

PROJECT MANAGEMENT PLAN

Contract No. GS-10F-0076J Delivery Order W912QR-05-F-0033



Performance-Based Contract for Six Environmental Areas of Concern at Ravenna Army Ammunition Plant Ravenna, Ohio



**US Army Corps
of Engineers®**
Louisville District

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ACRONYMS AND ABBREVIATIONS

AOC	Area of Concern
BRAC	Base Realignment and Closure
CBP	Central Burn Pits
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	Chemical of Concern
COR	Contracting Officer's Representative
CQAP	Contractor Quality Assurance Plan
CQM	Construction Quality Management
DoD	Department of Defense
EBG	Erie Burning Grounds
EPA	Environmental Protection Agency
EPC	Exposure Point Concentration
FBQ	Fuze and Booster Quarry Landfill/Ponds
FS	Feasibility Study
GOCO	Government-Owned, Contractor-Operated
GSA	United States General Services Administration
HHRA	Human Health Risk Assessment
IDW	Investigative Derived Waste
IRP	Installation Restoration Program
JMC	United States Army Joint Munitions Command
LL12	Load Line 12
LTM	Long Term Monitoring
LUC	Land Use Control
MEC	Munitions and Explosives of Concern
mph	miles per hour
NCP	National Contingency Plan
NFA	No Further Action
NGB	National Guard Bureau
NEDO	Northeast District Office
NPDES	National Pollutant Discharge Elimination System
ODA2	Open Demolition Area #2
OFFO	Office of Federal Facilities Oversight
OHARNG	Ohio Army National Guard
Ohio EPA	Ohio Environmental Protection Agency
OSHA	Occupational Safety & Health Administration
PBC	Performance Based Contract
PE	Professional Engineer
PMP	Project Management Plan
PP	Proposed Plan
PPE	personal protective equipment
PWS	Performance Work Statement
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RA	Remedial Action
RAO	Remedial Action Objective
RAB	Restoration Advisory Board
RCRA	Resource Conservation and Recovery Act

ACRONYMS AND ABBREVIATIONS (continued)

RD	Remedial Design
REIMS	Ravenna Environmental Information Management System
RI	Remedial Investigation
ROD	Record of Decision
RQL	Ramsdell Quarry Landfill
RTLS	Ravenna Training and Logistics Site
RVAAP	Ravenna Army Ammunition Plant
SAIC	Science Applications International Corporation
SAP	Sampling and Analysis Plan
SSHO	Site-Specific Safety Health Officer
SSHP	Site Safety and Health Plan
SWPPP	Storm Water Pollution Prevention Plan
USACE	United States Army Corps of Engineers
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine
USAEC	United States Army Environmental Center
WBG	Winklepeck Burning Grounds

1.0 INTRODUCTION

Qrt Science Applications International Corporation (SAIC) has been contracted by the United States Army Corps of Engineers (USACE) Louisville District to provide environmental services to achieve interim closure of six high priority areas of concern (AOCs) at the Ravenna Army Ammunition Plant (RVAAP) in Ravenna, Ohio. The six high priority AOCs to be addressed are:

- RVAAP-01 Ramsdell Quarry Landfill (RQL);
- RVAAP-02 Erie Burning Grounds (EBG);
- RVAAP-04 Open Demolition Area #2 (ODA2);
- RVAAP-12 Load Line 12 (LL12);
- RVAAP-16 Fuze and Booster Quarry Landfill/Ponds (FBQ); and
- RVAAP-49 Central Burn Pits (CBP).

This work is being performed under a firm fixed price basis in accordance with United States General Services Administration (GSA) Environmental Advisory Services Contract GS-10-F-0076J under a Performance Based Contract (PBC). The performance objectives to complete all necessary remedial actions for six environmental AOCs by September 30, 2007 were specified in the Performance Work Statement (PWS) issued by the Army on February 10, 2005 (USACE 2005c).

In addition, planning and performance of all elements of this PBC will be in accordance with the requirements of the Director's Findings and Orders dated June 10, 2004 (Ohio EPA 2004). The portion of the Director's Findings and Orders pertinent to this PBC is the requirement to develop a Remedial Investigation/Feasibility Study (RI/FS), a Proposed Plan (PP), a Record of Decision (ROD) or other appropriate document and a remedy for each AOC at the RVAAP in conformance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the National Contingency Plan (NCP), as well as the Director's Findings and Orders.

1.1 PURPOSE AND OBJECTIVES

As part of this project, SAIC is tasked with the development of a Project Management Plan (PMP). This PMP summarizes SAIC's overall technical and management approach to achieve interim closure for six environmental AOCs at RVAAP by September 30, 2007 and includes a project schedule (detailing deliverable target and milestone dates), project team roles and responsibilities, and a deliverable matrix in accordance with the performance objectives listed in the PWS (USACE 2005c). This PMP also addresses coordination with other facility environmental and operational activities.

This PMP is considered a living document and will be updated, if necessary, after completion of major deliverable milestones to address significant changes to the overall technical and/or management approach. Updates to the PMP shall be noted as Revisions, sequentially numbered. The approved PMP will be designated as Revision 0.

1.2 PMP ORGANIZATION

The remaining sections of this PMP are organized as follows:

- Section 2 Site Background;
- Section 3 Summary of Work and Proposed Remedial Approach;
- Section 4 Project Execution and Coordination;
- Section 5 Project Organization/Resources;

- Section 6 Project Reporting;
- Section 7 Project Schedule and Milestones; and
- Section 8 References.

Section 2 summarizes facility and AOC background information. Section 3 outlines the initial technical approach developed for each AOC to achieve interim closure and Section 4 summarizes execution and coordination activities. SAIC will manage the project with the team organization and resources described in Section 5. Project reporting requirements and communication are described in Section 6. This established infrastructure will be utilized to ensure performance to the schedule and milestones (Section 7) and that project coordination (Section 4) is fully addressed and completed.

2.0 SITE BACKGROUND

2.1 FACILITY BACKGROUND

RVAAP is a 1,481 acre portion of the 21,419 acre Ravenna Training and Logistics Site (RTLS) of the Ohio Army National Guard (OHARNG). The OHARNG is currently accountable for 19,938 acres of the installation. RVAAP was previously operated as a government-owned, contractor-operated (GOCO) U.S. Army Joint Munitions Command (JMC) facility. RVAAP and RTLS is located in northeastern Ohio within Portage and Trumbull counties, approximately 4.8 kilometers (3 miles) east northeast of the town of Ravenna and approximately 1.6 kilometers (1 mile) northwest of the town of Newton Falls. The installation consists of a 17.7-kilometer (11-mile) long, 5.6-kilometer (3.5-mile)-wide tract bounded by State Route 5, the Michael J. Kirwan Reservoir, and the CSX System Railroad on the south; Garrett, McCormick and Berry roads on the west; State Route 534 to the east, and the Norfolk Southern Railroad on the north. The installation is surrounded by several communities: Windham on the north, Garrettsville 9.6 kilometers (6 miles) to the northwest, Newton Falls 1.6 kilometers (1 mile) to the east, Charlestown to the southwest, and Wayland 4.8 kilometers (3 miles) southeast.

RVAAP is in the process of regulatory environmental closure and is operated by the Base Realignment and Closure (BRAC) Field Office in Rock Island, Illinois. The BRAC Field Office controls environmental AOCs at RVAAP. The National Guard Bureau (NGB) controls non-AOC areas and has licensed these areas to OHARNG for training purposes. As environmental AOCs are investigated and addressed or remediated, if needed, transfer of these AOCs from the BRAC Office to NGB is conducted. The OHARNG has prepared a comprehensive Environmental Assessment and an Integrated National Resources Management Plan to address future use of RTLS property (OHARNG 2001).

2.2 AOC OPERATIONAL HISTORY/DESCRIPTION

RVAAP-01 Ramsdell Quarry Landfill: RQL is an unlined 10-acre (30 ft deep) former stone and ballast quarry. An Ohio Environmental Protection Agency (Ohio EPA) permitted solid waste landfill occupies the western quarter of the AOC and is currently under post-closure long term monitoring (LTM). The landfill unit does not require remedial action. Reportedly, open burning of incendiary rounds and burning of 18,000 napalm rounds occurred in the bottom of the quarry. Potential munitions and explosives of concern (MEC) scrap has been observed along the eastern quarry wall slope and south of the AOC.

RVAAP-02 Erie Burning Grounds: EBG is a 35-acre former burning ground used from 1941 to 1951 to thermally treat munitions, such as bulk non-specification explosives, explosives contaminated material, and bulk propellants. The site is currently estimated to be 60% aquatic habitat, much of which is high quality wetland. There are potential MEC issues at this site, although minimal MEC scrap has been found to date.

