

US EPA ARCHIVE DOCUMENT

FEB 16 2005

PWS**1.0 Introduction**

The Developer will be responsible for fully executing the Guaranteed Fixed-Price Remediation (GFPR) approach under a Performance-Based Contract (PBC) by conducting required environmental restoration services for which the United States Department of the Army (the "Army") is statutorily responsible; addressing any and all unforeseen environmental, scheduling, and regulatory issues; and assuming contractual liability and responsibility for the achievement of the performance objectives for all sites at the Sunflower Army Ammunition Plant (SFAAP) identified in this Performance Work Statement (PWS), including both on and off-post contamination for which the Army is responsible.

The Developer must have the capability and experience to perform, or provide, a wide range of investigative, remedial design, remedial construction, and remediation services required for hazardous substance and waste sites, munitions and explosives of concern (MEC). Work may include, for example, site investigation, site characterization, study, evaluation, remedial design, remedial construction, remediation of contaminated sites, operation and maintenance of new/existing remedial actions, and monitoring.

The Developer must comply with all applicable federal, state, and local laws and regulations. In addition, Developers must fulfill the performance objectives of this PWS in a manner that is consistent with any applicable orders or permits, all previously agreed-upon cleanup agreements or guidance at the installation, the conditions of the Consent Order between the Developer and the Kansas Department of Health and Environment (hereafter referred to as "Consent Order"), and relevant Department of Defense (DoD) and Army policy. The Developer shall comply with all of the terms and requirements of the Consent Order. A copy of the Consent Order, dated ???, is included in the procurement package.

2.0 Performance Objectives and Standards

The performance objectives and standards for this PWS are outlined in Table 1.¹ Achieve RIP or RC for the following sites:

Site #	Site Name
SAAP-001	Classification Yard
SAAP-002	River Water Treatment Plant Lagoons & Dredged Material
SAAP-003	Main Sewage Treatment Plant Drying Beds
SAAP-004	Pond A and Sludge Disposal Area
SAAP-005	Pond A Neutralization Area
SAAP-006	Pond B and Sludge Disposal Area
SAAP-007	North Acid Area-Chromate Area
SAAP-008	North Acid Area-Chromate Concentration Pond
SAAP-009	North Acid Area Wastewater Treatment Lagoon
SAAP-010	F-Line Ditches
SAAP-011	F-Line Area Settling Ponds
SAAP-012	Pyott's Pond and Sludge Disposal Area
SAAP-013	South Acid Area SAR Evaporative Lagoons

¹ The current status of the remediation efforts for each site can be found in Attachment A: Installation and Site Information.

SAAP-014	Rocket Static Test Area
SAAP-015	Waste Storage Magazines
SAAP-016	Temporary Waste Storage Magazines
SAAP-017	G-Line Area Ditches
SAAP-018	Old/New Sanitary Landfills
SAAP-019	Ash Landfills
SAAP-020	Ash Lagoons and Sludge Disposal Area
SAAP-021	Contaminated Materials Burning Ground
SAAP-022	Old Explosive Waste Burning Ground
SAAP-023	New Explosive Waste Burning Ground
SAAP-024	Nitroglycerine Area Ditches
SAAP-025	Nitrocellulose Area Ditches
SAAP-026	Single Base Propellant Area Waste Water Settling Sumps
SAAP-027	NQ Area SAC Evaporative Lagoons
SAAP-028	Waste Calcium Carbide Treatment Area
SAAP-029	Industrial Wastewater Treatment Lagoons
SAAP-030	Pesticide Handling Area
SAAP-031	Contaminated Waste Processor & Evaporative Lagoons
SAAP-032	Lead Decontamination and Recovery Unit
SAAP-033	Paste Area Half Tanks and Ditches
SAAP-034	Five Corners Settling Ponds
SAAP-035	Nitroglycerin Area Settling Ponds
SAAP-036	N-Line Area
SAAP-037	Sandblast Areas
SAAP-038	Oil Water Separator
SAAP-039	South Acid Area (Wastewater Runoff)
SAAP-040	Calcium Carbide Disposal Area
SAAP-041	Calcium Carbonate Cake Landfill
SAAP-042	Temporary Sanitary Landfill
SAAP-043	Tunnel Dryers (CCC Storage)
SAAP-044	Tank T784
SAAP-045	Building 9040 (Calcium Cyanamide Conveyors and Storage Unit)
SAAP-046	Decontamination Oven
SAAP-047	Nitroguanidine Production Area (23) Sumps
SAAP-048	Nitroguanidine Support Area
SAAP-049	Road Just Southeast of the Sanitary Landfill
SAAP-050	Disposal Site East of the Classification Yard
SAAP-051	New Reclamation Yard
SAAP-052	Paint Bay Building 542
SAAP-053	Burn and Debris Area North of STP
SAAP-054	Fluorescent Tube Wells
SAAP-055	Old Administrative Buildings
SAAP-056	Monitoring Well South of Facility 211
SAAP-057	Chemical Preparation House
SAAP-058	Combined Shops Area
SAAP-059	Laundry Facility (Facility 4562)
SAAP-060	Old Photographic Laboratory
SAAP-061	Environmental Laboratory (Facility 232)

SAAP-062	Transformer Storage Warehouse (Facility 566-5)
SAAP-063	Water Towers
SAAP-064	Paper Burning Ground
SAAP-065	Tank Farm
SAAP-066	Installation-Wide Surface Water
SAAP-067	South Acid Area
SAAP-101	Monitoring Well West of Old Admin Area
SAAP-102	Main Electrical Switch Yard
SAAP-103	New Photographic Laboratory (Facility 227-18)
SAAP-104	Disposal Area Southwest of STP
SAAP-105	Cannon Range Tunnels (Facility 303)
SAAP-106	35 Process Facilities within F-Line Area
SAAP-107	Former Truck Maintenance Shop in South Acid Area
SAAP-108	Former Fuel Oil Storage Tank in South Acid Area
SAAP-109	Oil and Paint House in South Acid Area
SAAP-110	Storage Magazines not Part of SWMU 15 & 16
SAAP-111	Forced Air Dryers and Rest, Screen and Can Pack Houses
SAAP-112	Paste Air Dry Facilities
SAAP-113	General Warehouses (8037 Series)
SAAP-114	Robert's Lake
SAAP-115	Hazard Analysis Testing Lab
SAAP-116	NC Production Lines
SAAP-117	NQ Production Facilities
SAAP-118	Trench Disposal Area A3
SAAP-119	Trench Disposal Area A4
SAAP-120	Trench Disposal Area A5
SAAP-121	Trench Disposal Area A6
SAAP-122	Old Reclamation Yard
SAAP-123	Cleanup Under Explosive Foundations
SAAP-124	Cleanup Under Explosive Sewers

RIP or RC² will be attained upon the finalization of appropriate written documentation from KDHE certifying that site remediation has met the identified response objectives and no further action is necessary, subject to any requirement for long-term monitoring and/or operations. There may be multiple milestones and/or deliverables for each performance objective (see Section 3.6 and Attachment B). Partial payments will be based on successful completion of the milestones. Final decisions regarding the adequacy of milestone and deliverable completion resides with KDHE and the Insurer (see Section 5.1), with appropriate concurrence by the COR.

The Developer shall furnish all labor, materials and equipment necessary to meet the site objectives for each site as identified in this PWS. The Developer shall provide personnel possessing necessary training required by the Occupational Safety and Health Administration (OSHA) and all other applicable federal and state regulations. The Developer shall provide all support activities necessary to ensure the safe and effective accomplishment of all work. The Developer shall also develop and implement quality control measures consistent with all

² Remedy in Place and Response Complete are terms used for Defense Environmental Restoration Program purposes to identify completion of remedial phases. These terms are defined in Attachment E.

applicable federal and state regulatory requirements and standards, for all work performed under this contract.

3.0 Project Management

3.1 Project Management Plan

The Implementation Schedule in the Consent Order will serve as the Project Management Plan.

The Developer will identify and, upon Army approval, implement a means for providing project status reports to the SFAAP's COR. This methodology will address the frequency and content of status reports.

