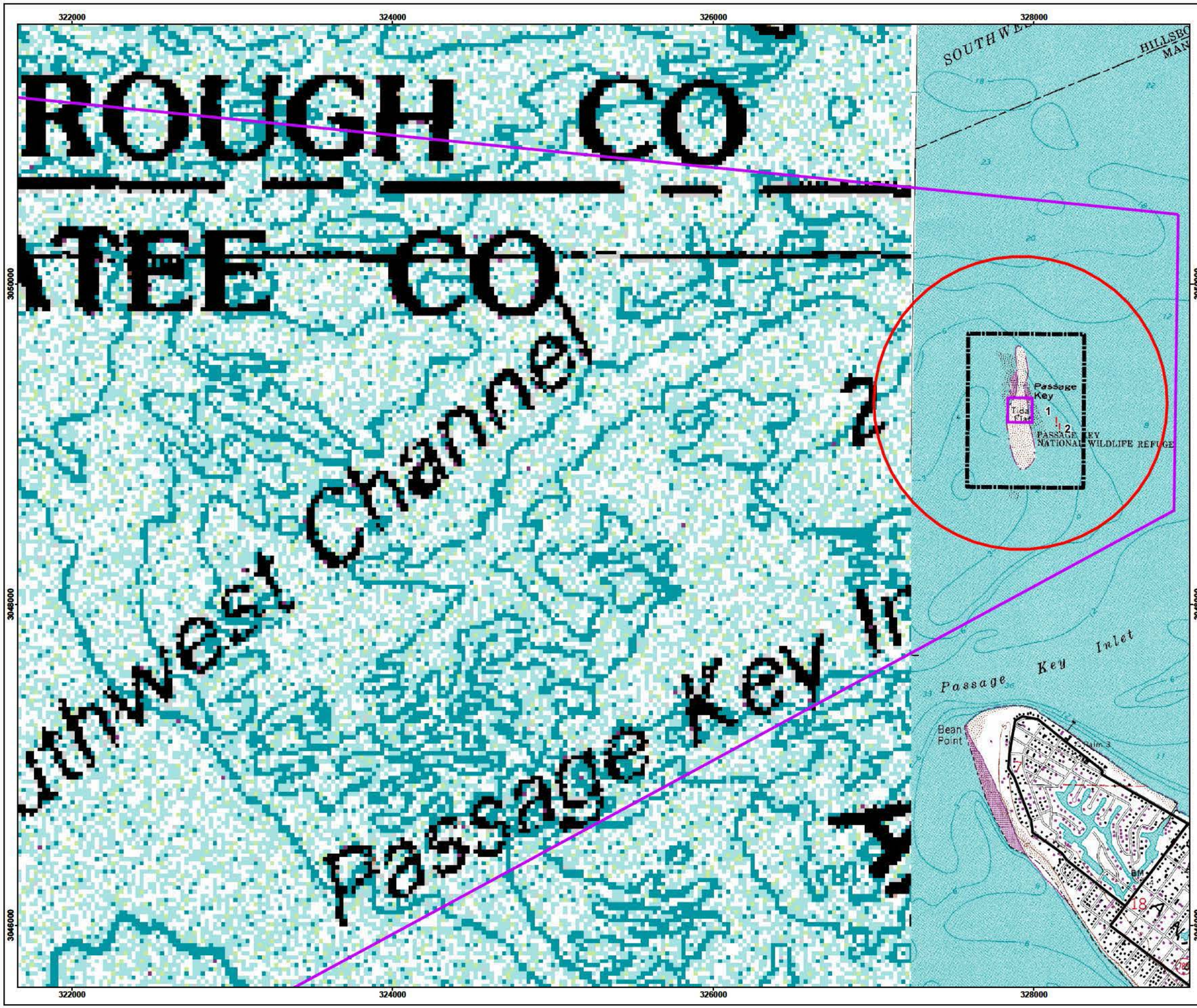


Figure 3A

Qualitative Reconnaissance and Sample Locations Map
Passage Key Air-to-Ground Range
FUDS Property No. I04FL040101

Manatee County

Legend

- ! Soil Sample Location (TBD)
- Air-to-Ground Gunnery Range Boundary
- Bombing Range Boundary
- Approximate FUDS Boundary

Site Location in Florida

Image Source: USGS 7.5' Topo Quadrangles, 1981
Projection: UTM Zone 17 NAD83, Map Units in Meters

2,000 1,000 0 2,000 Feet

PARSONS	U.S. ARMY CORPS OF ENGINEERS HUNTSVILLE CENTER

DESIGNED BY: BT	Qualitative Reconnaissance and Sample Locations Map		
DRAWN BY: BT			
CHECKED BY: JU	SCALE: As Shown	PROJECT NUMBER: 744647.43000	
SUBMITTED BY: DS	DATE: April 2007	PAGE NUMBER:	
	FILE: X:\GIS\Site_inspections_ne\Maps\PassageKey_FL\Fig3A.mxd		

Figure 3B

Qualitative Reconnaissance and Sample Locations Map
Passage Key Air-to-Ground Range
FUDS Property No. I04FL040101

Manatee County

Legend

- ! Soil Sample Location (TBD)
- Air-to-Ground Gunnery Range Boundary
- Bombing Range Boundary
- Approximate FUDS Boundary

Site Location in Florida

3

Image Source: Orthophotos, 2002
Projection: UTM Zone 17 NAD83, Map Units in Meters

500 250 0 500 Feet

PARSONS	U.S. ARMY CORPS OF ENGINEERS HUNTSVILLE CENTER

DESIGNED BY: BT	Qualitative Reconnaissance and Sample Locations Map		
DRAWN BY: BT			
CHECKED BY: JU	SCALE: As Shown	PROJECT NUMBER: 744647.43000	
SUBMITTED BY: DS	DATE: April 2007	PAGE NUMBER:	
	FILE: X:\GIS\Site_inspections_ne\Maps\PassageKey_FL\Fig3B.mxd		

SAMPLING RATIONALE

Passage Key Air-to-Ground Gunnery Range

Manatee County, Florida

Sample ID	Sample Coordinates		Media	Analysis	Munitions	Rationale
	Longitude	Latitude				
PK-AGGR-SS-02-01	TBD	TBD	Surface soil	Explosives, Select Metals	50 Cal. Machine Gun; Small Arms, General; AN-M30, General Purpose Bomb, 100 lbs.; AN-M46, Photoflash Bomb, 100lb; AN-Mk 5, AN-Mk 23, AN-Mk 43, Practice; M38A2, Practice Bomb, 100 lbs; Signal, Practice Bomb, Mk 4; Spotting Charge, M1A1; 2.25 inch, Practice Rocket	Sample locations will be determined the Site SI due to the constant shifting of the island
PK-AGGR-SS-02-02	TBD	TBD	Surface soil	Explosives, Select Metals	50 Cal. Machine Gun; Small Arms, General; AN-M30, General Purpose Bomb, 100 lbs.; AN-M46, Photoflash Bomb, 100lb; AN-Mk 5, AN-Mk 23, AN-Mk 43, Practice; M38A2, Practice Bomb, 100 lbs; Signal, Practice Bomb, Mk 4; Spotting Charge, M1A1; 2.25 inch, Practice Rocket	Sample locations will be determined the Site SI due to the constant shifting of the island

Target Analyte List for Explosives by LC/MS
Passage Key Air-to-Ground Gunnery Range, Manatee County, Florida

Parameter	Method
EXPLOSIVES	
Hexahydro-1,3,5-trinitro-1,3,5-triazine	SW8321A
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	SW8321A
2,4,6-Trinitrotoluene	SW8321A
1,3,5-Trinitrobenzene	SW8321A
1,3-Dinitrobenzene	SW8321A
2,4-Dinitrotoluene	SW8321A
2,6-Dinitrotoluene	SW8321A
2-Amino-4,6-dinitrotoluene	SW8321A
2-Nitrotoluene	SW8321A
3-Nitrotoluene	SW8321A
4-Amino-2,6-dinitrotoluene	SW8321A
4-Nitrotoluene	SW8321A
Nitrobenzene	SW8321A
Nitroglycerin	SW8321A
Methyl-2,4,6-trinitrophenylnitramine	SW8321A
Pentaerythritol Tetranitrate (PETN)	SW8321A

Target Analyte List for Inorganics by ICP, ICP/MS, and CVAA
Passage Key Air-to-Ground Gunnery Range, Manatee County, Florida

(based on SW-846 Methods as indicated below)	
Parameter	**Method**
METALS	
Aluminum	SW6010B
Antimony	SW6020
Copper	SW6020
Iron	SW6010B
Lead	SW6020
Zinc	SW6020

Passage Key Air-To-Ground Range 4/23/2007

TPP Team	EM 200-1-2, Paragraph 1.1.1	
Decision Makers		
Customer	USACE Jacksonville District (CESAJ)	
Project Manager	Charles Fales (CESAJ)	
Regulators	Florida Department of Environmental Protection	
Primary Stakeholders	United States Fish and Wildlife	
Data Types	**Data Users**	**Data Gatherer**
Demographics/Land Use	Risk, Responsibility, and Compliance Perspectives	Parsons (Senior Scientist, Risk Specialist)
Site Conditions	Remedy Perspective	Parsons (Geologist, Senior Scientist)
Munitions and Explosives of Concern (MEC)	Risk and Remedy Perspectives	Parsons (UXO Technician III or higher, Risk Specialist, Senior Scientist)
Munitions Constituents (MC)	Risk and Remedy Perspectives	Parsons (Chemist, Risk Specialist, Senior Scientist)
Archaeology	Compliance and Remedy Perspectives	CESAJ, Parsons (Staff Scientist, Senior Scientist)
Endangered Species	Risk and Compliance Perspectives	CESAJ, Parsons (Staff Scientist, Risk Specialist)

CUSTOMER'S GOALS		EM 200-1-2, Paragraph 1.1.2	
Area of Concern (AOC)	**Contaminant Issues**	**Future Land Use**	**Site-specific Closeout Goal (if applicable)**
Air-to-Ground Gunnery Range	MEC/MC	Wildlife Refuge	See below
Site Closeout Statement			
To manage the munitions and explosives of concern (MEC) and munitions constituents (MC) risk through a combination of removal/remediation, administrative controls, and public education; thereby rendering the site as safe as reasonably possible to humans and the environment and conducive to the anticipated future land use.			
Customer's Schedule Requirements			
Site Inspection and Reporting Complete by 24 April, 2008			
Customer's Site Budget			
Site Inspection and Reporting: Fully Funded Through SI Phase			