RVAAP-03 Open Demolition Area #2: ODA2, which consists of approximately 25 acres, was used from 1948 to 1992 to detonate large caliber munitions and off-spec bulk explosives that could not be deactivated or demilitarized by any other means due to their condition. Past operations at this AOC may have included the burial of munitions and ordnance components. More recent burning and detonation activities related to facility operations occurred until 1994 in a 2.5-acre area covered under a Resource Conservation and Recovery Act (RCRA) permit application. Since 1994, this area has been used for non-routine and emergency detonations. MEC clearance to a depth of 4 ft (excavating and sifting) was performed in the RCRA permitted area from 1999 to 2000. Closure of the RCRA area will be performed by others and is not part of the scope of this PBC. MEC and MEC scrap is ubiquitous in the AOC, along portions of the Sand Creek embankment (which bisects the AOC), and as kickout fragments in adjacent areas. "Rocket Ridge" and adjacent riparian areas of Sand Creek have not been cleared of MEC. As

such, Rocket Ridge and associated impacts will be addressed by others and is not part of the scope of this PBC.

RVAAP-12 Load Line 12: LL12 is an 80-acre former ammonium nitrate manufacturing facility operational from 1941 to 1946. From 1941 to 1943, explosive grade ammonium nitrate was manufactured at LL12. Various production, renovation, and demilitarization operations were performed at a number of locations on the site after the termination of ammonium nitrate production in 1943. LL12 was leased by the Silas Mason Company from 1946 to 1949 to manufacture fertilizer grade ammonium nitrate. Building 904 was used for demilitarization work and bomb melt out from 1949 to 1993. A pink water treatment plant located near Building 904 was taken out of service in 2000. From 1965 to 1967, Hercules Alcor, Inc. leased Building FF-19 to produce aluminum chloride. A former steam plant located in the southern portion of the AOC used fuel oil and coal at various times over the years as fuel. All buildings have been demolished to grade. An explosives composting pilot study in 1999 involved removal of about 1,500 ft³ of soil from four pits near Building 904 and composting at an off-AOC location.

RVAAP-16 Fuze and Booster Quarry Landfill/Ponds: FBQ was operated during the period 1945 through 1993. The eastern part of the AOC consists of three larger ponds located in an abandoned rock quarry. The ponds are 20 to 30 feet deep and are separated by earthen berms. The western part of the AOC consists of 11 smaller, shallow basins. Prior to 1976, the quarry was reportedly used for open burning and as a landfill. The resultant debris from the burning and from the landfill operation was reported to have been removed during construction of the ponds. From 1976 through 1993, spent brine regenerate and sand filtration backwash water from one of the RVAAP drinking water treatment plants was discharged into the ponds. This discharge was regulated under a National Pollutant Discharge Elimination System (NPDES) permit. In 1998, this AOC was expanded to include three other shallow settling ponds and two debris piles bringing the AOC to approximately 45 acres in size. The lands adjacent to the quarry were utilized as an impact area to test 40mm projectiles (USACE 2004a).

RVAAP-49 Central Burn Pits: The CBP is an approximately 20-acre site used early in RVAAP history as a construction yard by Cleveland Builders Supply. Multiple areas within the site were later used to burn non-explosive combustible scrap and to dump construction/industrial waste. Sand Creek forms the west boundary of the AOC. There are several (approximately 15) debris piles located in the central portion of the site and another near the western edge of the AOC.

2.3 CURRENT AOC STATUS

Field activities associated with the remedial investigations at these six high priority AOCs have been conducted at each AOC. The RI Reports and associated risk assessments have been initiated for each of these AOCs as summarized below:

- RVAAP-01 Ramsdell Quarry Landfill: The Preliminary Draft Phase I RI Report (USACE 2004c) has been completed and comments have been provided by Ohio EPA.
- RVAAP-02 Erie Burning Grounds: The Preliminary Draft Phase II RI Report (USACE 2001c) has been completed and comments have been provided by Ohio EPA.
- RVAAP-04 Open Demolition Area #2: The Preliminary Draft Phase II RI Report (USACE 2004e) has been completed and comments have been provided by Ohio EPA.
- RVAAP-12 Load Line 12: The Final Phase II RI Report (USACE 2004b) has been completed. Additional groundwater data has been collected since completion of the RI Report.
- RVAAP-16 Fuze and Booster Quarry Landfill/Ponds: The Preliminary Draft Phase I/Phase II RI Report (USACE 2004a) has been completed and comments have been provided by Ohio EPA.
- RVAAP-49 Central Burn Pits: The Preliminary Draft RI Report (JMC 2005) has been completed and comments have been provided by Ohio EPA.

3.0 SUMMARY OF WORK AND PROPOSED REMEDIAL APPROACH

This section summarizes the work to be performed and the initial proposed technical approaches developed to achieve interim closure at each of the six high priority AOCs. All necessary CERCLA remediation and closure requirements with respect to soils will be performed to meet this goal. Because surface water and groundwater are not included in the scope of this PBC, any closures will be considered interim. Any additional groundwater and surface water investigation would be addressed in future investigations and actions under those respective Facility Wide investigations.

Although remediation of impacts to groundwater and surface water will not be addressed under this PBC, a preliminary evaluation of groundwater and surface water alternatives will be included in the FS for each AOC as appropriate. In general, SAIC's approach entails:

- Fast-track execution schedule that streamlines major report deliverables through integrated documents addressing all six high priority AOCs.
- Streamlined Ohio EPA review and acceptance process, using technical workshops to adroitly determine and agree upon basis and subsequent approach at major decision points (e.g., prior to FS development to lay groundwork for human health and ecological remedial action objectives [RAOs]).
- Intelligent, focused, risk-based technical approach addressing anticipated land uses throughout the process.
- Experienced application of weight-of-evidence for no remediation on the basis of ecological hazard quotients emphasizing similar accepted justification utilized at other sites (e.g., Winklepeck Burning Grounds [WBG] and Load Lines 1-4).

3.1 SUMMARY OF WORK

The following steps summarize the activities that must be completed to support interim closure of the six high priority AOCs no later than September 30, 2007:

Step 1 – Complete RI Reports: SAIC will complete the RI Reports for each of the AOCs. The human health risk assessments (HHRAs) developed in each of the RI Reports will be updated to include all appropriate receptors in accordance with the RVAAP Facility Wide Human Health Risk Assessor Manual (USACE, 2004f). At those AOCs where additional risk assessment evaluation is necessary to incorporate additional soils and/or groundwater data, a supplemental Phase II RI Report will be completed and submitted as an appendix to the FS.

Step 2 – Prepare Feasibility Study: SAIC will complete an integrated FS for the six high priority AOCs. In the integrated FS, SAIC will evaluate the appropriate range of remedial actions to reduce risks to the environment and human health. To obtain interim closure for soils, the possible remedial actions evaluated by the FS will likely only include no further action, limited action, and removal of soils. The FS will include a weight-of-evidence approach to support not calculating ecological RAOs. The weight-of-evidence will be predicated on current availability of marginal habitat within the AOC, lack of unique ecological resources, availability of adjacent high quality habitat, future military use as mounted training, extrapolation of applicable results from the WBG Field Truthing Study, and risk reductions gained through soil removals to attain human health RAOs. As part of this PBC scope, SAIC will include a preliminary evaluation of alternatives to protect groundwater and surface water resources in the FS.

Step 3 – Prepare Proposed Plan: After the FS has been completed, SAIC will document the preferred alternative for each AOC in a PP, which will be provided for public review and comment. The PP may address all six AOCs or separate PPs may be developed to address AOCs where limited action is recommended and those where remedial activities are recommended if it is anticipated to facilitate and

expedite the review and comment process. The PP(s) will be presented in a format that is clear and understandable to the public.

Step 4 – Prepare Record of Decision: The selected remedy, future land use, and associated land use controls (LUCs) will be documented in the integrated ROD. The selected remedy shall consider public comment provided on the PP(s). A Responsiveness Summary addressing all public comments will be prepared as part of the ROD(s). As with the PP, the ROD may address all six AOCs or separate RODs may be developed to address related remedies. The ROD(s) will be presented in a format that is clear and understandable to the public.

Step 5 – Remedial Design Work Plan: Upon approval of the PP, SAIC will initiate preparation of the remedial design (RD). The RD Work Plan will be developed with assistance from TolTest (remediation subcontractor) to ensure constructability and streamline subsequent implementation. The RD Work Plan will include a brief description of activities, construction drawings with appropriate construction specifications included as notes on the design drawings, and confirmation sampling protocols and objectives as appropriate for each AOC. The RD Work Plan also will address health and safety, quality assurance (QA), and associated procedures including coordination with others on site.

