ADDENDUM 2

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3

TO THE

OE OPERATIONS WORK PLAN

FOR THE

OE SITE SAMPLING AND CHARACTERIZATION

PROPOSED PRISON SITE
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK

Contract Number: DACA87-97-D-0005
Task Order: 0003

Prepared For:
The U.S. Army Engineering and Support Center
Huntsville, Alabama

Prepared By:
EOD Technology, Inc.
2229 Old Highway 95
Lenoir City, Tennessee 37771

March 1999

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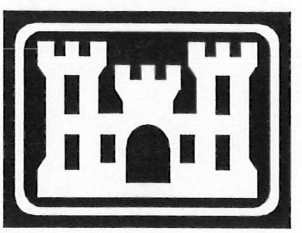

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2229 Old Highway 95
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CHAPTER 1: GENERAL

1.0 INTRODUCTION

This Work Plan (WP) addendum describes the procedures, sequence, and resources EOD Technology, Inc. (EODT) will utilize while conducting an investigation for potential ordnance and explosives (OE) at two sites within the proposed Prison Site at the Seneca Army Depot Activity* (SEDA), near Romulus, New York. These sites are the Missile Propellant Test Laboratory and the Quality Assurance (QA) Test Laboratory, identified by their SEDA Solid Waste Management Unit (SWMU) designations 43 and 44A, respectively. The U.S. Army Engineering and Support Center, Huntsville (CEHNC) authorized this work on February 24, 1999, under Contract DACA87-97-D-0005.

**Note: SEDA is the acronym currently used to refer to the Seneca Army Depot Activity. SEAD was the acronym formerly used when the installation was known as Seneca Army Depot. The Archive Search Report (ASR) referenced in Chapters 2 and 3 of this addendum uses the older acronym. However, consistent with current usage, SEDA will be used throughout this document.*

1.1 SITE DESCRIPTIONS AND HISTORY

1.1.1 SEDA 43

SEDA 43 is located in the southeast corner of the depot. This SWMU is triangular, measuring roughly 100 ft on a side with Building 606 in the center of the triangle. The characterization site is approximately 5 acres and includes and surrounds the SWMU. Building 606 was reported to have been used as a missile propellant test laboratory in the 1960's. The QA testing done in various areas outside the building reportedly involved operational or functional testing of explosive devices. The SWMU Classification Report also indicated that liquid Inhibited Red Fuming Nitric Acid (IRFNA) and/or other liquid propellants may have been disposed of in this area. Since 1976, Building 606 has been used for herbicide/pesticide storage.

1.1.2 SEDA 44A

SEDA 44A is located approximately 1,000 ft east of Brady Road and 1,500 ft north of South Patrol Road. The roughly 3-acre site is on an unnamed dirt road that runs parallel to South Patrol Road. Berms run along both sides of the dirt road at SEDA-44A. These bermed areas may contain OE since QA testing was reportedly conducted there. There are no visible signs of any building foundations at this SWMU. Along the north side of the dirt road there are four metal poles that may have been used for holding screens in place while detonating munitions.

1.2 PREVIOUS SITE INVESTIGATIONS

1.2.1 SEDA 43

As part of a 1995 Expanded Site Inspection (ESI) conducted for the Depot, EM-31 metal detector and ground penetrating radar (GPR) surveys were conducted to delineate the limits of the suspected disposal pits at SEDA 69 and to identify anomalies of metallic origin at both SEDA 43 and 69. The electromagnetic data was collected from a grid laid out across both SWMUs, with EM-31 measurements taken at 10-ft intervals. GPR data was collected along profiles spaced at 50-ft intervals. Supplemental GPR data was also collected over distinct EM-31 anomalies to provide a more defined characterization of the suspected metallic sources. Three test pits were excavated at SEDA 69 over distinct geophysical anomalies and over areas with debris on the ground surface. The purpose of the test pits was to visually identify the contents of the disposal area for Building 606.

The results of the apparent ground conductivity survey performed at SEDA 43 and 69 indicate an area in the southeastern portion of the EM-31 grid and is presumably associated with the nearby septic tank system. A second area of elevated ground conductivity was detected in the area of the drainage swale surrounding the pesticide/herbicide rinse pad. These two areas of elevated apparent ground conductivity may be due to an increase in the clay content of the soils or to the increase in the content of dissolved solids in the ground water or soil moisture. Since the most conductive soils coincided with drainage swales along the access roads around SEDA 43, road salt should be considered a possible explanation for these increases.

The apparent ground conductivity measured in the remaining areas of SEDA 43 and 69 showed a relatively featureless response with only four localized anomalies being detected. One was associated with metallic construction debris on the ground surface. The area was later identified by SEDA personnel as being the location of a small waste disposal trench that had been excavated and filled during the 1970's. The three remaining localized anomalies, as well as a low intensity anomaly detected in the southeastern corner of SEDA 69, were related to cultural effects. The in-phase response survey showed a generally featureless response. Several isolated anomalies were detected in the southern half of the EM-31 grid and were correlated to the cultural effects observed in the apparent ground conductivity results.

The GPR survey of SEDA 43 seeking to identify areas that may have received wastes generated from the former activities conducted in Building 606 disclosed no evidence of disturbed soil at either SEDA 43 or 69. With the exception of the GPR data acquired over the disposal trench previously discussed, no anomalies showing discontinuities in subsurface layers or characteristic reflections from buried wastes or objects were detected.