IDENTIFY SITE APPROACH		
EXISTING SITE INFORMATION & DATA EM 200-1-2, Paragraph 1.1.3 and 1.2.1		
Attachment(s) to Phase I TPP Memorandum	**Located at Repository**	**Preliminary Conceptual Site Model**
Preliminary Assessment (Archives Search Report)	N/A for SI Phase; Implemented in post-SI Phase as warranted	No
Site-Specific SI Work Plan	N/A for SI Phase; Implemented in post-SI Phase as warranted	Yes
POTENTIAL POINTS OF COMPLIANCE EM 200-1-2, Paragraph 1.2.1.3		
Determination of absence or presence of MEC/MC		
If MC is detected, comparison against Soil Screening Levels (SSLs) as identified in "Legal and Regulatory Milestones and Requirements" below to determine if further MC evaluation during RI/FS is warranted.		
Avoidance of sensitive conditions: wetlands, endangered species, archaeological sites		
MEDIA OF POTENTIAL CONCERN EM 200-1-2, Paragraph 1.2.1.4		
Qualitative review of MEC presence.		
Quantitative screening of MC in soil		
SITE OBJECTIVES EM 200-1-2, Paragraph 1.2.2		
Collection of sufficient MEC and MC data to determine if concentrations are high enough to warrant further study or action.		
Eliminate from further consideration those releases that pose no significant threat to public health or the environment.		
Collection of sufficient data to perform MRSPP scoring and for EPA to complete MC-related HRS scoring.		
Complete the SI		
See Programmatic and Site-Specific Work Plan		
See Attached Worksheets Developed by the Project Team		
REGULATOR AND STAKEHOLDER PERSPECTIVES EM 200-1-2, Paragraph 1.2.3		
Regulators	**Community Interests**	**Others**
TBD	TBD	TBD
PROBABLE REMEDIES EM 200-1-2, Paragraph 1.2.4		
NDAI		
RI/FS characterization, if necessary		
Institutional Controls / Public Education		
EXECUTABLE STAGES TO SITE CLOSEOUT EM 200-1-2, Paragraph 1.2.5		
Site Inspection (SI)		
Remedial Investigation/Feasibility Study (RI/FS)		
Proposed Plan		
Decision Document		
Remedial Design (RD)		
Remedial Action (as necessary)		
Recurring Review		
Time Critical Removal Action (as required)		

IDENTIFY CURRENT PROJECT
SITE CONSTRAINTS AND DEPENDENCIES EM 200-1-2, Paragraph 1.3.1
Administrative Constraints and Dependencies
Rights of Entry (ROE)
Cultural Resources
Funding beyond the SI
Concurrent planning programs
Scheduling
Technical Constraints and Dependencies
Property owner/leaseholder site activities (Site access)
MEC avoidance screening of MC sample locations for safety
Topography/vegetation
Cultural resources
Environmentally sensitive areas
Legal and Regulatory Milestones and Requirements
Consistent with CERCLA and NCP
Public, stakeholder & regulatory involvement & review of key documents (see schedule)
Soil screening levels to include the Florida Administrative Code (FAC) 62-777, Table 2, FDEP, Soil Cleanup Target Levels for Direct Residential Exposure, Region 9 Residential Preliminary Remediation Goals (PRGs), and the Ecological Screening Values.
CURRENT EXECUTABLE STAGE EM 200-1-2, Paragraph 1.3.3
Site Inspection

Basic (For Current Projects)	Optimum (For Future Projects)	Excessive (Objectives that do not lead to site closeout)
Site Reconnaissance	RI/FS	

Acronyms

AOC - Area of Concern
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
CESAJ - U.S. Army Corps of Engineers, Jacksonville District
EPA - U.S. Environmental Protection Agency
FAC - Florida Administrative Code
FUDS - Formerly Used Defense Sites
HRS - Hazard Ranking System
MC - munitions constituents
MEC - munitions and explosives of concern
MRSPP - Munitions Response Site Prioritization Protocol
NCP - National Contingency Plan
NDAI - No Department of Defense Action Indicated
PRG - Preliminary Remediation Goal
RI/FS - Remedial Investigation and Feasibility Study
SI - Site Investigation
SSL - Soil Screening Level
TBD - To be determined
TPP - Technical Project Planning

PROJECT OBJECTIVES WORKSHEET

SITE: **Air-to-Ground Gunnery Range**

PROJECT: **Passage Key Air-to-Ground Gunnery Range, Florida**

Site Objective [a]					Data Needs	Data Collection Methods	Data User(s)	Project Objective
Number	Executable Stage [b]		Description	Source [c]				
	Current	Future						
1	Yes		Determine presence/lack thereof of MEC	ASR, Recon	Are there any MEC? If so what type, where and hazard posed. Current and future LU.	Qualitative Reconnaissance	Risk and Remedy Perspectives	Basic
2	Yes		Determine if the concentration of MC is high enough to pose a risk to human health or the environment	surface soil	Is there any MC present in samples # 1 and # 2 or in any discretionary samples taken? If present what is it, to what degree is it present, and the analytical results will be compared to Florida Administrative Code (FAC) 62-777, Table 2, FDEP, Soil Cleanup Target Levels for Direct Residential Exposure, Region 9 Residential Preliminary Remediation Goals (PRGs), and the Ecological Screening Values for munitions explosives and metals constituents? Future LU.	Sample collection IAW SAP	Risk and Remedy Perspectives	Basic
3								
4								

a Refer to EM 200-1-2, Paragraph 1.2.2

b Refer to EM 200-1-2, Paragraph 1.2.5

c For example, Meeting with Customer/stakeholder/Regulator, State Regulation____,

d Classification of project objectives can only occur after the current project has been identified. Refer to EM 200-1-2, Paragraph 1.3.3.

ASR - Archives Search Report
IAW - In accordance with
LU - Land Use
MEC - Munitions and Explosives of Concern
MC - Munitions Constituents
SAP - Sampling and Analysis Plan
SSL - Soil Screening Level
FAC - Florida Administrative Code

MC DATA QUALITY OBJECTIVE WORKSHEET	
Site: Passage Key Air-to-Ground Gunnery Range, FL **Project:** MMRP Site Inspection / FUDS No. I04FL040101 **DQO Statement Number:** 1 of 4	
Intended Data Use: (Which project objective(s) will be satisfied?) Determination of next step, is there MC contamination present in concentrations that are high enough to pose a risk to human health or the environment, collection of sufficient data to perform MRSPP scoring, for EPA to complete MC-related portion of HRS, and completion of the SI.	Soil sampling will be conducted based on field observations. Analytical results will be compared to Region 9 Preliminary Remediation Goal (PRGs) - Residential Soils and Florida Administrative Code (FAC) 62-777, Table 2, FDEP Soil Cleanup Target Levels for Direct Residential Exposure for munitions constituents (explosives only). Sample results comparison will be used to identify whether additional investigations or implementation of a remedy may be necessary. Collection of sufficient data to determine applicability of RI/FS or other action. Completion of the SI.
Data need requirements: (What data do you need to collect?) Is there MC contamination? Sufficient data to complete MRSPP, for EPA to complete MC-related portion of HRS, and for completion of SI.	Determine the type of MC on the site. Complete the MRSPP worksheets and collect the input parameters for EPA to complete the MC-related portions of the HRS worksheets. Completion of the SI.
Are data: basic, optimal, or excessive need?	Basic
How much data is enough?	2 surface soil sample with 3 discretionary surface soil samples (if necessary tested for presence and/or concentration of MC. All data for MRSPP worksheets and the MC-related data for HRS
How will these data be collected?	By the collection of surface soil and surface water samples at designated locations. MC samples will be analyzed as follows: Explosives - SW8321A; Metals SW6010B or SW6020;. Data for MRSPP and MC-related HRS worksheet parameters will be compiled on PDA menu-driven forms.
Was DQO attained?	**TBD**
Where are supporting data maintained?	Will be included in the SI Report.

MEC DATA QUALITY OBJECTIVE WORKSHEET	
Site: Passage Key Air-to-Gound Gunnery Range, FL **Project:** MMRP Site Inspection / FUDS No. I04FL040101 **DQO Statement Number:** 2 of 4	
Intended Data Use: (Which project objective(s) will be satisfied?) Determination of next step, is there MEC contamination present, and completion of the SI.	Collection of sufficient data to determine applicability of RI/FS or other action.
Data need requirements: (What data do you need to collect?) Is there MEC contamination? Sufficient data for completion of SI.	Determine the presence and type of MEC on the site, if applicable. Completion of the SI.
Are data: basic, optimal, or excessive need?	Basic
How much data is enough?	Qualitative Reconnaissance path to be determined in field. The presence or lack thereof of MEC. Confirmation of MEC is sufficient (but not required) to justify further response action(s). Circumstantial evidence may also be sufficient.
How will these data be collected?	Visual survey of the suspect areas documented by site observations on PDA/GPS menu-driven forms. Qualitative Reconnaissance (limited) with the Schonstedt GA-92 XLi Magnetometer
Was DQO attained?	**TBD**
Where are supporting data maintained?	Will be included in the SI Report

MRSPP Data Quality Objective Worksheet

Site: Passage Key Air-to-Gound Gunnery Range, FL
Project: MMRP Site Inspection / FUDS No. I04FL040101
DQO Statement Number: 3 of 4