Step 6 – Implement the RD Work Plan: Upon finalization, SAIC/TolTest will implement the activities detailed in the RD Work Plan at each of the AOCs.

Step 7 – Prepare Remedial Action Reports: Upon completion of remedial activities, a Remedial Action (RA) Report shall be prepared documenting implementation in accordance with the RD Work Plan (i.e., complied with requirements, technical specifications, construction drawings, and other relevant contract documents); interim closure of the AOC; corrective actions; compliance with the Director’s Findings and Orders (Ohio EPA 2004); and achievement of RAOs. The RA Report shall include a summary table of land use assumptions and remaining concentrations in soils to assist future five year reviews and land transfer activities.

3.2 PROPOSED REMEDIAL APPROACH

In developing the proposed technical remedial action approach for each AOC, SAIC considered the following criteria to determine those AOCs requiring remedial action:

1. Presence of debris or disposed wastes that would be impediments to anticipated future land uses;
2. Identification of chemicals of concern (COCs) that exceed human health RAOs for receptors specific to anticipated future land use (Table 3-1) (detailed in the RVAAP Facility Wide Human Health Risk Assessor Manual [USACE, 2004f]);
3. Determination if source removals are required to achieve protectiveness of ecological receptors; and
4. Need for physical or administrative controls under anticipated future land uses to prohibit site access.

Table 3-1. Anticipated Future Land Uses for Six High Priority AOCs at RVAAP

Area of Concern	Land Use ¹
RVAAP-01 Ramsdell Quarry Landfill	Restricted Access, No Digging
RVAAP-02 Erie Burning Grounds	Restricted Access, No Digging
RVAAP-04 Open Demolition Area #2	Restricted Access, No Digging
RVAAP-12 Load Line 12	Mounted Training, No Digging
RVAAP-16 Fuze and Booster Quarry	Mounted Training, No Digging
RVAAP-49 Central Burn Pits	Dismounted Training, No Digging

¹OHARNG proposed land use - RVAAP Facility Wide Human Health Risk Assessor Manual (USACE 2004f)

OHARNG has established future land uses for each of the six high priority AOCs (Table 3-1) based on anticipated training mission and utilization of the RTLS (USACE 2004f). These anticipated future land uses form the basis for the proposed remedial action technical approaches summarized in Table 3-2.

Figure 3-1 illustrates the decision process for determining the need for remedial actions at the six high priority AOCs. From available risk assessment data, known or potential human health COCs at each AOC were identified and their exposure point concentration (EPC) and point concentrations compared to soil RAOs for applicable receptors under the anticipated land use. If RAO exceedances were identified, a corresponding action has been proposed as an initial approach. Similarly, if the AOC-specific receptors included exposures to surface water or sediment, RAO exceedances were evaluated to determine if source remediation required to reduce contaminant migration to those media and exposure risk.

For protection of ecological receptors, the need for ecological RAOs was based on a comparison of the benefit of risk reductions gained relative to habitat degradation due to the action or to future anticipated land use. Where applicable, corresponding ecological risk reductions resulting from soil removals to attain human health RAOs also are considered.

All six high priority AOCs will likely require some type of physical/administrative controls and/or soil removal to achieve regulatory acceptance of interim closure. The proposed remedial action technical approaches are summarized in Table 3-2.

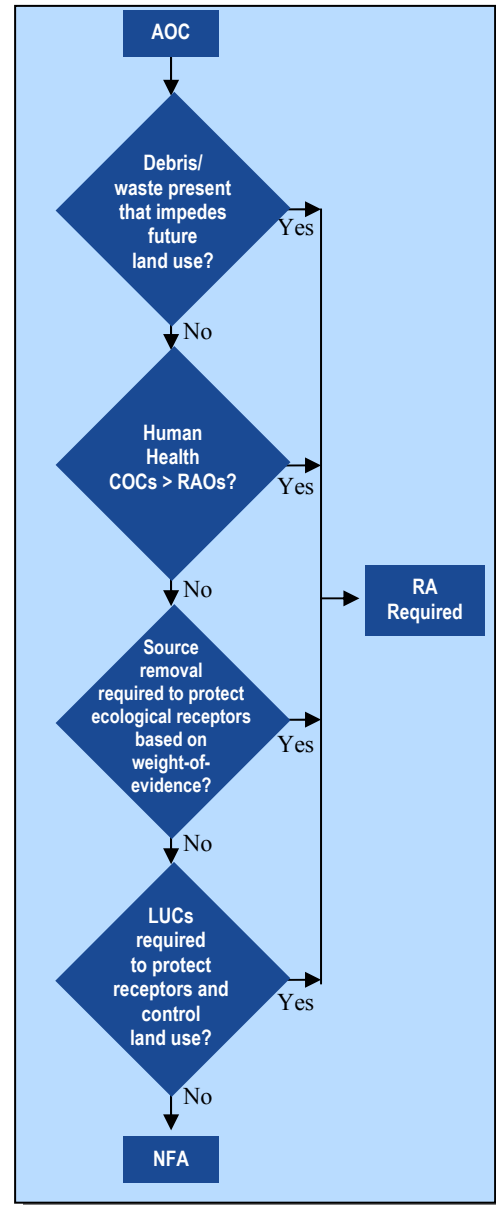


Figure 3-1. Decision Process to Identify Need for Remedial Action

Table 3-2. Summary of Proposed Remedial Action Technical Approaches for Six High Priority AOCs at RVAAP

AOC (Land Use)	Complete RIs and RI Reports	Complete FS/PP/ROD	Remedial Designs	Proposed Remedial Action Technical Approaches
RVAAP-01: Ramsdell Quarry Landfill (Restricted Access – No Digging)	Complete Preliminary Draft comment responses and prepare Draft and Final revisions of current RI. Incorporate additional HHRA receptors in accordance with the FWHHRAM. No additional investigation.	Integrated FS to also include focused remedial alternatives for groundwater and surface water within the quarry. Complete integrated PP and ROD.	Complete streamlined remedial design.	No soil excavation planned based on EPCs being less than RAOs for a Security Guard/Maintenance Worker receptor and minimal exposure risk under anticipated future land use. Ecological RAOs not required based on weight-of-evidence evaluation. Physical and institutional LUCs will be implemented consistent with restricted access land use. Prepare Remedial Action Report.
RVAAP-02: Erie Burning Grounds (Restricted Access – No Digging)	Complete Preliminary Draft comment responses and prepare Draft and Final revisions of current RI. Incorporate additional HHRA receptors in accordance with the FWHHRAM. No additional investigation.	Integrated FS will include soil erosion model to confirm minimal contaminant loading to aquatic habitat. Evaluate focused groundwater and surface water remedial alternatives. Complete integrated PP and ROD.	Complete streamlined remedial design.	No soil excavation planned based on absence of soil or surface water COCs for a National Guard – Fire/Dust Suppression Worker receptor. Ecological RAOs not required based on weight-of-evidence that source removals would be more damaging to habitat than current conditions. Physical and institutional LUCs will be implemented consistent with restricted access land use. Prepare Remedial Action Report.
RVAAP-03: Open Demolition Area 2 (Restricted Access – No Digging)	Complete Preliminary Draft comment responses and prepare Draft and Final revisions of current RI. Conduct Phase II RI (soil/subsurface soil samples) to further delineate extent of impacted soils. Update human health and ecological risk evaluations, if necessary	Integrated FS to also include focused remedial alternatives for groundwater and surface water within the quarry. Complete integrated PP and ROD.	Complete streamlined remedial design.	No soil excavation planned based on lack of soil COCs above RAOs for a Security Guard/Maintenance Worker receptor. Ecological RAOs not required based on weight-of-evidence that source removals would require prior MEC removals and result in more habitat damage than current conditions. Physical and institutional LUCs will be implemented consistent with restricted access land use. Prepare Remedial Action Report.
RVAAP-12: Load Line 12 (Mounted Training – No Digging)	Complete revised RI Report (Draft and Final) incorporating new groundwater data collected by MKM Inc. and update to human health risk assessment. No additional investigation.	Integrated FS to also include focused remedial alternatives for groundwater and surface water within and adjacent to the AOC. Complete integrated PP and ROD.	Complete streamlined remedial design.	MEC avoidance survey. Excavate soil and dry sediments from main ditch with aluminum, arsenic, and PAHs greater than RAOs for NGB Trainee receptor and manganese determined to be greater than background. Off-site disposal at local industrial landfill as non-hazardous industrial waste. Confirmation sampling. Re-grade, utilizing supplemental clean replacement backfill, as necessary. Prepare Remedial Action Report.
RVAAP-16: Fuze and Booster Quarry Landfill/Ponds (Mounted Training – No Digging)	Complete Preliminary Draft comment responses and prepare Draft and Final revisions of current Phase I RI. Complete fate and transport and human health and ecological risk evaluations. Conduct Phase II RI (soil/subsurface soil samples) to further delineate extent of impacted soils. Update human health and ecological risk evaluations, if necessary	Integrated FS to also include focused remedial alternatives for groundwater and surface water within and adjacent to the AOC. Complete integrated PP and ROD.	Complete streamlined remedial design.	Excavate soil hotspots with manganese determined to be greater than background. Excavate dry ditch sediment west of settling basins with chromium and arsenic greater than RAOs for NGB Trainee receptor and manganese determined to be greater than background. Remove debris at north end of quarry. Off-site disposal to local industrial landfill as non-hazardous industrial waste. Confirmation sampling. Re-grade, utilizing supplemental clean replacement backfill, if necessary. No surface water/sediment remedial actions at 3 retention ponds. Prepare Remedial Action Report.
RVAAP-49: Central Burn Pits (Dismounted Training – No Digging)	Complete Preliminary Draft comment responses and prepare Draft and Final revisions of current Phase I RI. Conduct Phase II RI (additional soil/subsurface soil samples) to further delineate extent of impacted soils. Update human health and ecological risk evaluations, if necessary.	Integrated FS to also include focused remedial alternatives for groundwater and surface water within and adjacent to the AOC. Complete integrated PP and ROD.	Complete streamlined remedial design.	Excavate soil with arsenic greater than RAOs for NGB Trainee receptor and manganese determined to be greater than background. Off-site disposal to local industrial landfill as non-hazardous industrial waste. Remove debris and dispose appropriately. Confirmation sampling. Re-grade, utilizing supplemental clean replacement backfill, if necessary. Prepare Remedial Action Report.