1.2.2 SEDA 44A

The ESI reported that no geophysical surveys were conducted at SEDA 44A. However, a total of nine excavations were made into its berms. The soil samples were collected with the use of a backhoe from a depth of 3 ft within each of the three berms investigated. Surface soil samples were also collected. The ESI did not report any encounters with OE during the sampling activities.

1.3 STATEMENT OF WORK OBJECTIVES

The primary objective of this site investigation is to characterize, with respect to the presence of OE, the two areas in question within the proposed prison site.

1.4 PURPOSE

The purpose of this WP is to delineate the management structure, operational plans, safety considerations, and environmental safeguards that EODT will utilize and address during the performance of the work to be conducted at SEDA 43 and 44A, including all of the requirements stated in the Data Item Description (DID) OT-005. All site activities will be conducted in accordance with (IAW) this WP and any deviation from this plan will require the prior approval of both the EODT Project Manager (PM) and the CEHNC.

1.5 WORK PLAN ORGANIZATION

No changes were made to this section.

1.6 CHANGES TO THE WORK PLAN

No changes were made to this section.

CHAPTER 2: UXO OPERATIONAL PLAN

2.0 INTRODUCTION

No changes were made to this section.

2.1 PROJECT ORGANIZATION

No changes were made to this section.

2.2 EODT PERSONNEL RESPONSIBILITIES

No changes were required in this section.

2.2.1 Program Manager

No changes were required in this section.

2.2.2 Project Manager

No changes were required in this section.

2.2.3 Senior UXO Supervisor/Site Safety and Health Officer

Mr. Salvatore Molle, will be the SUXOS and the Site Safety and Health Officer (SSHO) for this project. As both the SUXOS and the SSHO, Mr Molle will address all ordnance and non-ordnance related safety issues, as well as all operational issues. Due to the small size of the field crew, Mr. Molle will be able to provide the site with over 50% of his time dedicated to safety, without compromising his duties as the SUXOS. Mr. Molle is a master EOD technician and a graduate of the Basic and Advanced Naval EOD School, Indian Head, Maryland. Mr. Molle has over 18 years combined military and civilian EOD experience, with extensive experience as a SUXOS. As the SUXOS, Mr. Molle will be responsible for the following:

- Manages the EODT on-site manpower and equipment necessary to conduct site operations;
- Detects and identifies any problem areas and coordinates with the EODT PM to institute corrective measures;
- Ensures that all site activities are conducted according to this WP and relevant Federal, state and local regulations;
- Acts as the lead technical consultant for all on-site OE related matters; and
- Directly interfaces with, and relays concerns to, the OSS.

2.2.4 Occupational Safety and Health Manager

Mr. Molle will serve as both the SUXOS and the SSHO (see paragraph 2.2.3).

2.2.5 Site Safety and Health Officer

No changes were required in this section.

2.2.6 QUALITY CONTROL MANAGER

No changes were required in this section.

2.3 APPROACH AND OPERATIONAL SEQUENCE

2.3.1 General

The systematic approach to be used by EODT on-site personnel is presented in this Chapter, and detailed information related to personnel, hours and costs is presented in the Work Data Cost Management Plan found in Chapter 9 of this WP. To complete this task order, EODT on-site personnel will complete the activities identified below according to the planned approach for this project.

2.3.2 Project Operational Sequence

EODT will perform site operations at SEDA 43 and 44A in a systematic manner using proven operating techniques and methods. Based on EODT's experience with OE operations, and information obtained during the site visit, this task will be executed in seven phases. These phases and associated work are outlined below and are discussed in detail in paragraph 2.4 to 2.10.

PHASE 1 - PERFORM SITE VISIT AND RECORDS REVIEW

- Visit both SEDA 43 and 44A sites, determining required equipment, personnel and duration, site accessability, evidence of surface OE, and any requirement for vegetation removal; and
- Obtain a copy of the ASR "Findings" and "Conclusions and Recommendations."

PHASE 2 - PRE-MOBILIZATION

- Procure, package, and ship equipment to the site;
- Coordinate with subcontractors to ensure availability of subcontractor personnel and equipment, and schedule mobilization of same; and
- Coordinate with installation and local agencies via telephone.

PHASE 3 - MOBILIZATION

- Mobilize personnel and remaining EODT equipment to the site;
- Conduct site-specific and public relations training; and
- Conduct final coordination with installation and local agencies.

PHASE 4 - PERFORM LOCATION SURVEYING AND MAPPING

- Survey SEDA 43 and 44A to establish boundaries of areas;
- Survey the corners of sampling grids within each SWMU;
- Produce a tabulated list of control points (control points shall be located from existing monuments);
- Draw maps of the SWMUs;
- Lay out a 100 by 100 ft test grid adjacent to one of the SWMUs.

PHASE 5 - GEOPHYSICAL INVESTIGATION AND SITE CHARACTERIZATION

- Remove surface OE scrap from each SWMU and from the test grid;
- Clear each SWMU and the test grid of standing vegetation;
- Conduct a geophysical prove-out test of the test grid;
- Conduct geophysical survey of each SWMU; and
- Perform the initial threshold analysis of the data with OE-GIS software.

PHASE 6 - ANOMALY EXCAVATION

- Characterize the project area and dispose of any encountered UXO on site;
- Remove all OE scrap greater than 1 in;
- Remove non-OE metallic scrap (only as necessary to complete the sampling action);
- Using "GridStats/SiteStats" determine when each SWMU grid is sufficiently characterized at the 90% confidence level; and
- Remove all OE scrap greater than one inch in any dimension, if encountered during anomaly investigations, to a depth of two feet.