The Developer will maintain a current version of the PMP and schedule, reflecting progress towards achievement of the performance objectives, and delineating proposed actions to accomplish future project milestones.

3.2 Additional Site Plans

The Developer will update the existing Global Plans.

3.3 Milestone Presentations

The Developer will work with KDHE and the Insurer to prepare a milestone progress reporting protocol which will be incorporated into this PWS (See Attachment ??).

3.4 Environmental Requirements

The Developer shall identify applicable Federal, State and Local laws and regulations and perform its work in accordance with said authorities. The Developer shall ensure that all activities performed by its personnel, subcontractors and suppliers are executed in accordance with said authorities. Any incident of noncompliance noted by the Developer shall immediately be brought to the attention of the appropriate authorities. The Developer shall also inform the Contracting Officer (KO), and Contracting Officer's Representative (COR) by written notice. Nothing in this contract shall relieve the Developer of its responsibility to comply with applicable laws and regulations. The Developer shall investigate the requirements for and obtain all permits, licenses, approvals, and/or certificates necessary to accomplish the work specified. The Army will continue to independently review Developer work to ensure compliance with all applicable environmental requirements.

3.5 Health and Safety Requirements

The Developer shall implement the Safety and Health Program meeting the requirements of the federal, state, and local laws and regulations. The Developer shall ensure that its subcontractors, suppliers and support personnel follow all safety and health provisions established in the approved Site Safety and Health Plan (SSHP).

3.6 Information Repository and Administrative Record

The Developer will update, as draft documents are published, the Administrative Record with paper/hard copy versions of all project-related information to ensure that pertinent documentation and data are available for project reviews, and to provide a clear record to support final decisions and remediation completion. Draft documents will be replaced with Final documents once they are published. Hardcopy Final documents will be accompanied by electronic versions to update the electronic Administrative Record, which will be transferred to the U.S. Army Environmental Center upon completion of Sunflower's Environmental Restoration Program. The hardcopy version of the Administrative Record is the property of the U.S. Government and will be transferred to the U.S. Government's National Archives upon completion of Sunflower's Environmental Restoration Program.

The Administrative Record includes all previous environmental restoration documentation of a technical nature developed by the Army and previous Army Developers and subcontractors during their work at the sites specified in this PWS, and all the documentation developed by the Developer in order to achieve the performance objectives specified in this PWS. Documents generated prior to this contract are not expected to be stored in electronic format; however, all documents generated during the course of this contract are expected to be maintained in both electronic and paper copies.

The Developer will also update the information repository for site remediation activities established at the Johnson County Public Library located at Overland Park, KS, consistent with the Consent Order. The information repository will be updated by the Developer, and made available to the public.

3.7 Army Environmental Database and Environmental Restoration Information System

Once a site identified in this PWS has achieved Response Complete (*i.e.*, appropriate documentation is finalized), the Developer will be responsible for providing the SFAAP COR with the data and documentation necessary for the removal of each site from the Army Environmental Database (AEDB). In addition, the Developer will be responsible for electronically submitting all generated analytical data into the Environmental Restoration Information System (ERIS). Information regarding ERIS is available online at <http://aec.army.mil/usaec/reporting/eris00.html>. The Army will provide data specifications for AEDB and ERIS to the Developer. The Developer shall comply with all applicable requirements for data validation and submission. The PBC Developer shall update the database with the COR making the final review and submission.

3.8 Regulatory Involvement

The Developer will provide the necessary support to initiate, schedule, and manage all regulatory involvement activities of the project (*e.g.*, participating in discussions with regulators concerning site response objectives and completion requirements, obtaining regulator comments on site documents and appropriately addressing them, and obtaining written documentation, as necessary, of remediation completion from the regulators for all of the sites identified in this PWS). The SFAAP COR, or other Army designee, shall attend and represent the Army at all meetings with the regulators.

3.9 *Public Involvement*

The Developer will provide the necessary support to initiate, schedule, and manage all public involvement activities of the project (e.g., preparation of briefings, presentations, fact sheets, newsletters, and articles/public notices to news media and notification to RAB members). The Developer will be responsible for addressing all public comments as consistent with the Consent Order. The SFAAP COR, or other Army designee, shall attend and represent the Army at all meetings with the public. The Developer should note that SFAAP has an active Restoration Advisory Board (RAB) and detailed information concerning the RAB's organization and activities will be provided to the selected Developer. Activities required to support the RAB meetings are included in this effort.

3.10 *Project Stakeholders*

For the purposes of this PWS, project stakeholders include the Army, USEPA Region VII, Kansas Department of Health and Environment, and the RAB. The Consent Order describes the relationships and responsibilities between the Developer and the various stakeholders.

3.11 *Deliverable Requirements*

All documents must be produced with at least draft and draft-final versions. The SFAAP COR will receive draft documents and will provide comments to the Developer within thirty (30) calendar days. The Developer will ensure that review periods are given consistent with the Consent Order. All documents will be identified as draft until acceptance/approval by KDHE and the SFAAP COR, at which time they will become final. One copy of the final document, including comment response, will be placed in both the information repository and the Administrative Record.

4.0 **Expertise and Necessary Personnel**

The Developer shall provide the necessary personnel and equipment to successfully execute this PWS. The Developer is responsible for determining the requirements for licensed professionals and certifications.

5.0 **Additional Requirements**

5.1 *Certification and Approval of Project Milestones and Deliverables*

The SFAAP COR and/or designated contract administrator, as appropriate, shall perform contract management, inspection, oversight, review, and concurrence. Final acceptance of milestone completion will include appropriate acceptance and approval of necessary site remediation documentation by regulators, consistent with the Consent Order.

Concurrence by the Army is also contingent upon the Developer performing in accordance with the terms and conditions of the referenced contract, this PWS, the approved task proposal, any associated work orders, and all amendments.

5.2 *Army Furnished Resources*

The Army shall provide the following resources to the Developer:

- Records, reports, data, analyses, and information, in their current format (e.g., paper copy, 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 personnel to conduct interviews on Installation operations and activities.
- Access to DoD and Army policy and guidance documents.

5.3 *Developer's Guarantee*

The Developer's obligations for guarantee shall be consistent with the terms and conditions of the basic award document.

5.4 *Insurance Specifications*

The Developer's obligations for insurance shall be consistent with the terms and conditions of the basic award document.

5.5 *Place of Performance*

Work will be performed at Sunflower AAP, off-post contaminated areas and off-post Developer offices as agreed to by both parties for proper performance of this task.

5.6 *Stop Work Authority*

Authorized Army personnel have the authority and responsibility to stop work immediately if the work is considered to be a serious threat to the safety or health of workers, other personnel, or to the environment. Authorized Army personnel are the SFAAP COR and KO. When work is stopped due to a hazard/threat to worker safety, health, or the environment, the situation and resolution must be documented and submitted to the KO. Work must be stopped whenever chemical or biological warfare agents or radiological materials are discovered.

ATTACHMENT A: INSTALLATION AND SITE INFORMATION

1. Installation Setting and Status

SFAAP is an Excess facility maintained by the civilian Developer SpecPro, Inc. SFAAP's current mission is to perform explosive decontamination of propellant production facilities and perform environmental remediation to prepare for transfer of the installation to the public.

Sunflower Army Ammunition Plant, originally known as the Sunflower Ordnance Works, was established in 1941 on 10,737 acres as the world's largest powder (propellant) plant.

On 11 May 1942, the Hercules Powder Company (now known as Hercules Aerospace Company, Hercules Incorporated) signed a contract to operate the plant. Construction of this Government Owned, Developer Operated facility began immediately and production of the first propellant started 10 months later on 23 March 1943. Construction of additional facilities continued during the entire production period.

During World War II, 186,186,787 pounds of propellants were produced, with peak employment reaching 12,067. Records indicate that an additional 10,000 people were employed in construction jobs.

All of this came to a close when in June 1946 the plant was placed in partial standby. In March of 1947, Hercules production contract expired and layaway of the plant began. Hercules left the plant in June of 1948 when the plant was placed in standby and the government took over maintenance and surveillance.