The proposed remedial action technical approaches have not been agreed to by Ohio EPA. Review and comment on this document does not constitute endorsement of the proposed remedial action technical approaches.

4.0 PROJECT EXECUTION AND COORDINATION

4.1 PROJECT EXECUTION

This PMP will be updated, if necessary, after completion of major deliverable milestones to address significant changes to the overall technical and/or management approach. The updated PMP will be distributed to all RVAPP Interested Parties. Updates to the PMP shall be noted as Revisions, sequentially numbered; the initially approved PMP will be designated as Revision 0.

The following activities and deliverables will be performed in support of this project:

- Project Kick-Off Meeting and Meeting Minutes;
- Monthly Progress Reports (including schedule updates);
- Teleconference Progress Updates (agenda and meeting minutes);
- Schedule Updates (coordinated by USACE, updates provided by SAIC);
- PMP;
- RQL RI Report;
- EBG RI Report;
- ODA2 RI Report;
- LL12 Revised Final RI Report;
- FBQ RI Report;
- CBP RI Report;
- Work Plan Addenda detailing additional field work;
- FS for six high priority AOCs;
- PP for six high priority AOCs;
- ROD for six high priority AOCs;
- RD Work Plan for six high priority AOCs;
- Remedial Actions for six high priority AOCs; and
- RA Report for six high priority AOCs.

All work performed at these six high priority AOCs shall follow this PMP and shall be performed in accordance with the following documents developed for RVAAP:

- Director's Findings and Orders for RVAAP (Ohio EPA 2004);
- RVAAP's Facility Wide Human Health Risk Assessor Manual (USACE 2004f);
- Facility Wide Ecological Risk Assessment Work Plan (USACE 2003a);
- Facility Wide Sampling and Analysis Plan (SAP) (USACE 2001b);
- Facility Wide Health and Safety Plan (USACE 2001a);
- Facility Wide Groundwater Monitoring Program Plan (Portage Environmental 2004); and
- RVAAP Community Relations Plan (USACE 2003b).

SAIC implements a rigorous QA Program following the structure of national reference standards and is compliant with ISO-9001 and United States Environmental Protection Agency (EPA) QA R-5. In conjunction with this PMP, the Facility Wide Quality Assurance Project Plan (QAPP) (located in the Facility Wide Sampling and Analysis Plan [USACE 2001b]), and USACE's Construction Quality Management (CQM) Program, SAIC will apply the QA Program to this project to ensure high quality products and results are obtained. Preparation, review, and approval of documents affecting quality will be developed accordingly to ensure adequate procedures or guidelines are provided to perform the intended activities.

SAIC will prepare project work plans prior to the start of any field work for both field sampling activities and remedial activities. Previously approved facility documents will be cited where appropriate to facilitate and expedite document review. These plans will be submitted to the Army and Ohio EPA for review and approval prior to the initiation of field activities and at a minimum will address the following elements, as appropriate:

- Detailed description of activities;
- Health and safety (including MEC);
- QA/quality control (QC);
- Management of investigative derived waste (IDW); and
- Storm water pollution prevention.

Additional details are provided in the following sections.

4.1.1 Sampling and Analysis Plans

SAIC will prepare a SAP to establish technical and QC requirements during environmental sampling and analysis for chemical constituents (e.g., additional delineation sampling, confirmation sampling, etc.). Prior to the start of field work at RVAAP, SAIC will prepare a SAP, tiered under the existing RVAAP Facility Wide SAP (USACE 2001b), to comply with USACE and Ohio EPA requirements. Any unique sampling requirements not covered under the RVAAP Facility Wide SAP, such as multi-increment sampling techniques or composite sampling from stockpiled soil, will be addressed in the task-specific SAP. All analytical work shall be performed in accordance with the Louisville Chemistry Guideline (USACE 2002).

During SAP development, the utilization of discrete data versus multi-increment sampling data will be evaluated on a case-by-case basis. Sampling objectives will be established and the appropriate method identified to satisfy these objectives for each sampling activity. The evaluation will consider the following factors:

- How much discrete sampling has previously been performed;
- Uniformity/consistency of the results of this sampling; and
- Comparison of measured concentrations of residual contamination to RAOs.

4.1.2 Site Safety and Health Plans

SAIC will develop Site-Specific Safety and Health Plans (SSHP) for each appropriate task of the project (e.g., implementation of the RD Work Plans), which will be tiered under the Facility Wide Health and Safety Plan. The SSHP will include emergency response, contingency plans, and emergency contacts. The SSHP will meet the requirements of federal, state, and local regulations and will identify safety and health regulations applicable to the work.

SAIC will ensure all employees, subcontractors, and on-site suppliers follow all provisions established in the approved SSHP. SAIC understands that the Army and Ohio EPA retain Stop Work Authority for any observed violations or non-compliance with the SSHP pending corrective action. The SSHP will include:

- Site description and contaminant characterization;
- Safety and health hazard assessment and risk analysis;
- Safety and health staff organization and responsibilities;
- Site specific training;
- Medical surveillance parameters;
- Personal protective equipment (PPE);

- Decontamination facilities and procedures;
- Monitoring and sampling requirements;
- Safety and health work precautions and procedures;
- Site control measures;
- On-site first aid and emergency equipment;
- Emergency response plans and contingency procedures (both on-site and off-site);
- Documentation and record keeping; and
- Gives authorization to all workers to stop work for non-compliance with safety standards.

4.1.3 Quality Control Plans

Prior to the start of field sampling activities, SAIC will prepare a quality control plan, tiered under the existing RVAAP Facility Wide QAPP (located in the Facility Wide SAP [USACE 2001b]) to ensure field sampling activities are implemented in accordance with the appropriate procedures. Prior to initiation of remedial activities, SAIC will develop a Contractor Quality Assurance Plan (CQAP). The CQAP will be incorporated into the RD Work Plan and will guide the performance of work activities by all personnel, including subcontractors. Applicable requirements of the USACE CQM Program will be integrated into the CQAP. Implementation of CQM will ensure remedial activities are performed in accordance with cost and schedule specifications.

4.1.4 Storm Water Pollution Prevention Plans

As part of RD Work Plan, SAIC will prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP will establish the procedures and controls to prevent storm water run-on and run-off, to minimize erosion of site soils, to prevent sediment transport and accumulation, and to protect adjacent drainage ways during intrusive field work activities in accordance with all applicable federal, state, and local requirements.

4.2 SITE LOGISTICS AND COORDINATION

Subcontractor Coordination: During any week which SAIC (including SAIC subcontractors) performs any site work at RVAAP/RTLS, a representative will attend the Monday morning contractor meeting (8:30 AM). These meetings are designed to facilitate coordination of various contractor activities occurring at RVAAP/RTLS. SAIC and its subcontractor(s) will coordinate to the best of their ability with other subcontractors performing work at RVAAP/RTLS.