PHASE 7 - PROJECT CLOSE-OUT

- Turn in all inert OE and OE-related scrap greater than 1 inch in any dimension to the nearest Defense Reutilization Marketing Office or local scrap dealer;
- Break down site;
- Close accounts;
- Remove equipment;
- Demobilize workforce; and
- Generate the Final Removal Report.

2.3.3 Project Assumptions

The above sequence of events and its timely completion is predicated on the following assumption:

- The Seneca BRAC office will provide the necessary personnel and equipment to remove the vegetation (including trees) from the 100 by 100 ft grids in each SWMU as part of Phase 5.

2.4 PERFORM SITE VISIT AND RECORDS REVIEW

EODT will conduct a site visit of SEDA SWMUs 43 and 44A, not to exceed three days in length. The site visit team will consist of the PM, the Senior UXO Supervisor (SUXOS), and a geophysicist. During this visit, EODT personnel will determine the accessability of the site with respect to accommodating towed geophysical instruments. Additionally, the team will obtain copies of the "Findings" and "Conclusions and Recommendations" of the ASR.

2.5 PRE-MOBILIZATION

EODT will begin pre-mobilization operations upon written notification of WP approval, to include a "Notice to Proceed" with mobilization issued by the Contracting Officer. During pre-mobilization, EODT will systematically build and establish its operational capability for the SEDA.

During the development of this WP, EODT has assessed equipment, personnel and subcontractor requirements for this project and has arranged for delivery of the same to the site, corresponding with the arrival of the site personnel. Project equipment will come from EODT sources, local leases/purchases, and Government Furnished Equipment (GFE) from SEDA. All equipment, regardless of source, will be checked to ensure its completeness and operational readiness. Coordination of equipment acquisition will include communicating with CEHNC and SEDA personnel to determine the availability of Government Furnished Equipment (GFE), and the requisitioning of equipment from commercial sources. (During pre-mobilization, the PM and SUXOS will schedule the subcontractors which EODT plans to use for the performance of location, surveying and mapping, and soil excavation/sifting.)

2.6 MOBILIZATION

2.6.1 Training

EODT will schedule the arrival of the work force in a manner that is most effective and designed to allow for immediate productivity. As part of the mobilization process, EODT will perform site-specific training for all personnel assigned to this project. The purpose of this training is to ensure that all site personnel fully understand the procedures and methods EODT will use to perform operations at the SEDA, their individual duties and responsibilities, and all safety and environmental concerns associated with operations. Any personnel arriving at the site after this initial training session will be trained as they arrive. Training topics and training responsibilities include:

- All personnel will receive training on the individual equipment that they will operate while on site, to include safety and health precautions and field inspection and maintenance procedures; and

- All site personnel, to include subcontractor personnel, will receive detailed training on the WP, SSHP and the site-specific environmental protection plan (EPP). This training will be presented by the Sight Safety and Health Officer (SSHO) and SUXOS.

Note: In addition to the mobilization training specified above, all EODT and subcontractor personnel will have current OSHA hazardous waste and emergency response operations (HAZWOPER) training as specified in the SSHP and will meet the medical surveillance requirements outlined in the SSHP.

2.6.2 Public Affairs

IAW DID OT-045, all site personnel will be instructed in the public relations procedures. During this training, all site personnel will be informed that they are to refer all inquiries from the public to the SUXOS, who will in turn forward the request to the CEHNC for action. Site personnel will not make any public statements to the media without prior coordination with and approval of the Public Affairs Office (PAO), USACE New York District, and the CEHNC. In the event the CEHNC requests assistance in public meetings, media days, and press/news releases, EODT personnel will assist as directed.

2.6.3 Field Operating Resources

EODT teams will operate out of their vehicles for this OE sampling and characterization task and not require a field office or equipment storage facility. However, the team will draw their explosives from the explosives storage magazine and explosives used during the OE removal actions at the OBG will be used during this project.

EODT will install, inspect, and test all site communications equipment, to include:.

- Hand-held five-watt portable radios, with a range of five-to-eight miles that will be used to maintain communications between the SUXOS and the field teams; and
- Cellular telephones, acquired through a local cellular service (very high frequency band 150-174), as back up communications between the SUXOS and the field office and between the SUXOS and SEDA offices.

2.6.4 Coordination with Local Agencies

The PM, SUXOS/SSHO, and QCS will coordinate with the following agencies:

- CEHNC, to reconfirm priorities/schedules, and to identify any changes in the SOW;
- Local vendors and suppliers;
- The Air Traffic Controller; and
- SEDA fire, medical, and police agencies.

2.7 PERFORM LOCATION SURVEYING AND MAPPING

2.7.1 General Site Organization and Practices

Upon completion of mobilization activities, EODT will perform location surveys and mapping of SEDA 43 and 44A. Team composition for this effort is indicated in Table 2-1. The subparagraphs below describe the general work practices EODT will follow during all operations, and the specific procedures and methods EODT will use to implement these practices.

All operational activities at SEDA will be performed under the supervision and direction of qualified UXO personnel. Non-UXO qualified personnel will be prohibited from entering work areas, or performing any operation, unless they are accompanied, and supervised, by a UXO specialist or supervisor. Throughout the entire operation, EODT will strictly adhere to the following general practices.

2.7.1.1 Work Hours

Operations will be conducted only during daylight hours, which is thirty minutes after sunrise until thirty minutes prior to sunset. EODT intends to work four 10-hour days, with five 8-hour days a backup option. In no case will personnel work more than 10 hours in any day, or more than 40 hours in any week, and will have a minimum 48-hour rest prior to the start of the next work week.