Module	Table #	Table Description	Known Data	Current Data Gap	Data Source
Explosive Hazard Evaluation (EHE)	1	Munitions Type	X		Historical Records/Findings
	2	Source of Hazard	X		Historical Maps
	3	Location of Munitions		X	Historical or Field Findings
	4	Ease of Access		X	Field Findings
	5	Status of Property	X		Historical Records
	6	Population Density		X	U.S. Census Bureau
	7	Population Near Hazard		X	Field Findings
	8	Types of Activities/Structures		X	Regional Zoning
	9	Ecological and/or Cultural Resources		X	State Historic Preservation Office
	10	Determining the EHE		X	Scores from Tables 1 through 9
Chemical Warfare Materiel (CWM) Hazard Evaluation (CHE)	11	CWM Configuration	X		Historical Records/Findings
	12	Sources of CWM	X		Historical Records/Findings
	13	Location of CWM		X	Historical or Field Findings
	14	Ease of Access		X	Field Findings
	15	Status of Property	X		Historical Records
	16	Population Density		X	U.S. Census Bureau
	17	Population Near Hazard		X	Field Findings
	18	Types of Activities/Structures		X	Regional Zoning
	19	Ecological and/or Cultural Resources		X	State Historic Preservation Office
	20	Determining the CHE		X	Scores from Tables 11 through 19
Health Hazard Evaluation (HHE)	21	Groundwater Data		X	Groundwater Sampling Results
	22	Surface Water - Human Endpoint		X	Surface Water Sampling Results
	23	Sediment - Human Endpoint		X	Sediment Sampling Results
	24	Surface Water - Ecological Endpoint		X	Surface Water Sampling Results
	25	Sediment - Ecological Endpoint		X	Sediment Sampling Results
	26	Surface Soil		X	Surface Soil Sampling Results
	27	Supplemental Contaminant Hazard Factor		X	All MC Sampling Results
	28	Determining the HHE		X	Scores from Tables 21 through 27
	29	MRS Priority		X	Scores from Tables 10, 20, and 28
	A	MRS Background Information	X		DoD Databases

HRS Data Quality Objective Worksheet

Site: Passage Key Air-to-Gound Gunnery Range, FL
Project: MMRP Site Inspection / FUDS No. I04FL040101
DQO Statement Number: 4 of 4

Data Description	Known Data	Current Data Gap	Data Source
Source Type	X		Historical Records/Findings
Estimated Volume or Area		X	Field Findings
Hazardous Substance	X		Constituents of Suspected Munitions
Groundwater Sample Concentration		X	Sample Results
Groundwater Use		X	Well Records/Municipal Data
Surface Water Sample Concentration		X	Sample Results
Surface Water Pathways		X	Field Findings
Soil Sample Concentration		X	Sample Results
Soil Pathways		X	Municipal Data
Sensitive Environments		X	State Historic Preservation Office, US Fish and Wildlife Service, various government agencies
Attractiveness/Accessibility		X	Field Findings/Land Use Records

Table 1

Chemical-Specific Data Quality Objectives, Laboratory MDLs and PQLs for Soil Samples

Passage Key Air-to-Ground Gunnery Range, Manatee County, Florida

Analyte	Abbreviation	CAS #	Human Health Screening Values Soils (mg/kg)		STL Denver Method Detection Limits (MDL) and Practical Quantitation Limits (PQL) for Soil		Ecological Screening Values
			Florida Administrative Code 62-777	Region 9 PRG	STL MDL	STL PQL	Soil (mg/kg) (3)
Hexahydro-1,3,5-trinitro-1,3,5-triazine	RDX	121-82-4	7.7	4.4	2.10E-02	1.20E-01	5.8 (A)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	HMX	2691-41-0	-	3100	1.90E-02	1.20E-01	43 (H)
2,4,6-Trinitrotoluene	2,4,6-TNT	118-96-7	28	16	2.20E-02	1.20E-01	8 (B)
1,3,5-Trinitrobenzene	1,3,5-TNB	99-35-4	2000	1800	1.0E-02	1.20E-01	0.38 (F)
1,3-Dinitrobenzene	1,3-DNB	99-65-0	5.8	6.1	1.1E-02	1.20E-01	0.66 (F)
2,4-Dinitrotoluene (1)	2,4-DNT	121-14-2	1.2	0.72	1.9E-02	1.20E-01	1.28 (F)
2,6-Dinitrotoluene (1)	2,6-DNT	606-20-2	1.2	0.72	2.2E-02	1.20E-01	0.033 (F)
2-Amino-4,6-dinitrotoluene	2-Am-DNT	35572-78-2	-	12	2.1E-02	1.20E-01	5.3 (H)
2-Nitrotoluene	2-NT	88-72-2	400	0.88	2.2E-02	2.00E-01	4.1 (H)
3-Nitrotoluene	3-NT	99-08-1	640	730	2.5E-02	2.0E-01	5.3 (H)
4-Amino-2,6-dinitrotoluene	4-Am-DNT	19406-51-0	-	12	1.9E-02	1.20E-01	-
4-Nitrotoluene	4-NT	99-99-0	750	12	2.6E-02	2.0E-01	9.4 (H)
Nitrobenzene	NB	98-95-3	18	20	3.3E-02	1.2E-01	40 (C)
Nitroglycerin	NG	55-63-0	27	35	4.5E-02	1.4E-01	150 (H)
Methyl-2,4,6-trinitrophenylnitramine	Tetryl	479-45-8	790	610	2.1E-02	1.2E-01	2 (H)
Pentaerythritol Tetranitrate	PETN	78-11-5	-	-	1.5E+01	1.2E-01	21000(H)
Aluminum	Al	7429-90-5	80000	76000	8.4E+01	2.6E+02	50 (C)
Antimony	Sb	7440-36-0	27	31	1.7E+00	5.00E+00	0.30 (A)
Copper	Cu	7440-50-8	150	3100	5.60E-01	2.00E+00	40 (C)
Iron	Fe	7439-89-6	53000	23000	1.10E+02	3.30E+02	N/A
Lead	Pb	7439-92-1	400	400	8.80E-01	3.00E+00	16 (A)

Table 1

Chemical-Specific Data Quality Objectives, Laboratory MDLs and PQLs for Soil Samples

Passage Key Air-to-Ground Gunnery Range, Manatee County, Florida

Analyte	Abbreviation	CAS #	Human Health Screening Values Soils (mg/kg)		STL Denver Method Detection Limits (MDL) and Practical Quantitation Limits (PQL) for Soil		Ecological Screening Values
			Florida Administrative Code 62-777	Region 9 PRG	STL MDL	STL PQL	Soil (mg/kg) (3)
Zinc	Zn	7440-66-6	26000	23000	1.60E+00	5.00E+00	50 (C)

(1) Carcinogenic DNT mixture values used if more conservative than noncarcinogenic isomer-specific values

N/A - Not Applicable

Region 9 PRGs, dtd 28 December 2004

Florida Administrative Code 62-777, Table 2 – FDEP Soil Cleanup Target Levels for Direct Residential Exposure dtd February 2005

- = Screening value has not been determined. Any detection of this compound will be evaluated in conjunction with all supporting data on a case by case basis by the Project Team.

3) Eco Screening Value Sources:

A USEPA EcoSSLs, 2000; **B** Los Alamos Nuclear Lab Screening Level **C** USEPA Region 4 Screening Values,
D San Francisco Regional Water Quality Control Board Surface Water Screening Values **E** USEPA Region 3 Freshwater Screening Benchmarks
F U SEPA Region 5 Ecological Data Quality Levels; **G** Talmage, et. Al. 1999 **H** Los Alamos National Laboratory(LANL),ECORISK Database, 2004

Technical Project Planning Meeting #1 Presentation Slides

The following slides have been provided as a copy of the TPP Meeting #1 presentation. Changes to the technical approach, schedule, sample locations, sample numbers and any other changes made during the TPP meeting are reflected in the TPP Memorandum and the remainder of the associated documents. The slides on the following pages are shown as they were presented.

Passage Key Air-to-Ground Gunnery Range
Formerly Used Defense Site

Manatee County, Florida

Technical Project Planning
For

Site Inspection

01 March 2007

Agenda

- General MMRP Program Introduction
  - Charles Fales – USACE CESAJ Project Manager.
- General Introduction SI Presentation
  - Tim Nowicki– Parsons Project Coordinator.
- Technical Approach Presentation
  - Jeff Ulmer – Parsons Project Coordinator.
- Technical Project Planning (TPP)
  - Streamlined. Focused on TPP Worksheets.

So Why Are We Here?

- ***Site Inspection (SI)*** is a simple straightforward process under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
- This is a ***TEAM*** effort – Complete Power.
  - Everyone here today is here for a reason.
  - Please feel free to comment at any time during any of the presentations – ***Keep Focus.***
  - Success depends on your input to the process.

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TPP - Project Team Composition

CESAJ

Regulatory Agencies
FDEP

Charles Fales

Technical Support
Parsons/USACE

Stakeholders
U.S. Fish and Wildlife Service

Admin/Technical Support

MEC/MC Contracts

Tell Me More – What are the Expectations?

- ***Preliminary*** Technical Approach for the site was developed through a collaborative effort between Parsons, USAESCH, and CESAJ.
  - Intent is to provide a baseline starting point for discussions not to present a predetermined decision for acceptance. Interest of Time only.
  - We are relying on our TEAM to provide or direct us to any information not in our "bible" (ASR) and associated documents (INPRs /ASR Supp/other studies) to ensure correct approach.
- Concurrence Request
  - As such, subsequent comments on the Draft TPP Memo anticipated to be minimal.