The plant remained in standby until 1951, when it was reactivated to support the Korean Conflict. On 30 June 1952, Hercules returned as operating Developer and produced over 165,860,848 pounds of propellants before closing. It remained opened until June 1960, with a peak employment of 5,374.

On 1 August 1963, the plant's name was changed to Sunflower Army Ammunition Plant.

The plant remained in standby until 20 August 1965 when it was reactivated to support the Vietnam Conflict. Over 134,157,174 pounds of propellant were produced, with a peak employment of 4065 during this operation. Production operations ceased in June 1971 and Sunflower was again placed in standby in 1972. Prior to cessation of production a major facility modernization program was initiated in August 1967.

The largest project involved construction of a Nitroguanidine production facility, the only one of its kind in North America. (Nitroguanidine is the principle component, of three, in a multi-base artillery propellant.) Construction of this facility began in July of 1975 and was completed in 1979.

Following prove out, production began 10 October 1984 and continued until 30 August 1992. The plant was placed in standby again and the operating Developer began performing maintenance. 63,145,273 pounds of Nitroguanidine were produced by a work force of 720, the only peacetime operation in plant history.

The Department of the Army declared the entire installation excess and is in the process of disposing of 9,065 acres together with all improvements and water rights. Due to past production activities at the installation, some portions of the installation are contaminated. Preliminary environmental investigations have indicated that the suspected contaminants are propellant constituents including nitrocellulose, nitroglycerine, Nitroguanidine, and lead. Nitric and Sulfuric Acids were produced and reconcentrated at SFAAP resulting in contamination of nitrates, sulfates, and heavy metals. Clean-up operations are currently on going, with further efforts planned. The clean-up process includes disposal of some of the buildings by burning in place and disposal of the asbestos, hazardous materials and scrap metal.

The following provides a listing of the sites encompassed in this PWS. It is the responsibility of potential Developers to attend the site visit, research, investigate, and reach their own conclusions regarding site conditions.

All work under this contract will be conducted under the Consent Order, as provided.

A.1. Group 1 Sites:

These site were grouped together based on their level of investigation and phase status. Group 1 sites have completed the soil remediation phase and are in the Long Term Monitoring of groundwater, and encompasses the following sites:

- SAAP-010: F-Line Area Ditches
- SAAP-011: F-Line Area Settling Ponds
- SAAP-013: South Acid Area LWTP Evaporative Lagoons
- SAAP-027: Nitroguanidine Area SAC LWPT Evaporative Lagoons
- SAAP-033: Paste Area Half Tanks and Ditches
- SAAP-035: Nitroglycerine Area Settling Ponds
- SAAP-041: Calcium Carbonate Cake Landfill
- SAAP-042: Temporary Sanitary Landfill
- SAAP-045: Building 9040 (Calcium Cyanamide Conveyors and Storage Units)
- SAAP-048: Nitroguanidine Support Area
- SAAP-101: Monitoring Well West of Old Administrative Area

Notes to Contractor

There are a number of external factors and activities that will need to be considered when preparing the PMP and project schedule. For Group 1 Sites, Contractor should note that: Some sites are within the boundaries of Groundwater Operable Units (GWOU), and may be closed out as individual sites or as groups of sites under each GWOU. Once soil cleanup/source removal of Group 4, 6, 8, and possibly other sites is completed LTM of groundwater may be required until contaminants fall below action levels in the groundwater.

A.2. Group 2 Sites:

These site were grouped together based on their level of investigation and phase status. Group 2 sites will require Long Term Maintenance of the landfill caps as a requirement of the closure plan for each site, and encompasses the following sites:

- SAAP-018: Old/New Sanitary Landfills
- SAAP-041: Calcium Carbonate Cake Landfill
- SAAP-042: Temporary Sanitary Landfill
- SAAP-050: Disposal Sites East of the Classification Yard

Notes to Contractor

There are a number of external factors and activities that will need to be considered when preparing the PMP and project schedule. For Group 2 Sites, Contractor should note that: SAAP-041, SAAP-042, and SAAP-050 have installed landfill caps/soil covers. SAAP-018 does not have a landfill cap installed but does have a soil cover that requires maintenance to prevent erosional uncovering of sanitary debris with the landfill until a permanent landfill cap is installed.

A.3. Group 3 Sites:

These site were grouped together based on their level of investigation and phase status. Group 3 sites have completed RCRA Facility Investigation phase, are ready for the soil remediation phase, and encompasses the following sites:

- SAAP-001: Classification Yard
- SAAP-003: Main Sewage Treatment Plant Drying Beds
- SAAP-019: Ash Landfills

- SAAP-020: Ash Lagoons and Sludge Disposal Area
- SAAP-038: Oil Water Separator
- SAAP-039: South Acid Area Ditches
- SAAP-066: Stream Study
- SAAP-115: Hazard Analysis Testing Lab

Notes to Contractor

There are a number of external factors and activities that will need to be considered when preparing the PMP and project schedule. For Group 3 Sites, Contractor should note that: Contaminated soil may or may not require stabilization before disposal in a certified landfill.

A.4. Group 4 Sites:

These site were grouped together based on their level of investigation and phase status. Group 4 sites have completed the RCRA Facility Investigation Phase, are ready for the soil remediation phase, may require Long Term Monitoring of groundwater, and encompasses the following sites:

- SAAP-014: Rocket Static Testing Area
- SAAP-021: Contaminated Materials Burning Ground
- SAAP-025: Nitrocellulose Area Ditches
- SAAP-053: Burn and Debris Area North of STP

Notes to Contractor

There are a number of external factors and activities that will need to be considered when preparing the PMP and project schedule. For Group 4 Sites, Contractor should note that: Contaminated soil may or may not require stabilization before disposal in a certified landfill. Once soil cleanup/source removal is completed LTM of groundwater may be required until contaminants fall below action levels in the groundwater. Some sites are within the boundaries of Groundwater Operable Units (GWOU), and may be closed out as individual sites or as groups of sites under each GWOU.

A.5. SAAP-018: Old/New Sanitary Landfill

The Old/New Sanitary Landfill project involves installing a cap to prevent precipitation from leaching down and through the landfill cells. This project also includes diversion of the upgradient groundwater to prevent the inflow of groundwater through the landfill cells. Installation of the landfill cap at SAAP-019 Ash Landfill (the ash disposal cell next to SAAP-018) included in this project.

A.6. Group 5 Sites:

These site were grouped together based on their level of investigation and phase status. Group 5 sites have conducted RCRA Facility Investigations but have data gaps that may need to be addressed before moving to the soil remediation phase, and encompasses the following sites:

- SAAP-004: Pond A and Sludge Disposal Area
- SAAP-005: Acid Sewage Disposal Plant
- SAAP-030: Pesticide Handling Area
- SAAP-031: Contaminated Waste Processor Evaporative Lagoons
- SAAP-036: N-Line Area
- SAAP-037: Sandblast Areas

- SAAP-040: Calcium Cyanamide Disposal Area
- SAAP-046: Decontamination Oven
- SAAP-051: New Reclamation Yard

Notes to Contractor

There are a number of external factors and activities that will need to be considered when preparing the PMP and project schedule. For Group 5 Sites, Contractor should note that: RCRA Facility Investigations have been conducted but the regulators have identified data gaps that may need to be addressed before moving to the soil remediation phase. Contaminated soil may or may not require stabilization before disposal in a certified landfill.