2.7.1.2 Site Access

EODT will control access into work areas and will limit access to only those personnel necessary to accomplish the specific operations or to those personnel who have a specific purpose and authorization to be on the site. No hazardous operations will be conducted when unauthorized personnel are in the vicinity.

2.7.1.3 Handling of OE

OE items will be handled by qualified UXO personnel only. Non-UXO site personnel will be instructed and closely supervised to ensure they do not handle any OE. Ordnance-Related Scrap (ORS) will not be handled or touched by non-UXO qualified personnel until it has been checked by a UXO specialist or supervisor and it has been determined to be free of explosive hazards.

Table 2-1. Team Composition

Phase and Team	Labor Category	Quantity
1. Site Visit and Records Review	PM	1
	SUXOS/SSHO	1
	Geophysicist	1
	Total	3
2. Pre-Mobilization	PM	1
	SUXOS/SSHO	1
	Certified Industrial Hygienist	1
	Contract Administrator	1
	Laborer	1
	Total	5
3. Mobilization	PM	1
	SUXOS/SSHO	1
	UXO Specialists	1
	Total	3
4. Location Survey & Mapping Team	PM	1
	SUXOS/SSHO	1
	UXO Specialists	1
	Surveyor	1
	Surveyor's Aid	1
	Total	5
5. Geophysical Investigation and Site Characterization	PM	1
	SUXOS/SSHO	1
	UXO Specialists	2
	Geophysicist	1
	Contract Administrator	1
	Total	6
6. Anomaly Excavation	PM	1
	SUXOS/SSHO	1
	Quality Control Specialist (QCS)	1
	UXO Specialists	2
	Contract Administrator	1
	Total	6
7. Project Close Out	PM	1
	SUXOS/SSHO	1
	Contract Administrator	1
	Word Processor	1
	Total	4

2.7.2 Compliance with Plans and Procedures

No changes were required in this section.

2.7.3 Safety and Operational Training and Briefings

No changes were required in this section.

2.7.4 Preparation of Work Areas

No changes were required in this section.

2.7.5 Location Surveying and Mapping

The location surveying and mapping team will consist of a surveyor, a rodman, and a UXO specialist. The team will acquire control points for SEDA 43 and 44A from existing monuments. They will then survey and map each SWMU IAW Chapter 5, Location, Surveying and Mapping Plan, of the WP. The team will use instrumentation capable of accurate measurements to within one foot. The site boundary will be marked at the corners using Schedule 40 polyvinyl chloride (PVC) pipe. The survey team will then lay out individual 200 by 200 foot grids, marking each at their corners using highly visible wooden stakes with the grid number written on the stake. Any unusual terrain or other peculiar features in the grid, as well as any OE encountered, will be annotated on the grid map and reported to the SUXOS. A magnetometer check will be made at each location where a stake or other marker is to be set to ensure the location is free of anomalies.

2.7.6 Visual Survey

The team will conduct a visual survey of each SEDA 43 and 44A grid by positioning search personnel in a line, with a proper interval measured by extending their arms, fingertip to fingertip. Once the interval is established, arms are dropped and personnel are advanced to the end of the grid. The team then turns around, moves over, and proceeds as above. The process is repeated until the grid is completed. Any live OE encountered will be marked with two crossed pin flags. Live OE will either be disposed of being blown-in-place (BIP), or if the item is unfuzed or otherwise identified as being safe to move it will be moved to the SEDA open detonation range for disposal. (Disposal operations are covered in paragraph 2.9.5 of the WP.)

2.7.7 Vegetation Removal

Once the respective site is visually swept, the team will commence vegetation removal operations in a systematic manner. EODT will provide weedeaters with blades; the BRAC office will provide a bush hog and a hydro-ax. The specific equipment used will be dependent on the features and characteristics of the grid. All vegetation removal activities will be IAW Chapter 7, Environmental

Protection Plan and the SSHP found in Appendix A of the WP. Only those items that must be removed in order to conduct the magnetometer survey will be removed. Grass and brush will be removed to within at least six inches of the surface; tree limbs will be removed to a height of six feet. No trees greater than three inches in diameter will be cut down without the prior approval of CEHNC.

2.8 GEOPHYSICAL INVESTIGATION AND SITE CHARACTERIZATION

The objective of this project is to perform a high resolution geophysical investigation of the SWMUs 43 and 44A. This geophysical survey is being conducted to discover the extent to which OE is present at these SWMUs. Prior to conducting the geophysical survey, the survey equipment, field procedures, and the data processing and analysis procedures will be challenged through the performance of a Geophysical Prove-Out Test. This test will be conducted against known sources located within a prove-out grid. This prove-out will be conducted to ensure that the geophysical survey results will meet the objectives outlined in SOW.

2.8.1 Geophysical Prove-Out

To test the geophysical instruments, procedures, and techniques EODT will conduct a geophysical prove-out and site survey at a 100 by 100-ft test grid located in an area adjacent to one of the SWMUs. Results from the prove-out grid will be reviewed by CEHNC before EODT can conduct the geophysical survey of the SWMUs.

2.8.2 Search Lanes

Following completion of the geophysical prove-out, and after the SWMU has been divided into 200 by 200 ft grids and the vegetation removed, the geophysical survey team will lay out the search lanes (see Figure 2-3 of the WP for a typical grid survey sweep lane layout). The 40 lanes will be 5 ft wide, adjacent to one another, and run parallel to the east/west boundary line of the grid. To lay out the search lanes, the survey team will lay out pre-marked base lines along the north and south boundary lines, then lay out cones between the 5-ft marks on both base lines.