The Document Stream - 18 Months to Maturity

- ***Result of This Meeting***
  - Draft TPP Memo (and associated documentation)
    - Issued within a month or so. Usually two weeks.
    - **Key Note** – Includes "As Presented" slides from meeting. Memo itself captures revisions to Draft Technical Approach.
  - **TEAM REVIEW 1**
    - 30 Days Requested TRT – Really just 3-4 pages each.
    - First of Multiple Opportunities for Post-TPP Meeting TEAM interaction.
    - Ensures All Aspects/Agreements/Concerns Captured.
  - Final TPP Memo – Record of our SI Plan
- ***Draft Site Specific Work Plan (SS-WP) Addendum***
  - *More details, as appropriate, to expand on existing Programmatic Work Plan (PWP) which covers the "universe" of possible SI actions.*
  - **TEAM REVIEW 2**
    - 30 Days Requested TRT. Second Post-TPP Meeting TEAM interaction. Pre field work still.
- ***Final SS-WP Addendum***
  - *Ready for field. NTP*
- ***Draft SI Report***
  - ***Documentation of SI Field Effort***
  - **TEAM REVIEW 3**
    - 30 Days Requested TRT – INCLUDES RECONVENE OF TPP TEAM – onboard review.
- ***Final SI Report***

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References

- ***Programmatic Work Plan (2005).*** Document prepared by Parsons to address big picture concerns and repetitive actions. Reviewed/Finalized and available through CESAJ.
- ***Programmatic Sampling and Analysis Plan (2005).*** Prepared by USAESCH and also available through CESAJ.
- ***Programmatic Sampling and Analysis Plan Addendum (2006).*** Prepared by Parsons to describe specific procedures and activities during SIs for the Southeast Region.
- ***1993 Inventory Project Reports (INPRs)*** Prepared by USACE to evaluate site eligibility. Yes or No did DoD acquire, lease, occupy, or otherwise utilize the property for military training activities? Included site visit. Original INPR for this site was prepared in 1993. RAC = 3
- ***2002 Archive Search Report (ASR)*** Prepared by USACE and generally equivalent to a CERCLA Preliminary Assessment (PA). Provides extensive detail on site eligibility and usage (as documented). Included brief site visit. RAC score = 2
- ***Risk Assessment Code (RAC) Procedures*** Prepared by USACE to address explosives safety hazards related to munitions. Original RAC score for the Passage Key Air-to-Ground Gunnery Range was 2 (scale of 1-5, 1 being highest risk). Due to the fact that the sit was used as a practice skip and dive bombing and strafing range.
- **IMPORTANT POINT** - This procedure does not address environmental hazards associated with munitions constituents (MC).
- ***ASR Supplement (2004).*** Conducted for all FUDS sites. Desktop exercise to re-evaluated previously identified Munitions Response Sites (MRS) within the site and revisited RAC score. Current RAC Score of “2” assigned.

A Word About RAC Scoring

- ***New MRSPP Scoring.*** More categories and clearer decision tree. Will be conducted as part of the SI.

Basic Definitions

MEC – Munitions and Explosives of Concern. Specific categories of military munitions that may pose unique explosives safety risks. MEC includes unexploded ordnance (UXO), discarded military munitions (DMM), and explosive concentrations of munitions constituents (MC).

MC – Munitions Constituents. Any materials ***originating*** from UXO, DMM, or other military munitions, including explosive and non-explosive materials and emission, degradation, or breakdown elements of such ordnance or munitions.

TCRA – Time Critical Removal Action. Removal actions where, based on the site evaluation, a determination is made that a removal action is appropriate, and that less than 6 months exists before on-site removal activity must begin (i.e. immediate threat to human health and the environment).

Site Inspection (SI) Objectives

Screening (SI) vs Characterization (RI/FS)

- ***Primary Objective:*** To determine whether a project site identified during the INPR phase and retained warrants further evaluation or response action under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
  - **Presumptive/Anticipated Recommendations**
    - ***Sometimes*** **already known for MEC/MC/or both**
  - **Possible Outcomes**
    - TCRA – Immediate and Imminent Threat
    - No DoD Action Indicated (NDAI)
    - Remedial Investigation/Feasibility Study (RI/FS) – ***Characterization Phase***
    - Remedial Action (RA) – Cleanup phase

Site Inspection (SI) Objectives

- ***Additional Objectives:***
  - Collect data for EPA's development of the Hazard Ranking Scoring (HRS) System
  - Collect data to focus RI/FS, if appropriate
  - Collect data to complete Office of the Secretary of Defense's Munitions Response Site Prioritization Protocol (MRSPP)
    - Basically Expanded/Revised RAC to include MC components.

SI Scope – *Passage Key Air-to-Ground Gunnery Range*

- **Implement Technical Project Planning (TPP)**
  - Stakeholder Involvement
  - Conceptual Site Model
  - Data Quality Objectives
  - TPP Worksheets
  - Present field results (Post SI Report)
- **Conduct Site Inspection** to augment INPR, ASR, and MEC Report data and to gather additional historical and site-specific data to determine whether further action (TCRA, RI/FS, RA, IC) or NDAI is warranted.
- **Confirm the presence or absence** of Munitions Constituents (MC) and/or Munitions and Explosives of Concern (MEC).
- **Recommend next action**.

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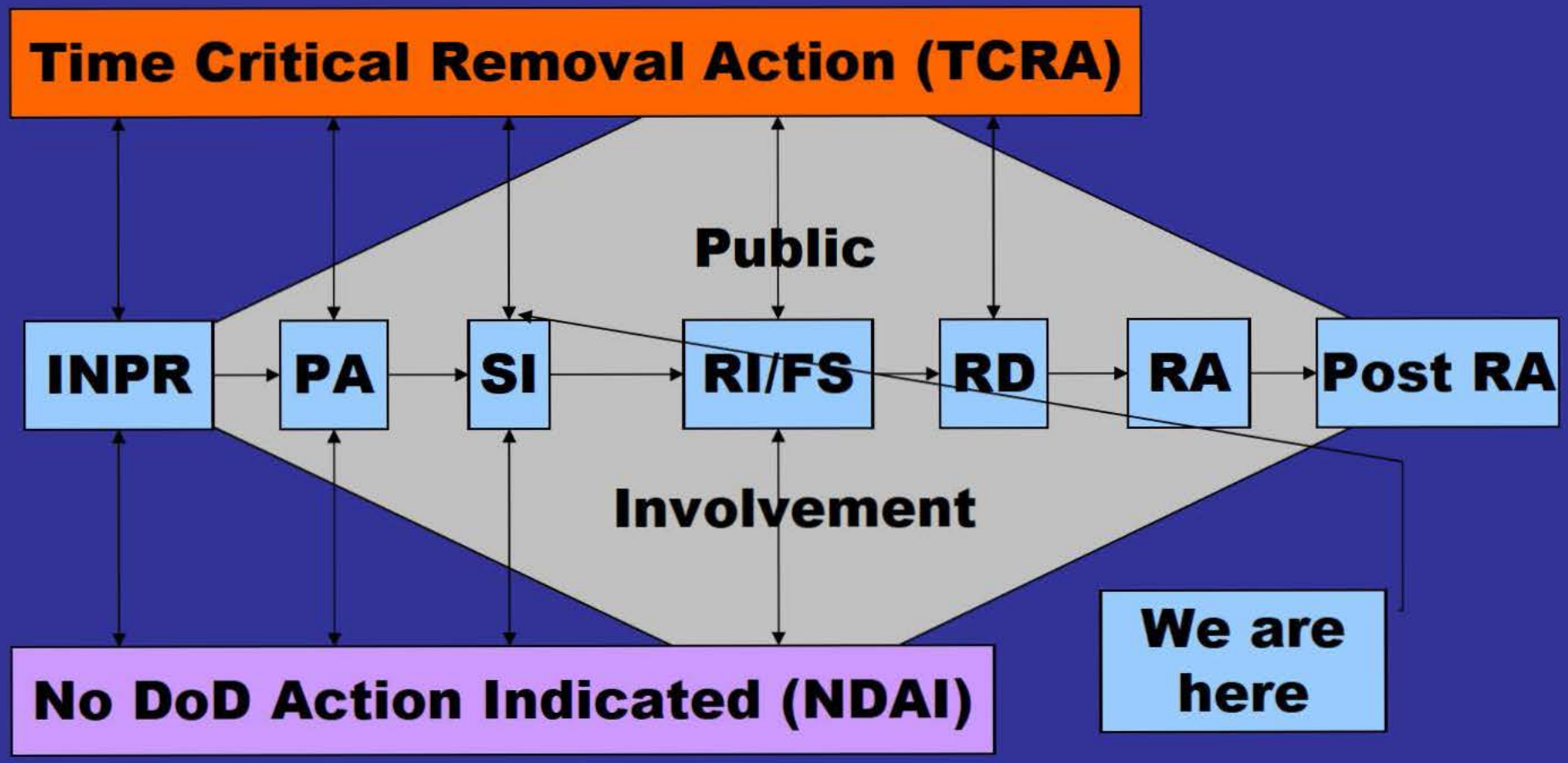
CERCLA Process Flow



SI Requirements

- In accordance with SI guidance, the primary objective is attained by collecting the ***sufficient amount*** of information necessary to:
  - Determine the potential need for an immediate removal action (TCRA);
  - Eliminate from further consideration those releases that pose no significant threat to public health or the environment (RI/FS determination);
  - Collect data, as appropriate, to characterize the release for effective and rapid initiation of an RI/FS, if appropriate.
  - Basically Screening Level Date to Answer the Yes or No Question.
- Key Footnote – This SI only addresses MC and MEC that were left behind by DoD use of the property. Any HTW considerations will be addressed by a separate project.