Fall Deer Hunting: SAIC will not perform any site work during the weekends RTLS allows deer hunting.

Clearances: In order to ensure the security and orderly running of RVAAP/RTLS, any contractors, consultants, or visitors who wish to gain access to the facility will follow procedures established by RVAAP/RTLS and the facility caretaker contractor.

Deliveries: SAIC will notify the facility management 24-hours in advance of any deliveries to RVAAP/RTLS. SAIC understands that all trucks are subject to search by RTLS security at any time. All personnel associated with this project will observe and obey posted speed limits at RVAAP/RTLS or default to 35 mph during daylight hours and 25 mph during nighttime hours.

Smoking: Smoking is allowed only in designated areas of RVAAP/RTLS.

Communication: The use of walkie-talkies and cell phones are permitted at RVAAP/RTLS; however, personnel will have a backup form of communication in the event service is not provided in the work area.

Hazardous and Non-Hazardous Waste: Contractors are required to remove non-hazardous trash brought to or generated at RVAAP/RTLS during work. Hazardous materials require manifest to be removed from RVAAP/RTLS. The facility management will generate manifests for all wastes generated under this project.

Food: Food shall only be consumed in designated areas of RVAAP/RTLS.

4.3 GOVERNMENT FURNISHED RESOURCES

SAIC shall coordinate with the Army, OHARNG, and the site operating contractor to gain access to the facility and to available infrastructure and utilities as required for execution of this project. The Government will provide the following resources to SAIC, if available: pertinent records, reports, data, analysis, and information, in their current format (e.g. hardcopy, electronic, tape, disks, CDs) to facilitate development of a complete and accurate assessment of current, former and historical site activities and operations; waste generation and contaminant characteristics; parameters of interest; and, site environmental conditions; access to appropriate personnel to conduct interviews on facility operations and activities; access to all applicable Department of Defense (DoD) and Army policy and guidance documents.

5.0 PROJECT ORGANIZATION/RESOURCES

5.1 PROJECT ORGANIZATION, ROLES, AND RESPONSIBILITIES

SAIC will be responsible for the execution of this project. The project team is shown in Figure 5-1. The project team organizational chart displays the roles played in this project as well as the tasks required for this project and the personnel responsible for the execution of these tasks. Below is a description of the key project positions identified in the chart.

Project Manager: The Project Manager for this project is Laura Obloy, PE. The Project Manager will serve as the point of contact for all Interested Parties. The Project Manager is responsible for the completion of the project in accordance with the contract and regulatory requirements. The Project Manager also is responsible for the coordination of schedules, cost tracking, and preparation of submittals.

Deputy Project Manager: The Deputy Project Manager for this project is Jed Thomas, PE. The Deputy Project Manager will assist the Project Manager in ensuring project execution in accordance with the contract and regulatory requirements. The Deputy Project Manager will support coordination of schedules, cost tracking, and preparation of submittals.

RI/FS and Decision Document Leads: The primary leads for this project are Kevin Jago and Jed Thomas. Martha Clough will lead any additional site investigation activities supporting the completion of these documents. The RI/FS and Decision Document Leads will coordinate development and completion of the various documents in accordance with the approach summarized in this PMP and required by subsequent discussions with the Army and Ohio EPA to achieve project objectives and approvals.

Risk Assessors: The lead for HHRA activities is Sharon Robers. The lead for ecological risk assessment activities is Dr. Barney Cornaby. The Risk Assessors will support the RI/FS and decision document process in developing risk-based analyses and determination of risk-based remediation goals.

Remediation Supervisor: The Remediation Supervisor for this project is Sam Insalaco. The Remediation Supervisor is responsible for the development of RD Work Plans detailing remedial action activities for each AOC in conjunction with the remedial action implementation subcontractor, TolTest. The Remediation Supervisor also is responsible for completion of site operations in accordance with the approved plans and field work orders. The Remediation Supervisor has full authorization to stop work and to demand corrective action based on non-compliance with the level of quality required by the plans.

Project QA Officer: The Project QA Officers for this project are Tammy Parker and Lisa Ramsey. The Project QA Officer is responsible for implementing project QA in accordance with SAIC's QA Program. The Project QA Officer is responsible for overseeing and approving any required project training during the development of documents as well as implementation of field activities. These responsibilities include data verification and final project reports.

Site Safety and Health Officer: The Site Safety and Health Officer (SSHO) is Martha Clough. The SSHO will prepare the SSHP for the necessary site work. The SSHO is responsible for the implementation of the SSHP and will conduct site inspections to ensure compliance with Federal, State, and Occupational Safety & Health Administration (OSHA) regulations and all aspects of the SSHP including activity hazard analyses, air monitoring, use of PPE, decontamination, site control, standard operating procedures used to minimize hazards, safe use of engineering controls, the emergency response plan, and spill containment program. The SSHO will ensure all personnel are properly trained for their

assigned tasks for all work performed. The SSHO has full authorization to stop work and to demand corrective action for non-compliance with the SSHP.

5.1.1 Subcontractor Management

SAIC will implement this project using subcontractor arrangements with our key team member, TolTest, as well as drilling, laboratory, and transportation and disposal subcontractors. Subcontracts will be carefully developed and reviewed by the Project Manager to reflect detailed scope and realistic performance objectives and specifications. Provisions of the basic contract, health and safety requirements, and QA/QC requirements will be flowed-down, as appropriate, to encourage beneficial performance and/or penalize poor performance. Field performance of all subcontractors will be monitored by the Remediation Supervisor and SSHO, who will record observations of progress and discuss project status daily with the Project Manager. Deviations will be addressed in accordance with the protocols specified in the relevant Work Plan(s). Negative performance trends will instigate an interim performance evaluation and a corrective action plan will be developed as required to bring schedule/cost performance back in line.

5.2 RVAAP INTERESTED PARTIES

SAIC will manage and coordinate this project to ensure all RVAAP Interested Parties are kept informed of the project status, existing or potential problems, and any changes that may be required to prudently manage the project and meet the needs of these Interested Parties. These Interested Parties include:

- USACE – Louisville District (CELRL);
- RVAAP;
- United States Army Environmental Center (USAEC);
- OHARNG/RTL5;
- NGB;
- Ohio EPA;
- BRAC Office;
- United States Army Center for Health Promotion and Preventive Medicine (USACHPPM); and
- SpecPro (implementing site-wide groundwater activities).

5.3 PUBLIC INVOLVEMENT

SAIC will coordinate all public involvement activities through the current public participation process established by RVAAP, including the Restoration Advisory Board (RAB). All public involvement activities will be coordinated through the RVAAP Facility Manager, the Louisville District Contracting Officer's Representative (COR), and Ohio EPA. These activities include preparation of briefings, presentations, fact sheets, newsletters, RAB tours, and articles to news media, if needed. SAIC will prepare information for public review at the request of the Army. The public will be provided the opportunity to comment on draft documents submitted to the Administrative Record as noted in Table 5-1. The Army will request public comments on the PP for the six high priority AOCs, as required by the CERCLA regulatory process and the RVAAP Community Relations Plan, and respond to all public comments. SAIC will provide project descriptions and progress updates suitable for inclusion in the RVAAP public website, as requested by the COR and RVAAP.

5.4 PROJECT DELIVERABLES

SAIC will effectively consolidate the FSs, PPs, RODs, RDs, and RA Reports. These consolidated documents will be presented in clear and understandable format. Consolidation of these documents will reduce the time required to produce, review, and finalize the documents. Essentially, this streamlining will further enhance the ability to meet the September 30, 2007 deadline to achieve interim closure of the six high priority AOCs. The deliverable schedule is provided in Section 7.1 (Figure 7-1).

SAIC will coordinate the number of electronic and hard copy deliverables required for each document with the Interested Parties. The Ohio EPA and Army review and comment cycle for each document is 45 days. SAIC will address Ohio EPA and Army comments in a clear and concise manner. As requested by the Ohio EPA, the response to comments table will be very specific with regards to the changes being made in the document. SAIC will coordinate with the Army and Ohio EPA to efficiently address any comments made in preliminary draft and draft versions of documents.

Table 5-1 summarizes project submittals and approvals. SAIC shall complete all deliverables according to CERCLA/NCP and Ohio EPA requirements. SAIC shall obtain written or electronic approval of these documents by both Ohio EPA and the Army in accordance with the PWS (USACE 2005).