2.8.3 Geophysical Survey

The geophysical survey will be performed by at least two personnel, one being a UXO specialist. While one tows the EM61 along a lane of the grid, the UXO specialist marks each object or anomaly with a pin flag. Once the EM61 is towed to the opposing base line, the operator will shift it to the next lane and tow it back to the original base line. This process will be repeated until all lanes have been searched. During the geophysical sweeps, data related to instrument position and sensor readings will be electronically recorded for processing IAW paragraph 2.8.5 of this WP addendum.

2.8.4 Equipment

The equipment to be utilized for this activity includes:

- Geonics EM61 Buried Metal Detector;
- Wooden stakes or traffic cones (used to subdivide the grid into individual search lanes);
- Colored pin flags (used to mark anomaly locations);
- Miscellaneous common hand tools; and
- Forms and logbooks to record activities.

2.8.5 Data Reduction

2.8.5.1 General Requirements

During the geophysical survey, four separate measures are implemented to produce reliable data useful for the detection and characterization of subsurface OE:

- Sensor Drift Calculation
- Sensor Reading Calibration
- Diurnal Magnetometer Data Collection
- GPS Base Station Data Collection

2.8.5.2 Sensor Drift Calculation

Each field magnetometer or metal detector has a distinct base line [or direct current (DC)] reading level. This DC level will be measured each day over the same 30-ft length (approximately) area in the same deployment pattern. Data collected from this drift calibration run will be collected and downloaded to the field processing center for review, drift calculation, and documentation. The drift values are used in subsequent processing to level the sensor array.

2.8.5.3 Sensor Reading Calibration

Each field magnetometer or metal detector makes an accurate measurement of the earth's magnetic field to an accuracy of 0.05 nanoteslas (or gamma.) In order to determine if the sensor is operating properly, a daily sensor calibration check will be performed on each instrument, with the data applied to the geophysical survey.

2.8.6 Data Storage and Initial Reporting Methods

Initial data storage will be internal to the EM61 console while in the field. This data will be transferred, using vendor supplied software, to a computer hard drive at least twice per day, to ensure minimal data loss in the event of equipment failure. Once data has been transferred to the computer, it will be checked for completeness and data integrity, then backed up to further ensure against data loss. All survey and mapping data shall be represented in State Grid Plane coordinates and provided

to CEHNC as a delimited ASCII file in ADF format (x,y,z) and the analysis results in a ".grd" file format for use by MGE Modeler or MGE Grid Analysis tools.

2.8.7 Data Processing Corrections and Analysis

Standard data processing and analysis techniques will be utilized to detect, locate, and characterize anomalies recorded during the survey. Data processing will consist of three main steps; (1) corrections, (2) interpolations, and (3) filtering. Data correction processing steps include the subtraction of the diurnal drift data and application of sensor drift values. Data interpolation is performed to generate a two-dimensional map representation of the survey data. Each of the processing and interpolation steps is executed in a controlled manner, with all computer program parameters established in files that are saved for subsequent review and verification.

After the data are interpolated, they are presented to the operator for review. This review consists of a visual inspection of the data using the Intergraph Geographical Information System (GIS), or equivalent. Data are either accepted as being suitable for analysis, rejected as being improperly processed, or conditionally accepted as requiring filtering for signal enhancement.

Digital filters are applied to the data as needed to mitigate effects of noise that may obscure anomalies that are potential OE targets. Sources of noise may include: magnetic soils and/or bedrock; effects for man-made structures such as fences and building; underground utility lines such as water pipe and conduits, and system noise associated with data dropouts. A standardized set of filters is available to apply to the data. The selection of the particular filter is documented and saved in a system file for subsequent quality control.

Targets are detected in a two-phase process. First, an automatic threshold detection method is applied to the data to identify the targets that have anomaly readings that exceed a pre-determined signal strength. The threshold level is established during the Geophysical Prove-out test, and set to allow the detection of the weakest signals associated with the suspected OE targets. The threshold detection alone is not sufficient for target detection at an OE site. Many targets of interest can fall below the pre-established threshold due to site and target-specific conditions. Additionally, the threshold method generally causes several obvious false alarms. The second phase of the target detection process is a visual inspection of all data by a trained operator with at least 2 years experience in the review of geophysical data for OE detection.

After all targets have been detected, each target is characterized in terms of its predicted weight and depth. A three-step method will be used for this process. First, each target is run through a dipole modeling procedure that determines the size, orientation, and location of the best fitting magnetic

dipole that matches the observed data. The size is converted to a weight estimate through an empirically derived formula. Second, the data are correlated against a database of known signatures of previously excavated targets. The result of this process is an estimated target size and depth. Third, these parameter estimates are provided to a trained operator, via the GIS, for acceptance, rejection or modification.

EODT shall perform the initial threshold analysis of the data with the OE-GIS tools. Anomalies will be identified with a standard symbol and unique codes as a layer in the CADD file, with coincident raster display of the analysis stages using the OE-GIS tools. Additionally, EODT will tabulate all anomalies into the GIS data base with a posting for data representation in an Excel spreadsheet. This data will then become the basis for the excavation and removal of randomly selected suspect anomalies.

2.9 ANOMALY EXCAVATION

Once the grid has been searched, excavation of anomalies will be performed IAW the "CEHNC Safety Concepts and Basic Considerations for Unexploded Ordnance (UXO) Operations," and will follow the procedures outlined below.