Military History/FUDS Eligibility Passage Key Air-to-Ground Gunnery Range

Manatee County, Florida

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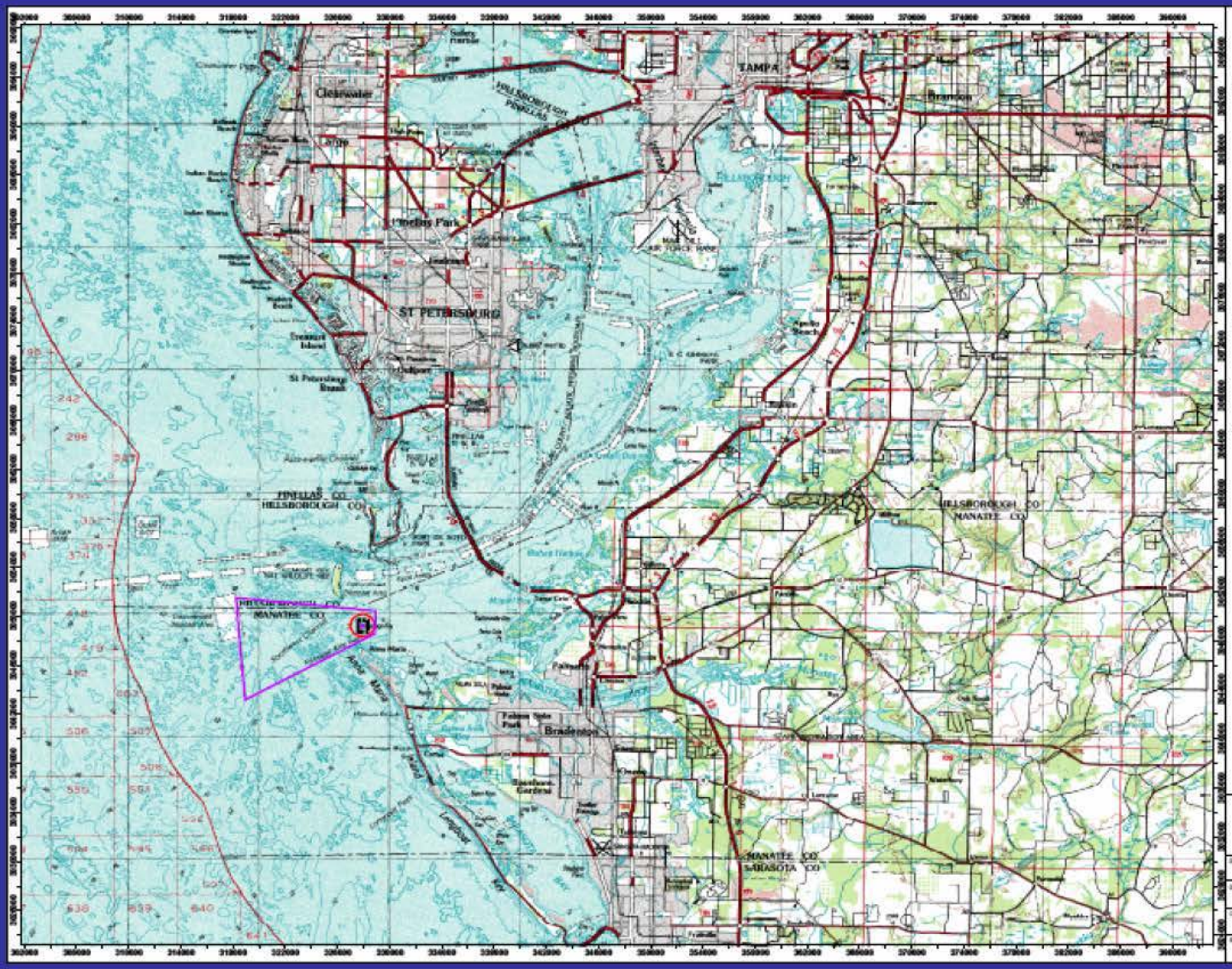

Figure 1

Site Location

Passage Key Air-to-Ground Range
FUDS Property No. I04FL040101

Tampa, Florida
Manatee County

Legend

- Air-to-Ground Gunnery Range Boundary
- Bombing Range Boundary
- Approximate Property Boundary

Site Location in Florida

Image Source: USGS Topo Quadrangles, 1981
Projection: UTM Zone 17 NAD83, Map Units in Meters

Miles
5 2.5 0 5

N

PARSONS	U.S. ARMY CORPS OF ENGINEERS HUNTSVILLE CENTER
BT	Site Location
BT	
JU	As Shown — 744647.43000
DS	February 2007

Site History

- Prior to military use the site was owned by the Department of Interior and used as a bird wildlife refuge.
- 1943 Department of Interior granted a temporary use permit to the War Department and was assigned to the Sarasota Army Air Field. An accordance with the Use Permit, was that the use of the island would be discontinued for three months each summer during the wild foul nesting season.
- 1943 Headquarters 3rd Fighter command requested acquisition of the 36.37 acres for use as a ground strafing range. Prior to that, the 337th Fighter Command had used it as a dive bombing range.
- 1943 -1945 The 3rd Air Force continued to use Passage Key as a bombing range for practice skip bombing, dive bombing and strafing until October 1945.
- 1946 War Department relinquished the permit for Passage Key and the site returned to the Department of Interior.
- Currently managed by the U.S. Fish and Wildlife Service as a wildlife refuge for migratory birds.

Site Description and History

- FUDs Eligibility
  - 36.37 acres (per ASR) designated as the Passage Key Air-to-Ground Gunnery Range FUDs Project I04FL040101.
  - Use Permit by the War Department from 1942 through 1946 as a bombing and gunnery range.

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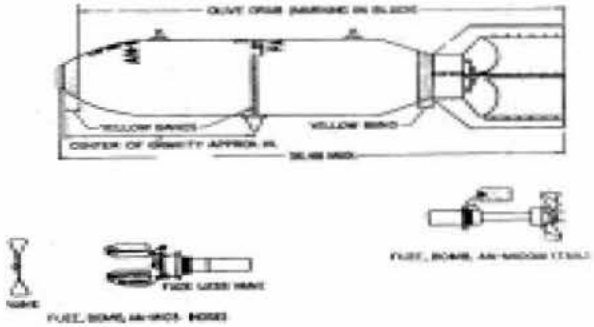
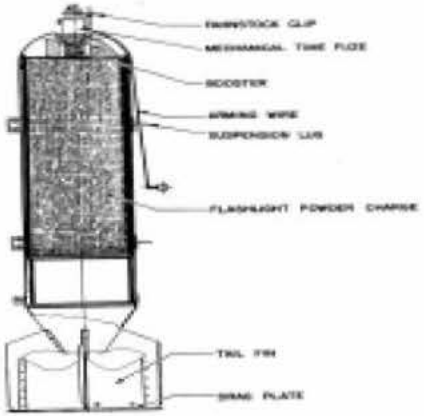
BOMB, GP, 100-POUND, AN-M30



Description. The GP and M series bombs of 100-pound weight have the same dimensions. The GP is distinguishable from the M-series by the fact that it has a base plug in the tail and a single suspension lug in addition to two Army lugs. The old GP bombs are a relatively thin-cased bomb with an ogival nose, parallel sidewalls, and a tapered aft section. It uses both the box type and conical type fin assembly. The box-type fin assembly is secured to the aft end of the bomb with a fin locknut, while the conical-type fin assembly is secured to the bomb body by means of a support tube. The two Army lugs are 14 inches apart, each 7 inches from the center of gravity. The single suspension lug is on the center of gravity 14 inches behind the nose. The weight of the case is 42.1 pounds and the fins weigh between 5.6 to 17.5 pounds. The filler is 50/50 amatol, TNT, or Tritonal. Percentage of filler is approximately 49 percent. The AN-M30 Bomb is fuzed in the nose with the AN-M103 Fuze and in the tail with the AN-M100A2 Fuze. Alternate fuzes that may be used as substitutes or for special purposes are the M103, M118, or M119 Nose Fuzes, and the M112, M100, M106, or its modifications, or the AN-M100A1 Tail Fuzes.

Length, assembled bomb	
Fin assembly AN-M103A1	40.26 inches
Fin assembly M135	54.2 inch
Diameter	8.18 inch
Weight of Filler	
TNT	57 pound
Amatol	54 pound
Tritonal	62 pound
Fuze:	
Nose	AN--M103, M103, M118, M119
Tail	AN-M103, M112, M100, M106, AN-M100A1
Painting and Markings	Olive drab with black stencil, 2 yellow bands (1aft, 1

BOMB, PHOTOFLASH, AN-M46



Use. The photoflash bomb AN-M46 was developed so that planes engaged in night photography reconnaissance need not be limited to low altitudes.

Description. In appearance it resembles a conventional light-case bomb. Uses a Fuze M111A2 in the nose, but it is issued unfuzed. It also has two suspension bands for rack and shackle suspension.

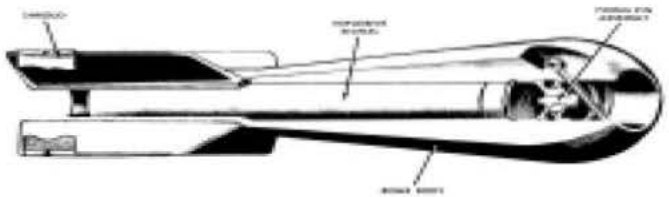
Operation. When the bomb is dropped, the arming wire is pulled, starting the mechanical time fuze. When the time set on the fuze has elapsed, the fuze booster ignites the flashlight powder.

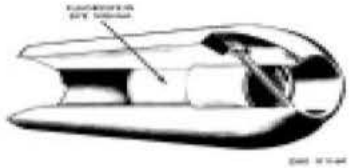
Remarks. Because of the brilliance of the flash, it is detrimental to the vision to watch the explosion of photoflash bombs. Extreme care should be exercised in handling these bombs, because the charge is very sensitive to friction, shock, and temperature.

Over-all length ..... 48.4 inch
Body Diameter ..... 8 inches
Weight ..... 51.9 pound
Filler ..... Flash Powder
Weight of filler ..... 25 pounds
Fuze M111A2, AN-M146

Reference: NAVSEA OP 1664, Volume 1, *U.S. Explosive Ordnance*, May 1947

MINIATURE PRACTICE BOMBS
AN-Mk 5 Mod 1, AN-Mk 23, AN-Mk 43



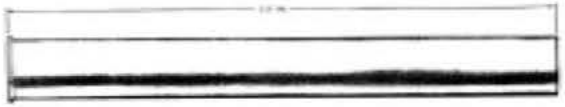


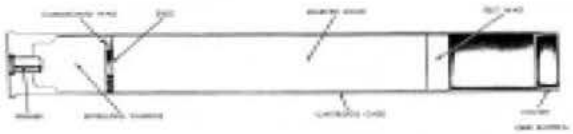
Description. These bombs are used for low-altitude horizontal, or dive-bombing practice. The three bombs are similar in physical appearance, but differ basically in the metal used to cast the body. Bombs are used with the AN-Mk 4 practice bomb signal that is a blank 10-gauge shotgun shell (extended length). Signals contain a black powder expelling charge and a red phosphorous pyrotechnic mixture. These bombs also are used with the MK5 signal that contains a fluorescein dye and is actuated by impact on water. When the Mk5 signal is installed, the firing pin assembly is not used.