A.7. Group 6 Sites:

These site were grouped together based on their level of investigation and phase status. Group 6 sites have conducted RCRA Facility Investigations but have data gaps that may need to be addressed before moving to the soil remediation phase, may require Long Term Monitoring of groundwater, and encompasses the following sites:

- SAAP-002: River Water Treatment Plant Lagoons
- SAAP-006: Pond B and Sludge Disposal Area
- SAAP-007: North Acid Area - Chromate Area
- SAAP-008: North Acid Area - Chromate Concentration Pond
- SAAP-009: North Acid Area - Wastewater Treatment Lagoon
- SAAP-012: Pyott's Pond and Sludge Disposal Area
- SAAP-017: G-Line Area Ditches
- SAAP-024: Nitroglycerine and Paste Mix Area
- SAAP-026: Single Base Propellant Area Wastewater Settling Sumps
- SAAP-047: Nitroguanidine Production Area (23) Sumps

Notes to Contractor

There are a number of external factors and activities that will need to be considered when preparing the PMP and project schedule. For Group 6 Sites, Contractor should note that: RCRA Facility Investigations have been conducted but the regulators have identified data gaps that may need to be addressed before moving to the soil remediation phase. Contaminated soil may or may not require stabilization before disposal in a certified landfill. Once soil cleanup/source removal is completed LTM of groundwater may be required until contaminants fall below action levels in the groundwater. Some sites are within the boundaries of Groundwater Operable Units (GWOU), and may be closed out as individual sites or as groups of sites under each GWOU.

A.8. Group 7 Sites:

These site were grouped together based on their level of investigation and phase status. Group 7 sites have conducted RCRA Facility Investigations but have data gaps that may need to be addressed before a finding of no further action can be granted, and encompasses the following sites:

- SAAP-015: Waste Storage Magazines
- SAAP-016: Temporary Waste Storage Magazines
- SAAP-043: Tunnel Dryers (CCC Storage)
- SAAP-049: Road Just Southeast of the Sanitary Landfill

Notes to Contractor

There are a number of external factors and activities that will need to be considered when preparing the PMP and project schedule. For Group 7 Sites, Contractor should note that: The work at these sites involves conducting an additional investigation to supplement the RCRA Facility Investigation to fill data gaps identified by the regulators. Long Term Monitoring of groundwater may be required after completion of the investigation at SAAP-043.

A.9. Group 8 Sites:

These site were grouped together based on their level of investigation and phase status. Group 8 sites require RCRA Facility Investigations followed by possible soil remediation, and encompasses the following sites:

- SAAP-060: Old Photographic Laboratory
- SAAP-063: Water Towers
- SAAP-114: Robert's Lake
- SAAP-116: Nitrocellulose Production Lines
- SAAP-118: Trench Disposal Area A3
- SAAP-122: Old Reclamation Yard
- SAAP-124: Decontamination Remediation-1 (DR-1): Cleanup Under Explosive Sewers
- SAAP-123: DR-2: Cleanup Under Explosive Foundations

Notes to Contractor

There are a number of external factors and activities that will need to be considered when preparing the PMP and project schedule. For Group 8 Sites, Contractor should note that: The only investigations conducted at these sites are Relative Risk Site Evaluations conducted by the U.S. Army Center for Health Promotion and Preventive Medicine. These sites require RCRA Facility Investigations followed by possible soil remediation. Contaminated soil may or may not require stabilization before disposal in a certified landfill. DR-1 and DR-2 involves explosive sewers and explosive foundations at multiple sites.

A.10. Group 9 Sites:

These site were grouped together based on their level of investigation and phase status. Group 9 sites require RCRA Facility Investigations followed by possible soil remediation, followed by Long Term Monitoring of groundwater, and encompasses the following sites:

- SAAP-058: Combined Shops Area
- SAAP-064: Paper Burning Ground
- SAAP-065: Tank Farm
- SAAP-067: South Acid Area

Notes to Contractor

There are a number of external factors and activities that will need to be considered when preparing the PMP and project schedule. For Group 9 Sites, Contractor should note that: The only investigations conducted at these sites are Relative Risk Site Evaluations conducted by the U.S. Army Center for Health Promotion and Preventive Medicine. These sites require RCRA Facility Investigations followed by possible soil remediation. Contaminated soil may or may not require stabilization before disposal in a certified landfill. Once soil cleanup/source removal is completed LTM of groundwater may be required until contaminants fall below action levels in the groundwater. Some sites are

within the boundaries of Groundwater Operable Units (GWOUs), and may be closed out as individual sites or as groups of sites under each GWOU.

A.11. Group 10 Sites:

These site were grouped together based on their level of investigation and phase status. Group 10 sites require RCRA Facility Investigations, and encompasses the following sites:

- SAAP-054: Fluorescent Tube Wells
- SAAP-110: Storage Magazines Not Part of SWMUs 15 & 16
- SAAP-112: Paste Air Dry Facilities

Notes to Contractor

There are a number of external factors and activities that will need to be considered when preparing the PMP and project schedule. For Group 10 Sites, Contractor should note that: The only investigations conducted at these sites are Relative Risk Site Evaluations conducted by the U.S. Army Center for Health Promotion and Preventive Medicine. These sites require RCRA Facility Investigations. No additional action is anticipated to close out these sites.

A.12. Group 11 Sites:

These site were grouped together based on their level of investigation and phase status. Group 11 sites require additional sampling (Confirmation Sampling) to complete each site's RCRA Facility Assessment, and encompasses the following sites:

- SAAP-055: Old Administrative Buildings
- SAAP-056: Monitoring Well South of Facility 211
- SAAP-057: Chemical Preparation House
- SAAP-059: Laundry Facilities
- SAAP-104: Disposal Area Southeast of STP
- SAAP-105: Cannon Range Tunnels
- SAAP-111: Forced Air Dryers
- SAAP-117: Nitroguanidine Production Facilities
- SAAP-119: Trench Disposal Area A4
- SAAP-120: Trench Disposal Area A5
- SAAP-121: Trench Disposal Area A6

Notes to Contractor

There are a number of external factors and activities that will need to be considered when preparing the PMP and project schedule. For Group 11 Sites, Contractor should note that: The only investigations conducted at these sites are Relative Risk Site Evaluations conducted by the U.S. Army Center for Health Promotion and Preventive Medicine. These sites require additional sampling (Confirmation Sampling) to complete each site's RCRA Facility Assessment. No additional action is anticipated to close out these sites.

A.13. No Further Action Sites:

These site were grouped together based on their level of investigation and phase status. It is anticipated that these sites will not require any further action:

- SAAP-022: Old Explosive Waste Burning Ground
- SAAP-023: New Explosive Waste Burning Ground

- SAAP-028: Waste Calcium Carbide Treatment Area
- SAAP-029: Industrial Wastewater Treatment Lagoons
- SAAP-032: Lead Decontamination and Recovery Unit
- SAAP-034: Five Corners Settling Ponds
- SAAP-044: Tank T784
- SAAP-052: Paint Bay Building 542
- SAAP-061: Environmental Laboratory (Facility 232)
- SAAP-062: Transformer Storage Warehouse (Facility 566-5)
- SAAP-102: Main Electrical Switch Yard
- SAAP-103: New Photographic Laboratory (Facility 227-18)
- SAAP-106: 35 Process Facilities within F-Line Area (Handled in SAAP-010)
- SAAP-107: Former Truck Maintenance Shop (Handled under SAAP-067)
- SAAP-108: Former Fuel Oil Storage Tank (Handled under SAAP-067)
- SAAP-109: Oil and Paint House in South Acid Area (Handled under SAAP-067)
- SAAP-113: General Warehouses (8037 Series)

ATTACHMENT B: PROJECT DELIVERABLES

Prospective Developers should note:

- This project deliverables list is subject to change based on an alternative deliverables list proposed by the Developer and approved by the Army.
- As noted in Section 3.13, all documents must be produced with at least draft and draft-final versions.

Deliverable Number	Deliverable Name	PWS Sections
1	Project Management Plan	3.1, 3.5, 3.12, 3.13
2	Project Management Plan Revisions	3.1, 3.5, 3.12, 3.13
3	Additional Site Plans	3.2, 3.5, 3.12, 3.13
4	Status Reports	3.1, 3.5, 3.12, 3.13
5	Milestone Presentations	3.5, 3.12, 3.13
6	Group 1 Sites	3.5, 3.12, 3.13
7	Group 2 Sites	3.5, 3.12, 3.13
8	Group 3 Sites	3.5, 3.12, 3.13
9	Group 4 Sites	3.5, 3.12, 3.13
10	SAAP-018 Landfill Cap and Groundwater Control	3.5, 3.12, 3.13
11	Group 5 Sites	3.5, 3.12,

		3.13
12	Group 6 Sites	3.5, 3.12, 3.13
13	Group 7 Sites	3.5, 3.12, 3.13
14	Group 8 Sites	3.5, 3.12, 3.13
15	Group 9 Sites	3.5, 3.12, 3.13
16	Group 10 Sites	3.5, 3.12, 3.13
17	Group 11 Sites	3.5, 3.12, 3.13

ATTACHMENT C: REFERENCE DOCUMENTS

Prospective Developers should note:

- These documents are available on the CD provided to the Contractor.
- The Army believes this documentation represents the most recent and appropriate documentation available for the Installation and sites identified in this PWS.
- Specific documents may be made available following a request, if the documentation can be distributed in a timely manner. Electronic format is not guaranteed.