2.9.1 Subsurface Clearance

The subsurface clearance is to be conducted at the two sites to a depth of two feet, as required by the SOW. Investigation of anomalies will be conducted using a shovel and smaller hand tools. Periodically during digging, the UXO technician will use a magnetometer to verify the location, and approximate depth of the anomaly, based on the signal strength. Once verified, the UXO technician will continue digging with either the shovel or hand tools. In the event an anomaly is determined to be at a depth greater than two feet, the SUXOS, in conjunction with the OSS, will direct the excavation team to either continue the excavation or record the location of the anomaly for pursuing at a later time. Disposal of any excavated UXO will be conducted IAW paragraph 2.9.5 of the WP.

In the event a greater clearance depth is required at some future date, the procedures outlined in Chapter 2 of the WP will be followed.

2.9.2 Location Recording

No changes were required in this section.

2.9.3 Records

No changes were required in this section.

2.9.4 Removal and Disposal of Scrap Metal

No changes were required in this section.

2.9.5 Disposal Operations

No changes were required in this section.

2.9.6 Quality Control Inspections

No changes were required in this section.

2.7 PROJECT CLOSE-OUT

No changes were required in this section.

2.8 PROJECT SUBMITTALS

No changes were required in this section.

CHAPTER 3: SITE-SPECIFIC SAFETY AND HEALTH PLAN

No changes were required in this section.

CHAPTER 4: GEOPHYSICAL EQUIPMENT PLAN

4.0 GENERAL

This Geophysical Equipment Plan presents information related to the type of geophysical detection equipment which EODT will use to survey SWMUs 43 and 44A. The geophysical equipment presented below was selected based upon the type of OE anticipated and the depth of the clearance, as specified in the SOW.

4.1 SENSORS

The Geonics EM61 Buried Metal Detector employs a time domain technique to discriminate between moderately conductive earth materials and very conductive metallic targets. The instrument consists of a portable coincident loop time-domain transmitter and receiver with an additional receiver for depth-to-target estimations and rejection of near surface target response. The EM61 generates 150 EM pulses per second, and measures target response during the off-time between pulses. After each pulse, secondary EM fields are induced briefly in moderately conductive earth, and for a longer time in metallic targets. The EM61 waits until the earth response dissipates, and then measures the prolonged buried metal response.

For reacquisition of interpreted ferrous anomalies, EODT personnel will use the Whites XLT. All instrumentation shall be tested, if warranted, on the same prove-out grid, as described in Paragraph 2.8.5.3, to ensure compatibility of responses and detection thresholds.

4.2 SENSOR MOBILITY

The EM61 is a man-portable metal detector. It has two air-core coils, a main coil coincident with the source coil, and a focusing coil 40cm above the main coil. It is powered by a 12 volt rechargeable battery, allowing up to 4 hours of continuous operation. The backpack weight 10 kg, the coil assembly 16.5 kg, and the trailer assembly 24 kg.

The Whites XLT is a man-portable metal detector weighing approximately __ pounds, with an overall length of approximately __ inches. When conducting a grid search, personnel hold it in front of the body with the sensor end held approximately three to six inches from the ground.

4.3 DATA STORAGE

The EM61 stores data in its control module until downloaded into a computer. It's solid-state memory is cable of storing up to 18,700 records.

CHAPTER 5: EQUIPMENT PLAN

5.0 GENERAL

No changes were required in this section.

5.1 PROPERTY MANAGEMENT OBJECTIVES

No changes were required in this section.

5.2 RESPONSIBILITIES

No changes were required in this section.

5.3 CATEGORIES OF EQUIPMENT

No changes were required in this section.

5.4 ACCOUNTABILITY

No changes were required in this section.

5.5 ACQUISITION

No changes were required in this section.

5.6 RECEIVING AND RECORDS

No changes were required in this section.

5.7 IDENTIFICATION

No changes were required in this section.

5.8 MOVEMENT

No changes were required in this section.

5.9 STORAGE

No changes were required in this section.

5.10 PHYSICAL INVENTORY

No changes were required in this section.

5.11 REPORTS

No changes were required in this section.

5.12 UTILIZATION

No changes were required in this section.

5.13 MAINTENANCE

No changes were required in this section.

5.14 SUBCONTRACTOR CONTROL

No changes were required in this section.

5.15 DISPOSITION

No changes were required in this section.

5.16 PROJECT REQUIRED EQUIPMENT AND SUPPLIES

The services, equipment, and supplies listed in Tables 5-1 through 5-4 will be required for this OE site sampling and characterization effort.

Table 5-1: Field Equipment

Description	Quantity	Remarks
Calculator	1 each	
Camera, digital	1 each	
Camera, video	1 each	with tapes
Cellular telephone	1 each	
Battery charger	3 each	for charging radios at BRAC office
Blood-borne pathogen kit	1 each	
Brushes, long handle	2 each	equipment/personnel decontamination
Buckets, plastic	6 each	five-gallon
Burn kit w/burn blanket	2 each	for support and exclusion zones
Bushhog	1 each	GFE
Calibrator	1 each	calibrating sampling pumps
Chainsaw	1 each	18"
Chaps	4 each	kevlar
Demolition kit	1 each	blasting machine, galvo, and wire