Over-all length	8.25 inches
Body Diameter	2.18 inches
Fin Dimension	2.5 inches
Weight	AN-Mk 5 Mod 1 - 2 lb. 11 oz. ± 1 oz AN-Mk 23 -3 lb. ± 2 oz AN-Mk 43 - 4 lb. 7 oz. ± 2 oz.
Signal	AN-Mk 4, Black powder/pyro-Technic charge Mk 5, Fluorescein dye

Reference: OP 1280, *Aircraft Bombs*, February 1945; TM 9-1325-200, *Bombs and Bomb Components*, April 1966

SIGNAL, PRACTICE BOMB, Mk 4 Mod 3 & 4





Description. Practice Bomb signals Mk 4 Mods 3 and 4 are essentially 10-gauge shotgun shells. They contain an expelling charge of smokeless powder and are primed with a commercial primer. A pyrotechnic or inert marker load is separated from the expelling charge by a disc and cardboard gun wad. Felt gun wads that are cemented to the cover close the end of the shell.

Use. The signals are used in either the miniature or the larger practice bombs. However, installed in the miniature practice bombs, the signals do not consistently produce a visible signal when dropped from an altitude of 10,000 feet or higher. Released from that heigh, the bomb enters the water or earth so quickly that the signal frequently does not have time to function.

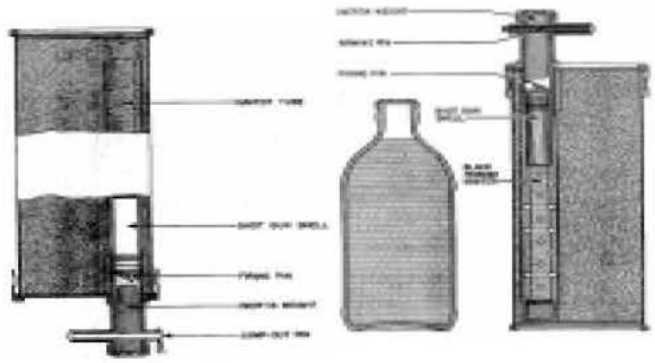
Functioning. When the practice bomb in which the signal is installed strikes water or the earth, impact causes the firing pin in the nose of the bomb to impinge upon the primer of the signal. The primer ignites the expelling charge, forcing the marker load out through an opening in the bomb. The resulting flash and puff of white smoke permit observation of bombing accuracy.

Differences. Signals Mk 4 Mod 0 was the first of this type developed. Mods 1 and 2 were procured later for issue to activities limited by environment to performing practice bombing in the vicinity of flammable areas. These signals contain inert materials that produce very little flash and are markedly inferior to the Mod 0. Mod 3 is similar to the Mod 0 but differs in that the cartridge case of the Mod 3 is extruded aluminum instead of paper; a primer mixture with improved storage characteristics has been used, a new pyrotechnic load has been incorporated. The Mod 4 signal is similar to the Mod 3 with the exception of an inert marker load of zinc oxide. In both Mods, the cover and cartridge case are cemented together; in Mod 3 the assembly also is staked in four equally spaced places.

Length and diameter ..... 6.0 in by 0.85 in
Expelling charge ..... Smokeless powder
Marker load ..... Mod 3 Stabilized Red Phosphorous
Mod 4 Zinc Oxide

Reference: TM 9-1325-200, *Bombs and Bomb Components*, April 1966

SPOTTING CHARGES, M1A1, M3, M5



M1A1 M5 M3

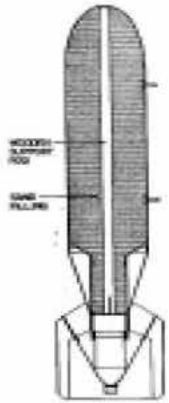
M1A1 Spotting Charge. This type of spotting charge fits in the after end of the 100-pound Practice Bomb M38A2. It produces a flash of flame and white smoke for observation of bombing accuracy. It is made from a large tin can, 11.18-inches long, 3.43-inches diameter, weighing 4.25-pounds. At the top of the can is a cover, which has a hole in it for the insertion of a 28-gage blank shotgun shell and firing mechanism. Upon impact, the inertia weight drives the firing pin into the shotgun-type primer, igniting the 3-pounds of black powder.

M3 Spotting Charge. The spotting charge has a 2 1/3-pound dark smoke filling and a black-powder igniter. It is 5/8 of an inch longer than the Spotting Charge M1A1, but otherwise similar. The M3, with its dark smoke filler, is well adapted for bombing practice over snow-covered terrain. The black-powder igniter charge contains approximately 425 grains. It is used in the M38A2 Practice bomb.

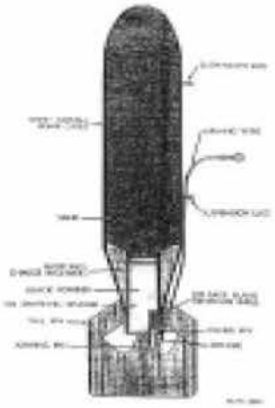
M5 Spotting Charge. The spotting charge consists of a glass bottle filled with FS smoke mixture. An ordinary bottle cap seals the mixture. The bottle is held to the Practice Bomb M38A2 by a wire twisted around the neck of the bottle and attached to the tail vanes. The charge assembly weighs 2.54 pounds.

Reference: TM 9-1904, *Ammunition Inspection Guide*, March 1944; NAVSEA OP 1664 Volume 2, *U.S. Explosive Ordnance*, February 1954

BOMB, PRACTICE, 100 POUND, M38A2



with M5 spotting charge



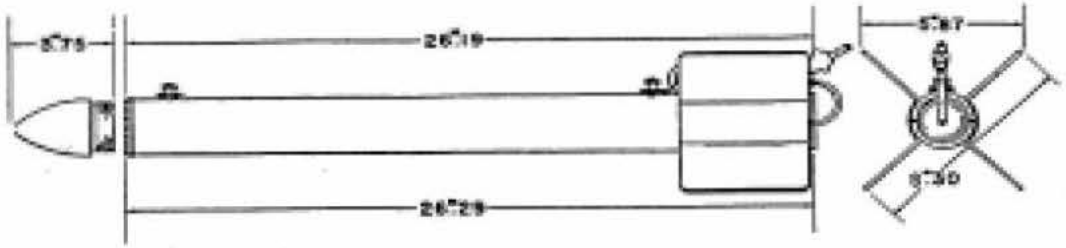
with M1A1 spotting charge

Description. This bomb simulates a General Purpose bomb of the same size. It is constructed of light sheet metal, approximately 22 gage, formed by rolling a rectangular sheet of metal into the form of a cylinder approximately 8 inches in diameter, and spot-welding the seam. The rounded nose is pressed from the same metal, as is the tail, which is formed in the shape of a cone. The tail portion ends in box type fins, which is welded to the cone. Inside of the smaller end of the conical tail section is welded the spotting charge receiver. The spotting charge is assembled in a sleeve at the base of the bomb, within the fin box. Authorized spotting charges are the M1A1, M3, and M5. When using the M5 spotting charge a wooden support rod is installed in the bomb. Two suspension lugs are bolted to the bomb body during fabrication. The Suspension Band M1 is provided for single suspension. The band is a separate component. The over-all length of the bomb body is 472 inches. When empty, the bomb body weighs approximately 14 pounds. When completely loaded with sand and spotting charge, the weight of the bomb is approximately 100 pounds.

Over-all length ..... 47.5 inches
Diameter ..... 8.13 inches
Weight empty ..... 15.7 pounds
Weight sand loaded & spotting charge ..... 100 pounds

Reference: TM 9-1904, *Ammunition Inspection Guide*, March 1944; NAVSEA OP 1664 Volume 2, *U.S. Explosive Ordnance*, February 1954; *Complete Round Chart #5981*, October 1944

ROCKET, 2.25-INCH PRACTICE



Use. These rockets were used for practice firing against surface targets. The rocket is forward fired from aircraft and simulated the trajectories of the 5 inch rockets.

Description. The 2.25 inch practice rockets originally came in two different Marks (Mk) or models, the Mk II and Mk III. The acronym associated with them was SCAR, or sub-caliber aerial rocket. Other models followed. They consisted of a head, rocket motor, fins, igniter, and an electrical cable. The heads are solid steel, zinc die cast, or cast iron and contain no fuzes,

Motor. Mk 15 Mod 0,2, is 26.18 inches long and weighs to 10.90 pounds (max). The item's explosive hazard is the propellant (Mk 16 Mod 0,1) in the rocket motor and the igniter (Mk 112 Mod 0,1,2).

Weight.....12.47 pounds
Diameter of Body.....2.25 inches
Length.....29.07 inches

Reference: NAVSEA OP 1415, *Rocket Assemblies*, May 1955

Historical Findings/Recommendations

- 2001 Site Visit (USACE)
  - "No evidence of ordnance or physical hazards appear to be present on the site."
  - Concrete block (approximately eight feet square) was observed just off the west side of the island in five feet of water. Believed to be the structure from one of two targets used.
- Certificate dated 24 October 1945, from HQ Sarasota AAF stated that the disposal of all ordnance was deemed unnecessary.
- October 4, 1998, Navy Explosive Ordnance Disposal (EOD) from Mayport, Florida destroyed a 100-pound old style (AN-M30) General Purpose Bomb, found in 10 feet of water, 150-yards west of the island.
- November and December 1998, one 100-pound (AN-M46 Photo Flash Bomb and two 100-pound General Purpose (GP) Bombs.

Anticipated Outcome

- Passage Key Air-to-Ground Gunnery Range
  - Focus SI on collecting sufficient data to support the RI/FS.
  - MC sampling – Focused on highest likelihood MEC presence near center of bomb target. QR also focused at this locations.
- SI activities tailored to support RI/FS.

SI Technical Approach

- In accordance with SI guidance, the primary objective for Passage Key Air-to-Ground Gunnery Range can be attained by implementation of the following Technical Approach:

- **Qualitative Reconnaissance (QR)**
  - Visual and magnetometer-assisted survey. Focused on the suspect location of area around bombing target.
- **MC Sampling**
  - Collect 5 Soil samples. Biased as having the highest likelihood to potentially be contaminated; analyze for explosives and select metals to screen for presence of MC contamination.