Table 5-1. Deliverable Approval Matrix

Deliverable	Army	Ohio EPA	Public
<i>Project Kick-off Meeting Minutes</i>			
Final Meeting Minutes	A		
<i>Project Management Plan</i>			
Final PMP (Revision 0)/Updates (subsequent revisions)	A		
Project/Milestone Schedule	A	A	
<i>Monthly Progress Reports</i>			
Final Monthly Progress Report	A		
<i>Phase I RI of Ramsdell Quarry Pond LF</i>			
Draft RI	C	C	C*
Final RI	A	A	
<i>Phase II RI of Erie Burning Grounds</i>			
Draft RI	C	C	C*
Final RI	A	A	
<i>Phase II RI of Open Demolition Area #2</i>			
Draft RI	C	C	C*
Final RI	A	A	
<i>Revised Phase II RI of Load Line 12</i>			
Draft RI	C	C	C*
Final RI	A	A	
<i>RI of Fuze and Booster Quarry Pond LF</i>			
Draft RI	C	C	C*
Final RI	A	A	
<i>Draft Phase II Sampling Work Plan</i>			
Draft Phase II Sampling Work Plan	C	C	
Final Phase II Sampling Work Plan	A	A	
<i>RI of Central Burn Pits</i>			
Draft RI	C	C	C*
Final RI	A	A	
<i>Draft Phase II Sampling Work Plan</i>			
Draft Phase II Sampling Work Plan	C	C	
Final Phase II Sampling Work Plan	A	A	
<i>FS of subject AOCs</i>			
Preliminary Draft FSs	C	C	
Draft FSs	C	C	C*
Final FSs	A	A	
<i>PPs of subject AOCs</i>			
Draft PPs	C	C	
Final PPs	A	A	C
<i>RODs of subject AOCs</i>			
Preliminary Draft RODs	C	C	
Draft RODs	C	C	C*
Final RODs	A	A	
<i>Remedial Designs of subject AOCs</i>			
Draft RDs	C	C	
Final RDs	A	A	
<i>RAs with Close Out Reports</i>			
Draft Close Out Reports	C	C	
Final Close Out Reports	A	A	

A – Formal approval C – Provide comment * – Documents available for public review/comment via the RVAAP Administrative Record.

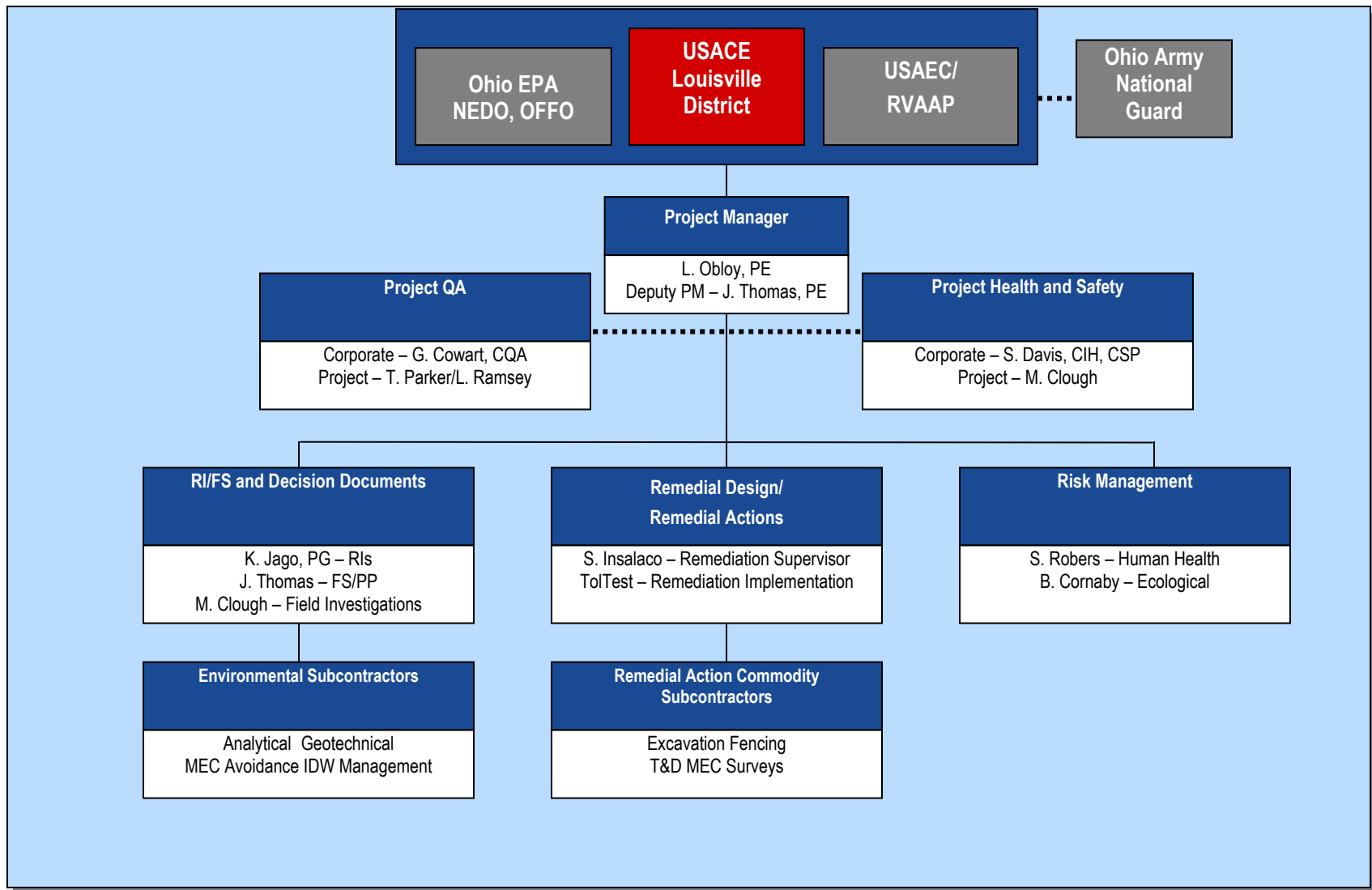


Figure 5-1. Project Organizational Chart

6.0 PROJECT REPORTING

In an effort to communicate the progress, findings, and potential changes that may occur during the project, SAIC will communicate with all Interested Parties during the established biweekly status meetings and the monthly progress reports.

6.1 BIWEEKLY STATUS TELECONFERENCES

Starting the week of May 2, 2005, SAIC will conduct biweekly status meetings with the appropriate interested parties per the PWS by means of a conference call. The purpose of these meetings is to address the progress to date, summarize anticipated activities, address any problems or issues with regards to the project, and discuss any corrective actions. A standard agenda for this biweekly conference call will be issued at least two days prior to each call for review and comment. Upon the incorporation of comments to the agenda, a finalized agenda will be provided to the interested parties. The project status includes, but is not limited to:

- Work completed;
- Work scheduled;
- Technical issues;
- Regulatory challenges/issues;
- Issues that may hamper project schedule; and
- Any other project related issues raised by any of the Interested Parties.

SAIC will provide meeting minutes of the biweekly status meeting to all Interested Parties.

6.2 MONTHLY PROGRESS REPORTS

As required by the Director's Findings and Orders (Ohio EPA 2004), and unless otherwise specified in writing by Ohio EPA, a written progress report for every month is required to be delivered to Ohio EPA by the tenth day of the following month. To comply, SAIC shall provide a Monthly Progress Report to USACE by the fifth day of each month. USACE shall compile Monthly Progress Reports from all contractors to submit to Ohio EPA by the tenth day of each month. USACE has established a template for these monthly progress reports (Figure 6-1). As required by the Director's Findings and Orders, SAIC will use this template to, at a minimum:

- Describe the status of all projects being implemented and actions taken toward achieving compliance during the reporting period;
- Describe difficulties encountered during the reporting period and actions taken to rectify any difficulties;
- Describe activities planned for the following month;
- Identify changes in key personnel;
- List target and actual completion dates for each element of activity, including project completion;
- Provide an explanation for any deviation from any applicable schedules; and
- Note volume and disposition of any impacted media removed from RVAAP.

6.3 SCHEDULE UPDATES

A detailed working schedule has been developed as part of this PMP (Figure 7-1) that outlines major project elements and due dates for all major deliverables. After approval by the Army and Ohio EPA, this detailed project schedule shall be updated monthly to accurately reflect project progress and shall be

included as part of the monthly progress report submittal. Additionally, SAIC shall participate in biweekly conference calls organized by USACE to apprise the RVAAP Project Team of progress.

6.4 RECORDS/DATA MANAGEMENT

SAIC will submit all data and documentation to SAIC's Central Records repository per SAIC's QA Program. All documents generated during the course of this project will be maintained in both electronic and hard copy. Electronic reports for submission to RVAAP Ravenna Environmental Information Management System (REIMS) will adhere to criteria for entry into the database. To the extent that residual contaminant is left in place at any of the subject AOCs, SAIC will meet DoD and CERCLA requirements for records management to support five year reviews to be performed by others.