ATTACHMENT D: LIST OF ACRONYMS

AEDB	Army Environmental Database
CAMU	Corrective Action Management Unit
CERCLA	Comprehensive Environmental Response, Compensation, and
COR	Liability Act
CWM	Contracting Officer's Representative
DoD	Chemical Warfare Material
EE/CA	Department of Defense
ERIS	Engineering Evaluation/Cost Analysis
ESD	Environmental Restoration Information System
FAR	Explanation of Significant Differences
CONSENT	Federal Acquisition Regulation
ORDER	Federal Facility Agreement
FUSRAP	Formerly Used Sites Remedial Action Program
GFPR	Guaranteed Fixed-Price Remediation
IDA	Inert Disposal Area
KO	Contracting Officer
LAP	Load, Assemble, and Pack
LTM	Long-Term Monitoring
LTO	Long-Term Operations
MEC	Munitions and Explosives of Concern
NCP	National Oil and Hazardous Substances Contingency Plan
NELAP	National Environmental Laboratory Accreditation Program
NPL	National Priorities List
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PBC	Performance-Based Contract/Contracting

PLL	Pollution Legal Liability
PMP	Project Management Plan
PPE	Personal Protective Equipment
PWS	Performance Work Statement
QA	Quality Assurance
RAA	Remedial Action Alternatives
RAB	Restoration Advisory Board
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RIP	Remedy In Place
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SSHHP	Site Safety and Health Plan
USAEC	United States Army Environmental Center
USEPA	United States Environmental Protection Agency
UXO	Unexploded Ordnance
VOC	Volatile Organic Compound

ATTACHMENT E: DEFINITIONS

Chemical Warfare Material (CWM): An item configured as a munitions containing a chemical substance that is intended to kill, seriously injure, or incapacitate a person through its physiological effects. CWM also includes V- and G- services nerve agent, H-series blister agent, and lewisite in other that munitions configurations. Due to their hazards, prevalence, and military-unique application, Chemical Agent Identification Sets (CAIS) are also considered CWM. CWM does not include: riot control agency, chemical herbicides, smoke and flame producing items, or soil, water, debris, or other media contaminated with chemical agent.

Deliverables: Documentation or data that support the completion of milestones or achievement of the performance objectives identified in this PWS.

Milestones: Significant events or activities that occur in the course of the Developer achieving the performance objectives identified in this PWS. The main milestone for each site is achievement of RIP, RC, or NFA, whichever is applicable based on the approved remedy proposed by the Developer.

Munitions and Explosives of Concern (MEC): This term, which distinguishes specific categories of military munitions that may pose unique explosives safety risks, means Unexploded Ordnance (UXO), as defined in 10 U.S.C. 2710 (e) (9); Discarded military munitions (DMM), as defined in 10 U.S.C. 2710 (e) (2); or Explosive munitions constituents (e.g., TNT, RDX) present in high enough concentrations to pose an explosive hazard.

Project Documents (): Documentation and data required by the Consent Order including remediation and LTM/LTO activities.

Project-related information: All previous environmental restoration documentation of a technical nature developed by the Army and previous Army Developers and subcontractors during their work at the sites specified in this PWS, and all the documentation developed by the Developer in order to achieve the performance objectives specified in this PWS.

Remedy In Place (RIP): A final remedial action has been constructed and implemented and is operating as planned in the remedial design. An example of a remedy in place is a pump-and-treat system that is installed, is operating as designed, and will continue to operate until cleanup levels have been attained.

Because operation of the remedy is ongoing, the site cannot be considered Response Complete.

Response Complete (RC): The remedy is in place and required remedial action-operations (RA-O) have been completed. If there is no RA-O phase, then the remedial action-construction end date will also be the RC date. If no remedial action is required at a site (based on agreement with the Army and appropriate regulators), documentation of "No Further Action" will constitute Response Complete. Consistent with CERCLA, the Defense Environmental Restoration Program, and applicable Executive Orders and regulations, environmental response activities under the Installation Restoration program categories shall be considered "response complete" when all the response objectives identified in an appropriately signed ROD or other formal decision document have been achieved and documented.

If environmental restoration activities allow for *unrestricted* use of the property, response complete is when there is verification of the achievement of the response objectives detailed in the ROD or other formal decision document.

If environmental restoration activities *do not allow for unrestricted* use of the property, response complete occurs when: 1) There is verification of the achievement of the response objectives detailed in the ROD or other formal decision document; and 2) At least one subsequent review to ensure that the response action has remained effective and continues to be protective of human health and the environment as defined by the response objectives detailed in the ROD or other formal decision document has occurred; and 3) At least five years have elapsed.

CONTRACT INFORMATION

LEGAL HOLIDAYS: The following days have been established as legal public holidays in the federal government:

New Year's Day	01 January
Martin Luther King's birthday	third Monday in January
President's Day	third Monday in February
Memorial Day	last Monday in May
Independence Day	04 July
Labor Day	first Monday in September
Columbus Day	second Monday in October
Veteran's Day	11 November
Thanksgiving Day	fourth Thursday in November
Christmas Day	25 December

UTILIZING ELECTRONIC MAIL

When Developer personnel send e-mail messages to government personnel while performing on this contract, the Developer's e-mail address shall include the company name together with the person's name.

SCOPE OF WORK
PROJECT 505OMASF1
DECONTAMINATION OF EXPLOSIVELY SUSPECT FACILITIES
SUNFLOWER ARMY AMMUNITION PLANT (AAP)
DESOTO, KS

1. SCOPE:

1.1. The purpose of this scope of work (SOW) is to perform explosive decontamination efforts and disposal of real and personal property at Sunflower AAP.

1.2. The project effort consists of utility disassembly, site preparation, explosive decontamination, clean-up and personal property excessing and various other support activities to explosively decontaminate above ground structures and explosively contaminated sewers at Sunflower AAP.

1.3. All production lines and the equipment contained within facilities at Sunflower AAP have been identified as excess to current replenishment planning schedules (i.e., Army Industrial Preparedness Program). The facilities identified at enclosure (encl) 1 are unsafe because of the probability of worker injury resulting from likely residual contaminant ignition. This project will provide for decontamination of the buildings, sewers and equipment, scrap metal retrieval, hazardous materials testing, disposal, excavation/backfilling, sewer section transportation, and other efforts supporting facility explosive decontamination.

1.4. At all times during execution of this SOW, the contractor will maintain adequate plant protection to protect human health and welfare, and to minimize Army liability.

1.5. Cost Proposal: The cost proposal shall break out costs relative to each primary effort (preparation, execution, hazardous material testing, scrap metal reclamation, and material disposal) for the facilities identified at encl 1. For the explosively contaminated foundations (at encl 2), the contractor shall propose man-hours and materials required to remove, perform explosive testing, and explosively decontaminate soils below the foundations. For the explosively contaminated sewers (at encl 3), the contractor shall propose man-hours and materials (or subcontract costs) required to perform excavation and sewer removal/transport, explosive testing of trench area, explosive decontamination of the piping/sewer/fill, excavation/backfilling, and residual material disposal. For contaminated equipment, the contractor shall propose man-hours and materials needed to remove and decontaminate equipment identified at encl 4.

1.6. Ozone Depleting Chemicals (ODCs): The contractor shall assure during execution of the tasks outlined in this SOW that none of the materials used contain Class I ODCs as defined by Public Law 102-484, Section 326.