Conceptual Site Model

Subsite/Range	Acreage	Suspect Past DoD Activities	Potential MEC/MD Presence	MEC/MD Found Since Closure	Field Sampling/ Qualitative Reconnaissance
AIR TO-GROUND **RAC Score: 2**	36.37 (island)	Strafing and bombing	Small Arms General; 50 Cal. Machine Gun AN-M30, General Purpose Bomb, 100 lbs AN-M46, Photoflash Bomb, 100 lbs AN-Mk 5, AN-Mk 23, AN-Mk 43, Practice M38A2, Practice Bomb, 100 lbs Signal, Practice Bomb, Mk 4 Spotting Charge, M1A1 2.25-inch, Practice Rocket	USAF EOD detonated 1 100 lb photoflash bomb and 1 100 lb Geneal Purpose bomb Nov, 1998 US Navy EOD detonated 2 projectile Dec, 1998	Surface soil samples # 1 through # 5/ and associated QR path – West impact area

MC Sampling

- 5 Soil Samples
  - Sample #1 – North end of Island
  - Sample #2 – Center area of Island
  - Sample #3 – Center area of Island
  - Sample #4 – Center area of Island
  - Sample #5 – South end of Island

QR and MC Sample Locations

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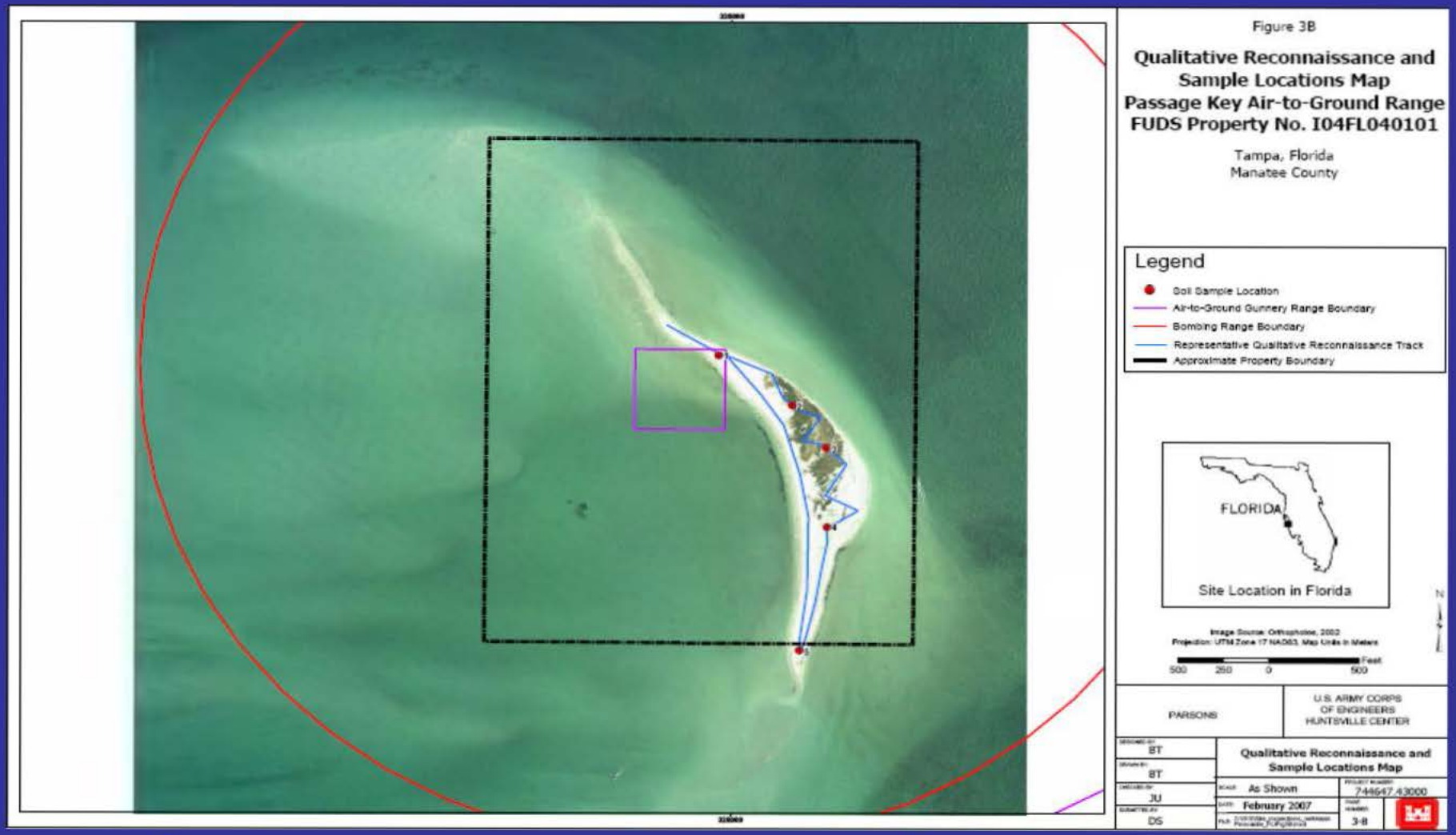

Qualitative Reconnaissance and Sample Locations

TPP Meeting Closure Issues

- Concurrence –
  - Number, type, and location of samples
    - Short metals list – Aluminum, Antimony, Copper, Zinc, Lead, Iron. No other metals associated with munitions.
    - Depth of soil samples?
    - SVT flexibility to move samples how far?
    - Discretionary samples? Save back one or two for selection by SVT with fallback?
  - Technical Approach. Sufficient data to support RI/FS?
  - Comparison Criteria. EPA and FDEP criteria?
    - For Soil? EPA Region 9 Industrial PRGs and FDEP where available? Take the most stringent?
    - Discrete sampling clarification.
    - What Eco numbers viable here? Screening Level Ecological Risk Assessment (SLERA) is necessary.
- DQO's. What are we trying to prove? Don't collect data you have no plan to make a decision from.
  - - "perception" data collection. "Good Faith" sampling.

- Other Issues/Notes –
  - Contamination not originating from with MEC IS NOT MC even if DOD source. This would become HTW project.
  - Slides presented here will be included in TPP Memo
  - Need for expedited review?
  - Dates to avoid fieldwork? Specific months to avoid for bird nesting.
  - Area Access Limitations? Other than access by boat.
  - T&E habitat and cultural resources. Island is migratory bird sanctuary.

Questions?

Passage Key Air-to-Ground Gunnery Range

Based On EM 200-1-2: Technical Project Planning (TPP) Process

U.S. Army Corps of Engineers

01 March 2007

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Passage Key Air-To-Ground Range		2/19/2007
TPP Team	EM 200-1-2, Paragraph 1.1.1	
Decision Makers		
Customer	USACE Jacksonville District (CESAJ)	
Project Manager	Charles Fales (CESAJ)	
Regulators	Florida Department of Environmental Protection	
Primary Stakeholders	United States Fish and Wildlife	
Data Types	**Data Users**	**Data Gatherer**
Demographics/Land Use	Risk, Responsibility, and Compliance Perspectives	Parsons (Senior Scientist, Risk Specialist)
Site Conditions	Remedy Perspective	Parsons (Geologist, Senior Scientist)
Munitions and Explosives of Concern (MEC)	Risk and Remedy Perspectives	Parsons (UXO Technician III or higher, Risk Specialist, Senior Scientist)
Munitions Constituents (MC)	Risk and Remedy Perspectives	Parsons (Chemist, Risk Specialist, Senior Scientist)
Archaeology	Compliance and Remedy Perspectives	CESAJ, Parsons (Staff Scientist, Senior Scientist)
Endangered Species	Risk and Compliance Perspectives	CESAJ, Parsons (Staff Scientist, Risk Specialist)

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CUSTOMER'S GOALS		EM 200-1-2, Paragraph 1.1.2	
Area of Concern (AOC)	Contaminant Issues	Future Land Use	Site-specific Closeout Goal (if applicable)
Air-to-Ground Gunnery Range	MEC/MC	Wildlife Refuge	See below

Site Closeout Statement
To manage the munitions and explosives of concern (MEC) and munitions constituents (MC) risk through a combination of removal/remediation, administrative controls, and public education; thereby rendering the site as safe as reasonably possible to humans and the environment and conducive to the anticipated future land use.
Customer's Schedule Requirements
Site Inspection and Reporting Complete by 24 April, 2008
Customer's Site Budget
Site Inspection and Reporting: Fully Funded Through SI Phase

SITE CLOSEOUT STATEMENT

To manage the munitions and explosives of concern (MEC) / munitions constituents (MC) risk through a combination of remedial action, administrative controls, and public education; thereby rendering the site as safe as reasonably possible to humans and the environment and conducive to the anticipated future land use.

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IDENTIFY SITE APPROACH		
EXISTING SITE INFORMATION & DATA	**EM 200-1-2, Paragraph 1.1.3 and 1.2.1**	
Attachment(s) to Phase I TPP Memorandum	**Located at Repository**	**Preliminary Conceptual Site Model**
Preliminary Assessment (Archives Search Report)	N/A for SI Phase; Implemented in post-SI Phase as warranted	No
Site-Specific SI Work Plan	N/A for SI Phase; Implemented in post-SI Phase as warranted	Yes
POTENTIAL POINTS OF COMPLIANCE	**EM 200-1-2, Paragraph 1.2.1.3**	
Determination of absence or presence of MEC/MC		
If MC is detected, comparison against Soil Screening Levels (SSLs) as identified in "Site Constraints and Dependencies" below to determine if further MC evaluation during RI/FS is warranted.		
Avoidance of sensitive conditions: wetlands, endangered species, archaeological sites		
MEDIA OF POTENTIAL CONCERN	**EM 200-1-2, Paragraph 1.2.1.4**	
Qualitative review of MEC presence.		
Quantitative screening of MC in soil		
SITE OBJECTIVES	**EM 200-1-2, Paragraph 1.2.2**	
Collection of sufficient MEC and MC data to determine if concentrations are high enough to warrant further study or action.		
Eliminate from further consideration those releases that pose no significant threat to public health or the environment.		
Collection of sufficient data to perform MRSPP scoring and for EPA to complete MC-related HRS scoring.		
Complete the SI		
See Programmatic and Site-Specific Work Plan		
See Attached Worksheets Developed by the Project Team		

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REGULATOR AND STAKEHOLDER PERSPECTIVES EM 200-1-2, Paragraph 1.2.3		
Regulators	Community Interests	Others
TBD	TBD	TBD

PROBABLE REMEDIES EM 200-1-2, Paragraph 1.2.4
NDAI
RI/FS characterization, if necessary
Institutional Controls / Public Education

EXECUTABLE STAGES TO SITE CLOSEOUT EM 200-1-2, Paragraph 1.2.5
Site Inspection (SI)
Remedial Investigation/Feasibility Study (RI/FS)
Proposed Plan
Decision Document
Remedial Design (RD)
Remedial Action (as necessary)
Recurring Review
Time Critical Removal Action (as required)

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IDENTIFY CURRENT PROJECT
SITE CONSTRAINTS AND DEPENDENCIES EM 200-1-2, Paragraph 1.3.1
Administrative Constraints and Dependencies
Rights of Entry (ROE)
Cultural Resources
Funding beyond the SI
Concurrent planning programs
Scheduling
Technical Constraints and Dependencies
Property owner/leaseholder site activities (Site access)
MEC avoidance screening of MC sample locations for safety
Topography/vegetation
Cultural resources
Environmentally sensitive areas
Legal and Regulatory Milestones and Requirements
Consistent with CERCLA and NCP
Public, stakeholder & regulatory involvement & review of key documents (see schedule)
Soil screening levels to include the Florida Administrative Code (FAC) 62-777 Soil Cleanup Target Levels and the Region 9 Industrial Preliminary Remediation Goals (PRGs).