SAIC MONTHLY REPORT

Contract Number:	GS-10F-0076J	Report Number:	1
Project No.:	Delivery Order W912QR-05-F-0033	Period:	April 2005
Contractor:	SAIC		
	8866 Commons Blvd. Suite 201, Twinsburg, OH 44087		
Location:	Ravenna Army Ammunition Plant, Ravenna, OH		
Project Name:	Six Environmental Areas of Concern		

SUMMARY OF ACTIVITIES:

HEALTH AND SAFETY PERFORMANCE:

PROBLEMS ENCOUNTERED/RESOLUTION:

PLANNED ACTIVITIES:

ACTIVITY AND PROGRESS COMPLETION TABLES:

Target/Milestone Activity	Scheduled Completion Date	Actual Completion Date	Status

CHANGES IN KEY PERSONNEL:

DEVIATION IN SCHEDULE (with explanation):

INVESTIGATIVE DERIVED WASTE (IDW):

REMARKS:

SAIC PROJECT MANAGER:

SIGNATURE:

**Percent Complete Estimates for Contract GS-10F-0076J
Performance Based Contract for Six Environmental Areas of Concern
at the Ravenna Army Ammunition Plan**

Task Number	Task Description	Percent Complete as of (date)
CLIN A.1a	Project Kick-off Meeting	
CLIN A.1b	Project Management Plan	
CLIN A.1c	Initial RAB Briefing	
CLIN A.1d	Schedule Updates and Bi-weekly Telecons	
CLIN A.1e	Monthly Progress Reports and Telecons	
CLIN A.2a	RI of Ramsdell Quarry Pond LF	
CLIN A.2b	RI of Erie Burning Grounds	
CLIN A.2c	RI of Open Demolition Area #2	
CLIN A.2d	RI of Load Line 12	
CLIN A.2e	RI of Fuze-Booster Quarry Pond LF	
CLIN A.2f	RI of Central Burning Pits	
CLIN B.FS	FSs of the subject AOCs	
CLIN B.PP	PPs of the subject AOCs	
CLIN B.ROD	RODs of the subject AOCs	
CLIN C.RD	Remedial Designs of subject AOCs	
CLIN D.RA	Remedial Actions w/ Close Out Reports for subject AOCs	
TOTAL TASK PERCENT COMPLETE		

Figure 6-1. RVAAP Monthly Progress Report Template

7.0 PROJECT SCHEDULE AND MILESTONES

7.1 PROJECT SCHEDULE AND PROJECT DELIVERABLE MILESTONES

As part of this PMP, SAIC has developed a detailed project schedule that includes due dates for all major deliverables, including review times, leading to completion of the entire project by September 30, 2007. The project schedule (Figure 7-1) details both target and milestone dates for each element of the project (i.e., completion of RIs, FS, etc.). Generally, milestones are established for deliverables within the control of contractor, Army, and Ohio EPA and critical to forward movement (i.e., preliminary Draft and Final versions of major deliverables). In addition, the detailed project schedule incorporates the following general requirements established in the PWS (USACE, 2005):

- Ohio EPA 45-day review period;
- Comment resolution meetings/teleconferences held within 16 days of close of comment period; and
- Deliverables to be provided within 30 days of receipt of Ohio EPA disapproval of previous version.

Table 7-1 summarizes deliverable and approval milestones required to achieve project objectives by September 30, 2007. Table 7-1 summarizes the deliverable milestone commitments whereas the detailed project schedule targets early completion of these milestones in some cases. The project schedule (Figure 7-1) and associated deliverable milestones (Table 7-1) are to be approved by both the Ohio EPA and the Army. Approval of the detailed project schedule and associated milestones will be obtained as part of the PMP review and approval cycle.

Table 7-1. Project Deliverable Milestone Schedule for Six High Priority AOCs at RVAAP

CLIN	Description	Deliverable Milestone
<i>A</i>	<i>Complete RIs for 6 High Priority AOCs</i>	
A.1b	PMP	FINAL PMP: July 11, 2005 (<i>August 25, 2005</i>)
A.2a	RQL Phase I RI Report	FINAL RI Report: October 21, 2005 (<i>December 05, 2005</i>)
A.2b	EBG Phase II RI Report	FINAL RI Report: October 21, 2005 (<i>December 05, 2005</i>)
A.2c	ODA2 Phase II RI Report	FINAL RI Report: October 21, 2005 (<i>December 05, 2005</i>)
A.2d	Revised Final LL12 Phase II RI Report	FINAL RI Report: November 19, 2005 (<i>January 6, 2006</i>)
A.2e	FBQ Phase I/Phase II RI Report	FINAL RI Report: November 19, 2005 (<i>January 6, 2006</i>)
A.2f	CBP RI Report	FINAL RI Report: October 21, 2005 (<i>December 05, 2005</i>)
<i>B</i>	<i>Complete FS/PP/ROD for 6 High Priority AOCs</i>	
B.FS	Feasibility Study: RQL, EBG, ODA2, LL12, FBQ, and CBP.	Preliminary DRAFT FS: September 30, 2005 FINAL FS: March 14, 2006 (<i>April 28, 2006</i>)
B.PP	Proposed Plan: RQL, EBG, ODA2, LL12, FBQ, and CBP.	FINAL PP: March 24, 2006 (<i>May 8, 2006</i>)
B.ROD	Record of Decision: RQL, EBG, ODA2, LL12, FBQ, and CBP.	Preliminary DRAFT ROD: April 17, 2006
<i>C</i>	<i>Complete RD for 6 High Priority AOCs</i>	
C.RD	Remedial Design: RQL, EBG, ODA2, LL12, FBQ, and CBP.	FINAL RD: October 17, 2006 (<i>December 01, 2006</i>)
<i>D</i>	<i>Complete RA and Final Remedial Action Report for 6 High Priority AOCs</i>	
D.RA	Remedial Action Report: RQL, EBG, ODA2, LL12, FBQ, and CBP.	FINAL RAR: August 16, 2007 (<i>September 30, 2007</i>)

Italicized text in parentheses note Army and/or Ohio EPA deliverable approval milestone dates.

The Project Manager will have primary responsibility for maintaining the project schedule throughout the contract performance period. The schedule will be updated monthly to accurately reflect project progress and schedule changes. The updated schedule shall be included with the monthly project updates submitted to USACE on the fifth of every month. This schedule information also will be provided for integration into the overall RVAAP Installation Restoration Program (IRP) schedule managed by the USACE Louisville District. SAIC will participate in the ongoing biweekly RVAAP IRP Program schedule review teleconferences.

In the event that a schedule milestone extension is required, SAIC will notify USACE (the responsible party). The Army will request an extension from Ohio EPA in accordance with the Director's Findings and Orders (Ohio EPA 2004), by specifying:

1. The milestone that is sought to be extended;
2. The length of the extension requested;
3. The cause(s) for the extension; and
4. Any related milestones or target dates that would be affected if the extension request were granted.

Ohio EPA will determine whether there is good cause for the requested extension. Ohio EPA shall approve the extension if good cause exists (as defined in the Director's Findings and Orders).

7.2 PROJECT PAYMENT MILESTONES

Payment of this PBC is triggered upon the completion of established project payment milestones (Table 7-2). Some milestones and sub-milestones may be eliminated or modified in response to how the work actually needs to be performed. In the event that a milestone is eliminated from this project, its associated payment will be made to SAIC upon the accomplishment of the activities that replaced the original milestone or sub-milestone in the sequence of actions leading to the accomplishment of environmental/regulatory closure of the six AOCs.

For purposes of milestone payment, milestone documentation shall be submitted to USACE in a timely manner by SAIC, reviewed by USACE, and SAIC shall be notified of the findings within 30 working days of delivery of the milestone documentation. The USACE COR and the SAIC Project Manager shall discuss and/or meet after receipt of the milestone documentation to:

- Formally review the quantity and quality of services;
- Inspect work milestone documentation for compliance with the PWS and project documentation; and
- Approve or disapprove the performance of the milestone.