Description	Quantity	Remarks
De-watering pump	1 each	(as required)
Drums	1 each	(as required for PPE disposal)
Explosive day box	2 each	
Explosive magazine	2 each	GFE
Eye wash kit	1 each	vehicular
Fire extinguisher	2 each	10 A:B:C
Fire extinguisher	2 each	20 A:B:C
First-aid kit	2 each	for support and exclusion zones
Front-end loader	1 each	GFE
Gas can	2 each	1 gallon, with funnel
Hard hat, hearing/face protection combo	3 each	
Hydro axe	1 each	GFE
Ice chest	1 each	
Jumper cables	1 each	4 guage
Igloo drink cooler	1 each	5 gallon
Metal detector	1 each	Geonics EM61
Metal detector	2 each	Whites Spectrum XLT
Newton, hand-held computer	1 each	
Port-a-John	1 each	
Power washer, portable	1 each	equipment decontamination
Probe	4 each	12" wooden/aluminum
Radio, hand-held	3 each	1 GFE on depot frequency
Roll on/off	1 each	ORS container
Safety glasses	6 each	
Sampling pumps, personal	2 each	breathing zone sampling
Shovels	2 each	

Description	Quantity	Remarks
Sledge	1 each	
Sound level meter	1 each	
Stretcher	1 each	
Siren	1 each	Banshee brand
Tape measure	1 each	300-foot
Tool kit	1 each	one per vehicle
Trowel, garden	2 each	
Trash cans	2 each	30-gallon
Tubs	6 each	4 large/shallow; 2 small/shallow
Vehicle, all-purpose (Cherokee)	1 each	
Vehicle, pickup truck	1 each	
Waders	4 each	
Weedeaters	2 each	

Table 5-2: Field Consumables

Description	Quantity	Remarks
Chains	2 each	for chain saw
Electrician's tape	4 rolls	
Gasoline	40 gallons	
Gloves	8 pair	leather
Gloves	100 pair	rubber (outer)
Gloves	2 boxes	surgical
Pens, pencils, and highlighters	1 box each	various colors
Log books	2 each	
Mask	3 each	CPR
Paper, bond	2 packages	
Paper towels	1 pack	

Description	Quantity	Remarks
Oil (2-cycle)	10	6 oz for weedeaters and chainsaws
Oil (30W)	2 quart	for chainsaw blades
Ruler	1 each	
Snake leggings	8 each	plastic
Stakes, flags, and string		
Stapler	1 each	and staples
Tape, duct	6 rolls	
Tape, Scotch/engineer	10 rolls	
Trash bags	1 box	
Wet/handi wipes	5 packs	

Table 5-3: Explosives Consumables

Description	Quantity	Remarks
Detonating cord	1,000 feet	80 grain
Electric detonators	100 each	
Perforators	100 each	19 gram

CHAPTER 6: LOCATION SURVEYING AND MAPPING PLAN

6.0 GENERAL

No changes were required in this section.

CHAPTER 7: ENVIRONMENTAL PROTECTION PLAN

7.0 INTRODUCTION

No changes were required in this section.

7.1 FIELD ACTIVITIES IMPACTING ENVIRONMENTAL RESOURCES

No changes were required in this section.

7.2 ENVIRONMENTAL DOCUMENTATION

No changes were required in this section.

7.3 PRE-REMOVAL ACTION ACTIVITIES

No changes were required in this section.

7.4 ENDANGERED OR PROTECTED SPECIES AND NATURAL RESOURCES

No changes were required in this section.

7.5 WETLANDS

No changes were required in this section.

7.6 TREES AND SHRUBS

No changes were required in this section.

7.7 WATER RESOURCES

No changes were required in this section.

7.8 WASTE DISPOSAL

No changes were required in this section.

7.9 OPEN BURNING AND DUST CONTROL

No changes were required in this section.

7.10 SPILL AND EMERGENCY CONTROL PLAN

No changes were required in this section.

7.11 ISOLATION AND SECURITY OF THE AREA

7.11.1 General Security

No changes were required in this section.

7.11.2 Site Security

During operations, access to SWMUs 43 and 44A will be controlled by the use of exclusion zones, signs, and a periodic visual survey of the surrounding area to ensure no personnel have wandered onto the site. This will be especially critical should a BIP operation be required. Entry into the sites will be limited to only those personnel required to safely conduct the task at hand. Visitors will be controlled and escorted, the only exception to this will be the OSS, and EODT's SUXOS and SSHO who will have unlimited access to all areas. During non-working periods, the equipment, to include hand tools, will be secured. The government furnished explosive storage magazines will remain locked at all times when explosives are not being issued. Vehicles will be used to transport personnel on a daily basis to and from the job site. During non-work hours, these vehicles will be locked.

7.12 CONSIDERATION OF WIND DIRECTION

No changes were required in this section.

7.13 REDUCTION OF VAPORS, GASSES OR DUST EMISSIONS

No changes were required in this section.

7.14 POST-REMEDIATION CLEANUP

No changes were required in this section.

CHAPTER 8: QUALITY CONTROL PLAN

8.0 GENERAL

No changes were required in this section.

8.1 DEFINITIONS

No changes were required in this section.

8.2 QUALITY PROGRAM MANAGEMENT STRUCTURE

No changes were required in this section.

8.2.1 QC Manager

No changes were required in this section.

8.2.2 Site QC Specialist

The EODT site QCS is Mr. Terry Willis. He will have the responsibility and authority to enforce the EODT and site specific QC plans and procedures. His responsibilities include:

- Coordinating with the CEHNC QA representative to ensure that QC objectives appropriate to the project are set and all personnel are aware of these objectives;
- Coordinating with the EODT QCM to ensure that QC procedures are being followed and are appropriate for achieving QC objectives;
- Conducting daily QC audits of all site activities and recording the results from these inspections in the QC activity log;
- Conducting inspections of all ORS placed in the roll on/off to ensure there are no explosive components;
- Recommending and implementing actions to be taken in the event of a QC deviation; and
- Reporting noncompliance with QC criteria to the EODT QC Manager and PM.