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PROJECT OBJECTIVES WORKSHEET

SITE: Air-to-Ground Gunnery Range

PROJECT: Passage Key Air-to-Ground Gunnery Range, Florida

Site Objective [a]					Data Needs	Data Collection Methods	Data User(s)	Project Objective
Number	Executable Stage [b]		Description	Source [c]				
	Current	Future						
1	Yes		Determine presence/lack thereof of MEC	ASR, Recon	Are there any MEC? If so what type, where and hazard posed. Current and future LU.	Qualitative Reconnaissance	Risk and Remedy Perspectives	Basic
2	Yes		Determine if the concentration of MC is high enough to pose a risk to human health or the environment	surface soil	Is there any MC present in samples # 1 through # 5? If present what is it, to what degree is it present, is it above the average concentrations for metals, the FAC cleanup target levels, or the Region 9 PRGs for explosives? Future LU.	Sample collection IAW SAP	Risk and Remedy Perspectives	Basic
3								
4								

Remainder of Slides are Generic TPP Process Slides and will be included in TPP Memorandum.

Introduction

- Purpose
  - To achieve site closeout within project constraints
  - To involve stakeholders in project decision making
  - To systematically address complex issues
- Structure
  - Four phase process
- Spirit
  - "Structured brainstorming"

Overall Objective

To identify the desired site closeout condition (the project goal), and create a plan with the actions necessary to reach this goal, all with stakeholder acceptance

Or, said another way…

To make good decisions in the face of complex circumstances

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Four Phases

- **Phase I - Identify the project**

  (90% of TPP effort)

Describe the situation

- **Phase 2 - Determine data needs**

What *do* we know?

What *don't* we know?

- **Phase 3 - Develop data collection options**
- **Phase 4 - Finalize data collection program**

(Phases 3 & 4 mostly pre-defined for munitions response projects.)

How best to get the information we need?

Team Members

- Stakeholders
  - Government Agencies – Federal and state (Jacksonville District COE [CESAJ])
  - Regulators (Florida Department of Environmental Protection [FDEP])
  - Local Communities
  - Elected officials and public interest groups
  - Property owners – U.S. Fish and Wildlife Service
- External technical resources (technical experts)

Roles and Responsibilities

- **Customer(s)** – USACE Jacksonville District (CESAJ)
  - Project Manager - Team leader – Charles Fales (CESAJ)
    - Primary decision maker
    - Sets constraints
    - Acquires and manages resources
    - Primary point of contact with customer
- **Stakeholders** – Parties with direct interest (may be customers)
  - Landowners
- **Regulators** – Federal and State agencies with jurisdiction
- **Technical Experts – provide technical guidance**

Key Products

- Understanding of stakeholder concerns
- Project goal (site closeout statement)
- Conceptual site model (CSM)
- Project objective (ultimate safe closure)
- Probable remedies (NDAI or RI/FS)
- Actions needed for site closeout

Understanding Stakeholder Concerns

- Communicate, communicate, communicate
- Identify stakeholders and their special interests
  - Identify competing interests (if any)
  - Determine key issues ("hot buttons")
- Understand special interests of Local Community
- Elicit regulator expectations and perspectives

Project Goal

- Statement of site closeout
  - What is the “walk away” goal?
  - Goal may be influenced by:
    - Future land use
    - Regulatory status
    - Schedule and budget

Conceptual Site Model (CSM)

- Definition of CSM
  - A simple model of the relationships between contaminants at a site and the potential exposure pathways to human health or the environment.
- Examples of Exposure Pathways
  - MEC becomes exposed by erosion or other soil movement activities
  - Buried MEC may be exposed by construction crews

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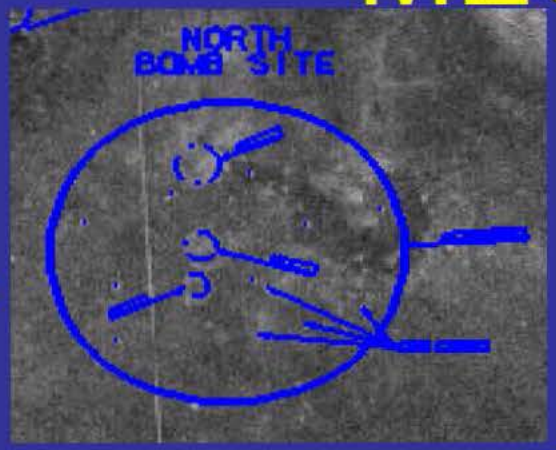
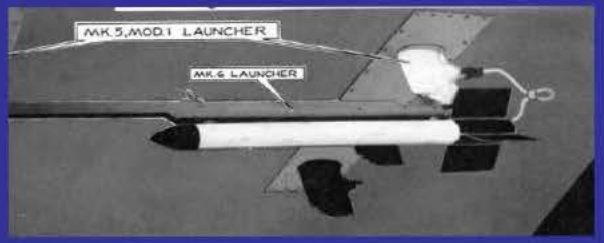
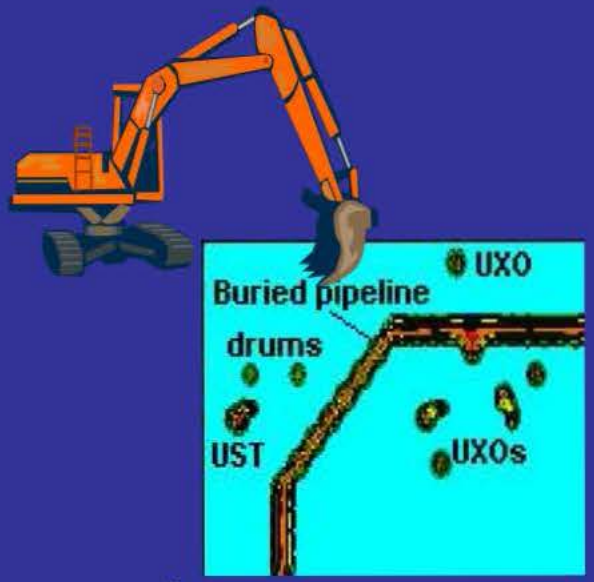
Conceptual Site Model
MEC Illustration







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ORDNANCE ON SITE	HUMAN ACCESS	CONFIGURED TO DETONATE (UXO)	ENERGETIC FORCE APPLIED (Human Behavior)	
YES	YES	YES	YES	
			NO	NO DETONATION
		NO		NO DETONATION
	NO			NO DETONATION
NO				NO DETONATION

MEC Accident Event Tree

Project Objectives

- Definition of project objectives
  - Short- and long-term issues which need to be addressed and resolved prior to site closeout
- Impacts on Project Objectives
  - Regulatory issues
    - CERCLA, NCP
  - Future land use
  - Schedule and funding

Project Objectives (Cont'd)

- Examples of project objectives
  - Determine whether the areas of concern are contaminated with MEC/MC
  - Determine what the next step in the process is
  - Justify the next step to the stakeholders satisfaction
- Classifications of project objectives
  - Basic - Pertaining to the current phase of the project
  - Optimum - Pertaining to future project phases
  - Excessive - Does not lead to site closeout

Probable Remedies

- What remedial alternatives seem most suitable?
- What additional information is needed to support/discard such alternatives?
- Innovative technologies may be appropriate and should be considered
- Use of anticipated remedies (RI/FS)

Qualitative Reconnaissance

- Non-intrusive, surface only
- Magnetometer aided for safety and subsurface densities
- Environmental, cultural, and archeological sensitive area(s) avoidance
- Confirm the presence or absence of MEC

Quantitative Sampling

- Discrete soil sample from two to six inches from surface
- Spoon size sample, no drilling

Actions Needed for Site Closeout

- Identify milestones for each project stage
- Define alternative actions for site closeout
  - Phasing and sequencing
  - Use of presumptive remedies
- Recognize constraints and dependencies
  - Schedule, budget, weather, rights of entry, etc.

Document Phase I

- Prepare Phase I TPP Memorandum
  - Stand alone summary document
  - Includes:
    - Site background
    - Conceptual site model (CSM)
    - Project goal (closeout statement)
    - Project objectives
    - Additional data needs
    - Schedules and budgets

Phase 2 - Determine Data Needs

- Review Phase 1 Worksheets
- Inventory existing data
  - Purpose
  - Use
  - Cost and schedule to meet project objectives

Phase 3 - Data Collection Options

- Focus is on design of sampling program
  - Fills data gaps identified in Phase 2
  - Fulfills project objectives
  - Considers site conditions
  - Balances precision and accuracy vs. cost

Phase 4 - Finalize Data Collection Program

- Phase 4 ties back into Phase 1
  - Relates data needs to sampling program to project objectives
  - Provides assurance that decisions are well supported with the right data obtained in the correct manner
- Focus is on detailed scoping of sampling and analysis program
  - Number and location of samples
  - Sampling protocols/analytical methods

Four Phase Process Complete

- Phase 1
- Phase 2
- Phase 3
- Phase 4