Table 7-2. Project Payment Milestone Schedule for Six High Priority AOCs at RVAAP

CLIN	Description	Performance/Payment Milestone
<i>A</i>	<i>Project Management Activities and Complete RIs for 6 High Priority AOCs</i>	
A.1a	Project Kick-Off Meeting	100% payment after approval of meeting minutes.
A.1b	Project Management Plan (PMP)	100% payment after approval of Final PMP.
A.1c	Initial RAB Briefing	100% payment upon completion of initial RAB presentation.
A.1d	Quarterly Schedule Reports and Bi-weekly Teleconference	Incremental payment at 10% following approval of reports (10 reports), 100% payment upon completion of contract base period.
A.1e	Monthly Progress Reports	Incremental monthly payment following approval of monthly report, 100% payment upon completion of contract base period.
A.2a	RQL Phase I RI	95% after submittal of Draft Phase I RI Report
		100% payment after approval of Final Phase I RI Report
A.2b	EBG Phase II RI	95% after submittal of EBG Draft Phase II RI Report
		100% payment after approval of Final Phase II RI Report
A.2c	ODA2 Phase II Final RI	95% after submittal of OD2 Draft Phase II RI Report
		100% payment after approval of Final Phase II RI Report
A.2d	Revised Final LL12 Phase II RI	95% payment after submittal of rev. Final Phase II RI Report
		100% payment after approval of Final Phase II RI Report
A.2e	FBQ RI	95% payment after submittal of Final Phase II RI Report
		100% payment after approval of Final Phase II RI Report
A.2f	CBP RI	95% payment after submittal of Final Phase II RI Report
		100% payment after approval of Final Phase II RI Report
<i>B</i>	<i>Complete FS/PP/ROD for 6 High Priority AOCs</i>	
B.FS(a)	RQL Feasibility Study	95% payment after submittal of Draft FS.
		100% payment after approval of Final FS.
B.FS(b)	EBG Feasibility Study	95% payment after submittal of Draft FS.
		100% payment after approval of Final FS.
B.FS(c)	ODA2 Feasibility Study	95% payment after submittal of Draft FS.
		100% payment after approval of Final FS.
B.FS(d)	LL12 Feasibility Study	95% payment after submittal of Draft FS.
		100% payment after approval of Final FS.
B.FS(e)	FBQ Feasibility Study	95% payment after submittal of Draft FS.
		100% payment after approval of Final FS.
B.FS(f)	CBP Feasibility Study	95% payment after submittal of Draft FS.
		100% payment after approval of Final FS.
B.PP(a)	RQL Proposed Plan	95% payment after submittal of Draft PP
		100% payment after approval of Final PP
B.PP(b)	EBG Proposed Plan	95% payment after submittal of Draft PP
		100% payment after approval of Final PP
B.PP(c)	ODA2 Proposed Plan	95% payment after submittal of Draft PP
		100% payment after approval of Final PP
B.PP(d)	LL12 Proposed Plan	95% payment after submittal of Draft PP
		100% payment after approval of Final PP

Table 7-2. Project Payment Milestone Schedule for Six High Priority AOCs at RVAAP

CLIN	Description	Performance/Payment Milestone
B.PP(e)	FBQ Proposed Plan	95% payment after submittal of Draft PP
		100% payment after approval of Final PP
B.PP(f)	CBP Proposed Plan	95% payment after submittal of Draft PP
		100% payment after approval of Final PP
B.ROD(a)	RQL Record of Decision	95% payment after submittal of Draft ROD
		100% payment after approval of Final ROD
B.ROD(b)	EBG Record of Decision	95% payment after submittal of Draft ROD
		100% payment after approval of Final ROD
B.ROD(c)	ODA2 Record of Decision	95% payment after submittal of Draft ROD
		100% payment after approval of Final ROD
B.ROD(d)	LL12 Record of Decision	95% payment after submittal of Draft ROD
		100% payment after approval of Final ROD
B.ROD(e)	FBQ Record of Decision	95% payment after submittal of Draft ROD
		100% payment after approval of Final ROD
B.ROD(f)	CBP Record of Decision	95% payment after submittal of Draft ROD
		100% payment after approval of Final ROD
<i>C</i>	<i>Complete RD for 6 High Priority AOCs</i>	
C.RD(a)	RQL Final RD	100% payment upon approval of Final RD.
C.RD(b)	EBG Final RD	100% payment upon approval of Final RD.
C.RD(c)	ODA2 Final RD	100% payment upon approval of Final RD.
C.RD(d)	LL12 Final RD	100% payment upon approval of Final RD.
C.RD(e)	FBQ Final RD	100% payment upon approval of Final RD.
C.RD(f)	CPB Final RD	100% payment upon approval of Final RD.
<i>D</i>	<i>Complete RA and Final Remedial Action Report (RAR) for 6 High Priority AOCs</i>	
D.RA(a)	RQL RA and Final RAR	100% payment after approval of Final RAR.
D.RA(b)	EBG RA and Final RAR	100% payment after approval of Final RAR.
D.RA(c)	ODA2 RA and Final RAR	100% payment after approval of Final RAR.
D.RA(d)	LL12 RA and Final RAR	100% payment after approval of Final RAR.
D.RA(e)	FBQ RA and Final RAR	100% payment after approval of Final RAR.
D.RA(f)	CPB RA and Final RAR	100% payment after approval of Final RAR.

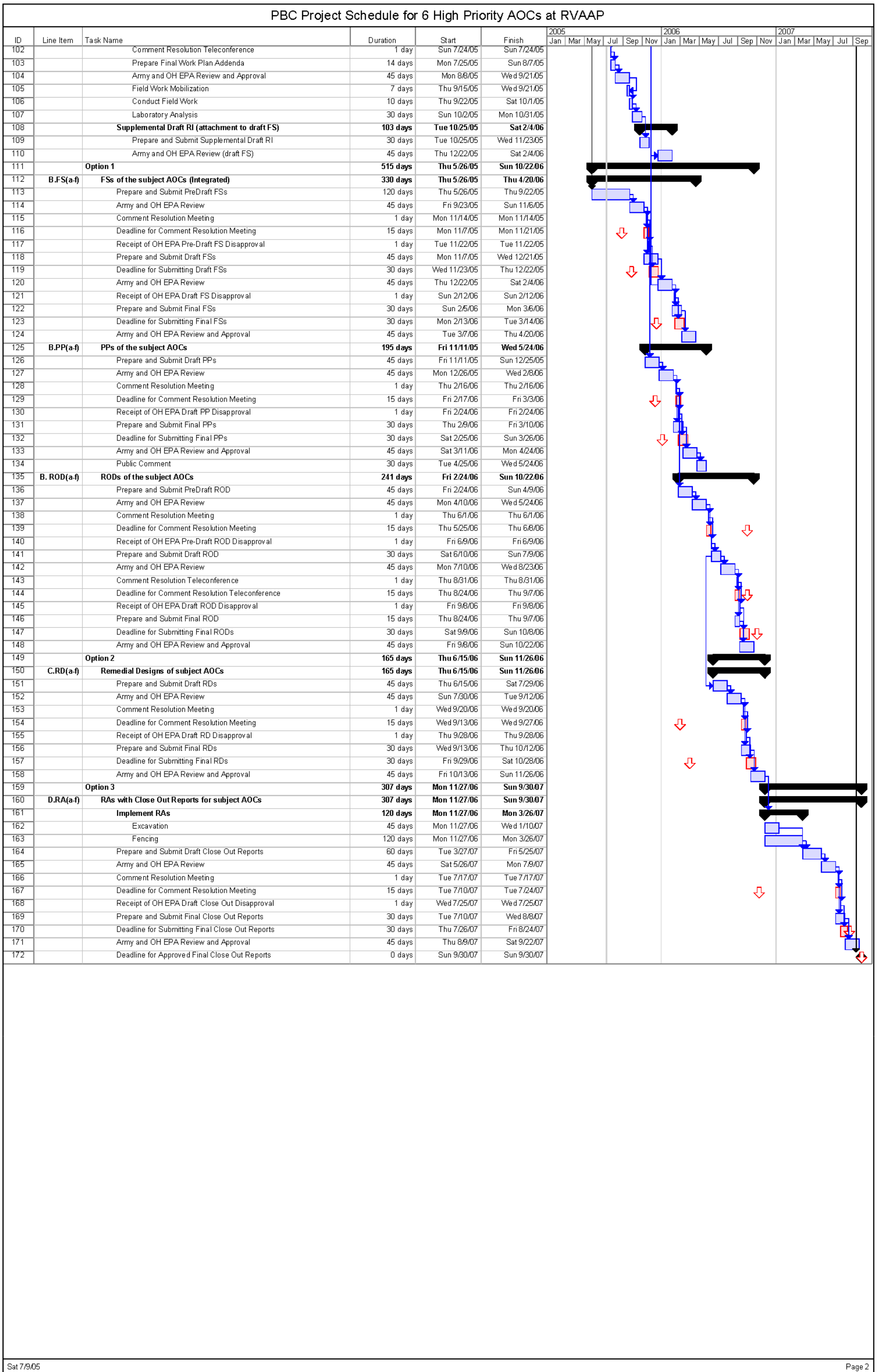


Figure 7-1. Project Schedule for Six High Priority AOCs at RVAAP

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