2.0. APPLICABLE DOCUMENTS: Work shall be performed IAW the following document(s):

DDESB-Approved Explosive Safety Submission for Sunflower AAP, and applicable amendments

IOC Pamphlet 385-1 Classification and Remediation of
Explosive Contamination

Tailoring, to identify specific requirements, is shown at encl 5. In case of any conflict between reference documents and provisions contained in this SOW, the most stringent specification will take precedence. In any case, conflicts shall be identified to DAIM-BD-0 for resolving opposing specifications.

3. REQUIREMENTS:

3.1. Tasks are to be accomplished IAW provisions contained in this SOW.

3.2. PERFORMANCE PERIOD: Contractor's effort will begin within 15 days after delivery order award. Explosive decontamination shall be funded over a three year period. All physical work shall be accomplished within 48 months after the initial delivery order award. Financial closeout will take place as soon as possible after final physical acceptance.

4. PROGRESS REPORTS: The contractor shall prepare progress reports IAW AMCCOMR 235-5, the Data Item Description (DID) DI-MGMT-80227 as set forth in the Contract Data Requirements List (CDRL) DD Form 1423 (encl 6). Content under block 10 of DI-MGMT-80227 shall include all requirements except 10.3(g) and 10.3(k). The contractor may substitute and submit its own form of progress reports if pre-approved by DAIM-BD-0.

5. SAFETY AND ENVIRONMENTAL:

5.1. General Requirements: The contractor is responsible for complying with all federal, state, and local safety and environmental regulations, including, but not limited to Occupational Safety and Health Act (OSHA, Title 29 CFR Parts 1926 and 1910), Environmental Protection Agency (EPA), Kansas Department of Health and Environment (KDHE), and Army regulations.

5.2. All hazardous wastes, acid, and contaminated material discovered or generated through the execution of this project will be disposed of IAW all applicable federal, state, and local laws and regulations. All transportation and decontamination will be performed IAW all applicable interstate, federal, state, and local laws and regulations.

6. PROPERTY DECONTAMINATION, OBJECTIVE: This SOW is a performance based specification. The objective of this project is to; 1) decontaminate the buildings identified at enclosure 1, and disposal of the residual material as scrap; 2) Remove and dispose of foundations identified in enclosure 2; 3) Remove and decontaminate sewers/underground infrastructure identified at enclosure 3; 4) Decontaminate and dispose of equipment identified in enclosure 4. These production facilities previously manufactured and processed various propellants or propellant components for the Army, or were support facilities for propellant manufacture. Due to the probability of worker injury (from residual contaminant ignition), traditional infrastructure, building, and equipment disposal efforts cannot be performed with acceptable risks to worker health. The buildings and equipment will have to be "5X'd" in place, have the scrap metal removed, the residual materials will be properly disposed. The foundations will be removed and explosive hazards mitigated. The sewers will require excavation, disassembly, removal, decontamination, disposal testing and backfilling of the resultant trench. "3X" equipment found in explosive free buildings shall be removed from the buildings and properly decontaminated. All work shall be performed by a contractor who has experience with explosives previously produced at Sunflower AAP, who is approved by the Army, and BATF licensed. Materials such as asbestos and gross lead may be present in the ash residues. Coordination with the Kansas Department of Health and Environment (KDHE) will likely be required to ensure the methods proposed or implemented do not result in hazard to human health, or the environment, and comply with those regulations outlined in paragraph 5. All operating procedures for decontamination shall conform to the Department of Defense Explosive Safety Board (DDESB) approved Explosive Safety Submissions (ESS) and IOC Pam 385-1. Recommended methods for decontamination of facilities have been approved by the DDESB.

6.1. Decontamination of Above Ground Structures: The decontamination of above ground structures shall be decontaminated via burning in place in accordance with the DDESB approved ESS. The below specification are provided for information. If alternatives to the below specifications for decontamination are proposed by the contractor, those methods

shall be proposed with the contractor cost proposal.

6.1.1. Decontamination Preparations: Prior to the 5X decontamination process, precursor efforts shall be accomplished. The contractor shall prepare a Work Plan describing all aspects of site activities associated with this project. The Work Plan will include a Site Safety and Health Plan. The Work Plan will include a timeline for execution, specifically outlining how the series of events are proposed during the project. These events outlined may include (but are not limited to) environmental regulator and fire department coordination, utility disconnect, asbestos abatement, disassembly, 5X decontamination, scrap metal removal, site restoration, etc. A NEPA document will be prepared by the contractor and approved by the DAIM-BD-0 representative and the Sunflower AAP ACO Staff. A Hazards Analysis shall also be performed by the contractor. The Hazards Analysis shall include visual inspection and analysis (which may include sampling) of each building or structure to be decontaminated. This document will outline any hazardous material contained within the facilities, and the contractor's plan to mitigate release of the materials into the land, air, water, etc. The contractor will propose operating procedures for approval by the Sunflower AAP ACO Staff and (as applicable) coordinate with the regulators of primacy. The procedures will detail methods and operations that will be implemented during this project. Any subcontracted effort shall have the subcontract specifications reviewed and approved by the DAIM-BD-0 and the Sunflower AAP ACO Staff prior to solicitation. After Army approval of the Work Plan, the contractor will prepare each account site (or burn group) for decontamination. This may consist of activities such as utility disconnects, site preparation, asbestos removal and disposal (for non-friable or friable types), weather forecasting, pre-burn check-list preparation and review, regulatory coordination/notification and other pre-burn activities. Some of the facilities identified at enclosure 1 contain friable or non-friable asbestos. Since the propellants processed in the production facilities were in colloided state, there may be an opportunity to safely mitigate the asbestos prior to thermally decomposing the equipment and buildings. Other materials, such as asphalt shingles, may be removed if state regulatory agency mandates the action, and the activity can be performed without risk of inadvertent propellant/explosive detonation. Above all, the explosive risk to worker health must be considered foremost when evaluating whether hazardous/non-hazardous/nuisance materials can be removed before explosive decontamination take place.

6.1.2. Facility Decontamination: The accounts identified at enclosure 1 shall be decontaminated to level 5X IAW

IOC Pamphlet 385-1. The 5X condition of residual materials shall be demonstrated by temperature paint or thermocouple installation/monitoring or other analytical testing methods. Due to worker safety considerations, facilities will be decontaminated to a level 5X with personal property left in place (or other method, subject to approved environmental and safety authorizations). Procedural authorizations for any environmental waivers will be obtained prior to physical work starting. Demolition activities will not adversely impact active work or operations. Work shall be scheduled so interference with other efforts is minimized. Adjacent facilities not part of this project shall be protected from damage and debris. Any airborne debris will be controlled to prevent the spread of dust while avoiding the creation of a nuisance in surrounding areas. The use of water to spray the site to reduce release of airborne asbestos fibers is permitted as required, but shall be controlled to ensure it does not create hazardous or objectionable conditions such as ice, flooding, or pollution. The contractor shall not use the decontamination site for burning refuse.

6.1.3. Clean up: After burning, all materials shall be inspected and documented to confirm materials have been decontaminated. Based on testing, or Environmental Engineering knowledge, the material/ash residue will be collected and disposed of in accordance with applicable regulations. Disposal shall be accomplished at approved offsite landfills. Hauling and disposal shall be performed IAW interstate statutes. The contractor shall dispose of all scrap metal and residual materials from the decontamination effort. Material handling of asbestos/ash/scrap will be minimized. Hot work permits will be required and issued by the contractor safety officer when performing scrap disassembly. Site restoration shall be the responsibility of the site owner IAW applicable regulations.

6.2. Foundation Removal and Decontamination: The contractor shall decontaminate and dispose of all Slabs, Foundations, Frost Walls and Sumps identified at enclosure 4 of this SOW. Foundations of structures previously demolished or to be demolished, were previous propellant production or storage facilities at Sunflower AAP. The buildings contained nitrocellulose, nitroguanadine, nitroglycerin, or finished propellant. Under the original ESS, approximately 1419 of the aboveground structures were thermally decomposed (burned down). However, the foundations of these structures still remain, and will require inspection, removal and limited soil decontamination. In addition, foundations of TD facilities yet to be burned will also require removal and limited soil decontamination. Site workers will be educated/trained to recognize the raw explosives that could be encountered during this process.

6.2.1. Inspection: Visual inspection for explosives will be required in cracks, drains, troughs, appendages, sumps or along/under foundation edges. Noticeable cracks 1/8 inch wide or greater will require the crack be flooded with water within three feet on either side of the cracked area (prior to the concrete floor being demolished).

6.2.2. Drains: If foundation floor drains are present, they will be explosively decontaminated using detonation cord to consume any residual explosives within the drains. Prior to foundation removal, the detonation cord will be slipped down the pipe until it has reached the approximate boundary of the foundation. The detonation cord will then be prepared and initiated and after the shot, the floor drain will be removed along with the floor slab to a distance outside the foundation.

6.2.3. Asbestos: In the event that a building foundation, footing, frost wall or other concrete component contains asbestos containing material (ACM), and if economically feasible, asbestos removal operations may take place before foundation removal tasks. Otherwise, the concrete and the ACM will be removed together, sent to an offsite approved landfill and disposed of as asbestos containing debris. These operations will take place in accordance with asbestos removal safe operations and practices.

6.2.4. Raw Explosives Discovery: In the event that significant raw explosives are discovered during the visual inspection of the foundation, and if deemed necessary by Safety Officer, removal of the foundation to the footprint will be performed utilizing remote control equipment. The contractor shall use remote-controlled modified excavator, Gradall XL2210 or equivalent equipment, to break up and remove wetted down foundations with suspect explosives associated with them. The excavator will be operated remotely to provide safe separation for all personnel.

6.2.5. Foundation Removal: Foundations not associated with raw explosives as noted in paragraph 6.2.4 may be removed by conventional methods utilizing a manned, hardened excavator that will also be utilized for the concrete debris removal and soil excavation, or an alternate method approved by DDESB. Excavation activities will not be conducted until all non-essential personnel have cleared the withdrawal distance.

6.2.6. Debris Testing: Debris will be screened for the presence of explosives utilizing the EXPRAY test or similar method. If explosives at a concentration of less than 10% are found, the debris may be used as backfill or be recycled on or offsite. The debris may also be disposed of off site. If the presence of explosives is discovered at or above 10%

concentration by weight, the debris will be thermally decontaminated in place, test again, and recycled onsite, or disposed of offsite (once the debris obtains concentrations less than 10% by weight).

6.2.7. Sump Removal: To facilitate demolition and removal of collection sumps (to include NG sumps), water/sludge contained in them will be removed, characterized and disposed of accordingly. Empty sumps will be thermally treated (burned utilizing dunnage and fuel) in order to decontaminate the potential explosive hazards. The actual method will be determined by the SUXOS based upon existing field conditions (presence of sump liners etc.) and level of contamination. Once burned/flushed, the sump will be removed and the debris will be screened for the presence of explosives utilizing the EXPRAY test or similar method. If no explosives are found, the debris may be used as backfill or be recycled on or offsite. The debris may also be disposed of off site. If explosives are discovered at or above a concentration at 10% by weight, the debris will be decontaminated in accordance with paragraph 6.2.6, above.

6.2.8: Limited Sub-Foundation Soil Sampling: Soil sampling/screening to verify the presence or absence of explosive soils will be conducted after the concrete foundations and drains have been removed. Any visible explosives residue beneath the slabs will be removed and taken to the Demolition Area II prior to continued sampling. The Jenkins test or an equivalent laboratory method will be used to screen the soils for explosives. Soil sampling beneath and along foundations will involve the following steps:

6.2.8.1. The footprint for each foundation will be divided into grids <2500 square feet, and each grid will be inspected for visible signs of explosive contamination (i.e. soil staining, strained vegetation, etc.).

6.2.8.2. Upon discovery of any visible signs of explosive contamination, a grab sample will be taken at the location to verify the presence of explosive soil. If the explosive material concentration is above 10% by weight, the soil in the grid may be homogenized/mixed with the existing soil, to a concentration of less than 10% by weight of explosives. Explosive soils (above 10% by weight) may also be removed and blended with other environmentally contaminated soils for disposal. A confirmation sample will be collected consisting of five aliquots from within the grid.

6.2.8.3. If no visible signs of contamination exist within the grid, five random samples will be collected and optionally composited into a single sample and screened for explosives. The five (5) individual samples per 2500 square foot grid will be biased toward the locations of floor cracks, floor drains and other floor features that increase the probability for

explosive accumulation in sub-foundation soils. These features will have been identified and documented prior to demolition of the foundations. Random sampling will be used only if these elements (cracks and drains) do not exist within the specified square footage, or to fill in the balance of the five individual samples for the composite. Any positive test of a composite sample at a level of 2% explosives by weight or higher (worst case scenario of one sample being at or above 10% and the remaining aliquots being non-detects) will necessitate either the retesting of the individual aliquot locations or the homogenizing of the soil within the grid to a depth of one foot, as determined by the SUXOS. Alternatively, discrete sampling shall also be allowed for soil sampling. Within the 2500 square foot (or less) grid, five individual samples shall be collected and independently tested for explosives. If concentrations are discovered at or above 10% by weight for any test location, the location shall be decontaminated to below 10%. After homogenization of the soil in the grid, confirmation sampling will be collected (again with five aliquots from five different locations in the grid) to ensure the desensitization of the explosive soil to concentrations below 10% by weight of explosives.

6.2.9: Decontamination of Explosive Soils Underneath Slabs: If the abovementioned soil testing identifies an explosive contamination level at or above 10% by weight, the explosive soil may be decontaminated by blending with clean soil obtained on site. The explosive soil decontamination will involve the contaminated soils to be processed *in-situ* by wetting the soil with water and cautiously blending it with clean soil until a concentration of less than 10% explosives is attained. The resulting soil will be left in place. Otherwise, the explosively contaminated soils (above 10% by weight) may also be removed and blended with other environmentally contaminated soils for disposal at an approved landfill. In the event that environmental constituents of concern are discovered, at or above action levels, environmental remediation shall take place and be performed in accordance with local, state and federal regulations. Any environmental remediation will occur after the soils are decontaminated to <10% explosive weight. If a suspect contaminated area is tested and the laboratory results report an inordinately elevated explosive percentage or if bulk explosives are discovered, they will be recovered and stored in an igloo. The soils and/or the recovered bulk explosives will be stored until they can be disposed of either by detonation on site or shipped off-site to an approved incinerator facility and disposed of properly in accordance with local, state and federal regulations. Explosive soil decontamination will be conducted utilizing the hardened excavator, and all explosive contamination above 10% by weight will be further followed along it's probable migration route and decontaminated to a depth of 1-foot below the excavation depths where concentrations less than 10% are achieved. Confirmation samples will be collected at the depth of

1-foot below the excavation depths where concentrations of less than 10% by weight were originally observed, and re-tested for explosives and propellants.

6.3. Decontamination of Sewer Piping: All Sewer piping identified at enclosure 3 shall be explosively decontaminated:

6.3.1. Preparation: Sections of underground piping will be exposed in lengths up to 200 feet by utilizing a hardened track excavator to remove the soil overburden. The track excavator will be hardened against fragmentation hazards through the use of 3 inch Plexiglass shielding, Lexan or equivalent being mounted over all exposed window surfaces. Operators will not impact suspect energetic soils with excavation equipment. After the piping is exposed, the contractor will inspect the piping. If deemed it necessary inspection will be performed using a borescope. If the sewer piping is of metal composition, the desired lengths for transportation (40'-50') can be explosively severed utilizing perforators and det cord or mechanically severed using non-heat generating methods (such as shearing), with a hardened excavator. During set-up and priming of initiating charges, only those personnel essential to the operation will remain inside the Quantity Distance (QD) arc. All non-essential personnel will be evacuated outside the determined Minimum Separation Distance (MSD), and any public roads within the QD arc limit will be blocked and monitored. Once the charges have been primed, the demolition personnel will also evacuate the site to the QD arc. When it is determined that the site is clear, the appropriate contractor representative will give the order to initiate the charges. After the shape charge initiation, the contractor will inspect the shot locations prior to personnel returning to the excavation site. If the sewer piping is nonmetal composition, manageable sections will be severed using the bucket of the hardened excavator. Once the pipe section has been exposed, a UXO technician will visually inspect the exposed piping section for any breaks, flanged unions, stained soils, or bulk explosives to be noted for soil screening after the piping is removed. Removal of the severed length of piping from the excavation trench will then proceed utilizing the hardened track excavator. Operators and UXO personnel will be trained to avoid placing bodies or hands in-line with the ends of the pipeline sections. The severed sewer pipes will be removed from the excavation, and placed on a sand lined transport trailer and taken to a bermed, staging area at Bldg. 154-3 before they are thermally decomposed to assure complete desensitization. This area is Burn/Demolition Area I.

6.3.2. Venting: Sewer sections with accumulated explosives/propellants readily observed from disconnected ends shall be vented before thermal decontamination is performed. Once the sewer sections (with visually observed explosives) are on the venting pad, detonation cord will be used to detonate

(vent) the accumulated explosives and/or render the surfaces open for visual inspection. Sewer sections with accumulated explosive shall also be allowed to be vented in the trench, however, the severing and removal of adjacent sewer sections must be accomplished prior to venting the section with accumulated explosives to ensure risk of explosive propagation along the sewer tract is minimized. Also, if venting in place is proposed, soil testing and environmental authorization may be required to satisfy regulatory requirements. Venting of accumulated explosives in place will require an incorporation of the approved QD arc/separation distance and contractor fire watch staffing. After venting and visual inspection, sewer sections will be thermally decomposed to assure complete desensitization. After the items are vented, they will be moved to buildings designated as TD or the Burn/Demolition Area #1 and thermally decomposed.

6.3.3. Thermal Decomposition of Sewer Piping: After the sewer lines are removed, they will be taken by sand lined transport trailers to a bermed, lined, staging area located at the coal pad associated with Power House #3 (Bldg 154-3). This area will consist of a 12" lining of gravel, clay or other suitable material with an earthen berm around the outer perimeter (approx. 300' X 100'). A minimum 100-ft fire-break surrounding the pad will be cleared of excessive vegetation (mowed). Severed piping required to be burned will be placed on the burn pad. Fuel oil and wooden pallets or other "Clean" (non-hazardous) dunnage materials will be added to the pad to create fuel for the burn. Remote ignition using electric matches (squibs) will be conducted from outside the QD arc. The local Fire Department will be notified twenty-four (24) hours in advance of the time and date of the burn, the day of the burn, and again when the fire is out. The contractor will maintain a three-person fire watch (with water truck) standing by outside the QD arc until the fire is out. No personnel will be allowed within the QD arc until the "all clear" status has been announced, and a fire watch will be maintained at the site until all visible combustion has ended.

6.3.4. Soil Testing: Following the removal of the below grade piping, the trench bottom will be inspected for stained soils or bulk explosives. If potentially contaminated soil is found in association with the piping, the level of contamination will be visually evaluated by the UXO technician. Any bulk explosives found outside the piping that are similar in physical characteristic to that which is found inside the pipe will be removed and taken to venting burn pad for thermal destruction. A composite sample will be collected from the excavation trench for every 500 feet of nonmetal and metal pipe removed. Five individual grab samples will be collected from each sampling area and a composite sample will be tested for explosives and propellants. The sampling locations will be biased towards soil

staining, broken piping sections and flanges that contribute to explosives accumulation under the pipes. These features will be identified and documented prior to the removal of the pipes. Random sampling will be used only if the above features do not exist within the specified sample area, or to fill in the balance of the five samples for the composite. Explosive soil is defined as soil that contains explosives in the soil at concentrations equal to or greater than 10% explosives by weight. Any positive test of a composite sample at a level of 2% explosives by weight or higher (worst case scenario of one sample being at or above 10% and the remaining grab aliquots being non-detects) will necessitate either the retesting of the individual grab aliquot locations or homogenizing the soil within the trench to a depth of one foot, as determined by the contractor. Alternatively, discrete sampling shall also be allowed for soil sampling. Within the 500 foot long exposed trench (or less), five individual samples shall be collected and independently tested for explosives. If concentrations are discovered at or above 10% by weight for any of the test locations, the locations shall be decontaminated to below 10%. Once received, field laboratory results that report soil concentrations of explosives that exceed 10% by weight will be treated in-situ (in place) by cautiously blending with clean soil until the explosives concentration is below 10% by weight. If explosives are not visually observed to be present, but soil staining is observed, or previous broken piping sections/flanged unions were noted, soil samples will be collected and submitted to an approved laboratory to determine the explosive content by weight. Soil testing for environmental constituents of concern will also take place and be coordinated with the Department of the Army and Kansas Department of Health and Environment (KDHE) for both trench and backfilled soils in order to determine whether additional investigation or remediation is warranted.

6.3.5. Limited Decontamination of Explosive Soils in Excavation Trench: If the abovementioned soil testing identifies an explosive contamination level at or above 10% by weight, the explosive soil will either be decontaminated by blending with clean soil obtained on site or environmental contaminated soil, or disposed of at an approved offsite landfill. The explosive soil decontamination will involve the contaminated soils to be processed in-situ by wetting the soil with water and cautiously blending it with clean soil until a concentration of less than 10% explosives is attained. The resulting soil will be left in place or disposed of off site at an approved landfill. In the event that environmental constituents of concern are discovered, at or above action levels, environmental remediation shall take place and be performed in accordance with local, state and federal regulations. Any environmental remediation will occur after the soils are decontaminated to <10% explosive weight. Explosive soils (above 10% by weight) may also be removed and

blended with other environmentally contaminated soils for disposal. If a suspect contaminated area is tested and the laboratory results report an inordinately elevated explosive percentage or if bulk explosives (Munitions Constituents - MC) are discovered, they will be recovered and stored in an igloo. The soils and/or the recovered bulk explosives will be stored until they can be disposed of either by detonation on site or shipped off-site to an approved incinerator facility and disposed of properly in accordance with local, state and federal regulations. Explosive soil decontamination will be conducted utilizing the hardened excavator, and all soil explosive contamination above 10% by weight will be further followed along it's probable mitigation route and blended in-situ to a depth of 1-foot below the excavation depths where concentrations less than 10% are achieved. Confirmation samples will be collected at the depth of 1-foot below the excavation depths where concentrations of less than 10% by weight were observed, and re-tested for explosives and propellants.

6.4. Decontamination of Equipment: Some explosively contaminated equipment was moved from their production facilities into select buildings/facilities for storage and reuse. The buildings in this case are not considered explosively contaminated. The equipment at enclosure 4 may be moved and flashed at select TD facilities, moved and flashed at COR approved locations, and/or decontaminated using an alternate method approved beforehand by DDESB.

8. DOCUMENTATION REQUIREMENT: During the execution of this effort, facility and equipment records shall be altered to reflect final disposition. This record reconciliation shall be coordinated with Army proponent elements (DAIM-BD-0). All decontaminated material shall have an end use certificate signed by the contractor safety officer verifying the material is decontaminated from all explosives.

9. INSPECTION/FINAL ACCEPTANCE:

9.1. The Sunflower AAP ACO Staff will monitor contractor performance on this SOW.

9.2. Notification of Inspections and Tests: At least 10 working days prior to the anticipated final inspections and tests required by this SOW, the contractor will notify the Sunflower AAP ACO Staff of the date and items to be inspected/tested.

9.3. Upon project completion, the ACO Staff will inspect facilities and, if acceptable, notify HQ, DAIM-BD-0 that facilities are ready for final acceptance inspection.

9.4. A representative of DAIM-BD-O, will perform final acceptance inspection, unless this is delegated in writing, to the Sunflower AAP ACO Staff.

9.5. The final acceptance of this project will take place upon receipt by the contractor of written approval from Tank Automotive Command (TACOM) Contracting Officer.