8.3 CRITICAL ISSUES/ACTIVITIES

No changes were required in this section.

8.4 ORDNANCE VERIFICATION, ACCOUNTABILITY AND CONTROL

No changes were required in this section.

8.5 GRID SIZES

No changes were required in this section.

8.6 QA/QC AUDITS AND SURVEILLANCE

No changes were required in this section.

8.7 QC INSPECTIONS

No changes were required in this section.

8.8 NON-CONFORMANCE/CORRECTIVE ACTION

No changes were required in this section.

8.9 PROJECT CORRESPONDENCE

No changes were required in this section.

8.9.1 Delivery Order Correspondence

No changes were required in this section.

8.9.2 Project Manager Address

The EODT PM is Mr. Douglas L. Murray. He can be contacted through the following:

- Address: EOD Technology, Inc.
  2229 Old Highway 95
  Lenoir City, TN 37771
- Telephone: 423-988-6063
- Facsimile: 423-988-6067
- E-mail: eodtg@aol.com

8.10 PROJECT RECORDS

No changes were required in this section.

CHAPTER 9: WORK DATA COST MANAGEMENT PLAN

9.0 GENERAL

No changes were required in this section.

9.1 PROJECT ORGANIZATION

No changes were required in this section.

9.2 PROJECT WORK SCHEDULE AND DAILY SCHEDULE

No changes were required in this section.

9.2.1 Performance Data

It is anticipated that site operations will require a total field effort of 3 weeks, to include mobilization/site set-up and site closure/demobilization. Table 9-1 illustrates the performance data for the life of the field effort.

Table 9-1. Performance Data

Activity	Acres	Grids	Work Days	Calen-dar Days
Site Visit and Records Review	NA	NA	NA	NA
Pre-Mobilization	NA	NA	NA	NA
Mobilization	NA	NA	1	1
Location Surveying and Mapping	8	8.7	1	1
Geophysical Investigation and Site Characterization	8	8.7	8	10
Anomaly Excavation	8	8.7	2	2
Project Close-Out (including Demobilization)	NA	NA	1	1
Totals			13	15

9.3 TASK ORDER COST DATA

No changes were required in this section.

9.3.1 Manpower Requirements

EODT has structured its manpower requirements to meet the operational requirement of this task order. Our structure was designed to minimize associated costs (i.e., travel and per-diem), and

provide an effective blend of technical talents and skills for executing the work associated with this task order. Further, EODT chose the listed labor categories to ensure that team flexibility and production rates could be met. A detailed list of manpower requirements and associated costs is contained in Table 9-2.

Table 9-2. Labor Requirements and Cost

Labor Category	Personnel Per Category	Hours Per Person	Hourly Rate	Cost By Category
Project Manager	1	143	$78.51	$11,226.93
Contract Administrator	1	11	$39.63	$435.93
Word Processor	1	1	$30.51	$30.51
Certified Industrial Hygienist	1	24	$73.95	$1,774.80
SUXOS/SSHO	1	172	$60.74	$10,447.28
QC Specialist	1	88	$50.17	$4,414.96
UXO Specialist	2	120	$44.89	$10,773.60
Geophysicist	1	64	$63.89	$4,088.96
Surveyor	1	8	$50.17	$401.36
Surveyor's Aid	1	8	$31.80	$254.40
Laborer	1	4	$19.48	$77.92
Totals	**12**	**643**		**$43,926.65**

9.4 TASK AND PROJECT COSTS

Table 9-4: Task and Project Costs

	Amount
Labor	$43,926.65
Material	$7,119.64
Travel	$13,510.90
Project Total	**$64,557.19**

9.4.1 Government Furnished Equipment

GFE (bush hog, hydro-ax, and explosives storage magazine) were not included in these figures.

9.4.2 Consumable Supplies

No changes were required in this section.

APPENDIX A

TO

ADDENDUM 2 OF THE GENERIC WORK PLAN

FOR THE

OE SITE SAMPLING AND CHARACTERIZATION

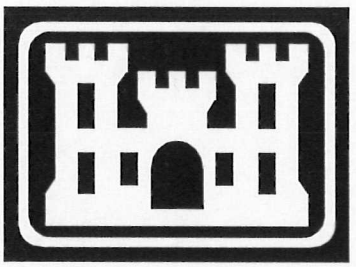
IN SUPPORT OF

PROPOSED PRISON SITE
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK

SITE SAFETY AND HEALTH PLAN

Contract Number: DACA87-97-D-0005
Task Order: 0003

Prepared For:



U.S. Army Engineering and Support Center
Huntsville, Alabama

Prepared By:

EODT
EOD TECHNOLOGY, INC.

2229 Old Highway 95
Lenior City, Tennessee 37932

March 1999

PREFACE

This Addendum to the generic Seneca Army Depot Activity (SEDA) Site Safety and Health Plan (SSHP) has been prepared for the United States Army Engineering and Support Center, Huntsville (CEHNC) in support of the ordnance and explosives (OE) Site Sampling and Characterization project to be conducted by EOD Technology, Inc. (EODT) at the SEDA located near Romulus, New York. This SSHP Addendum has been designed to identify and address the specific hazards that may be associated with the OE sampling and characterization activities to be conducted at the proposed prison site located within the SEDA. This SSHP Addendum also addresses the work practices and procedures that will be used to protect site personnel from the hazards that may be encountered during on-site

This site-specific SSHP Addendum references, and be used in conjunction with both the generic SEDA WP and the generic SEDA SSHP. All activities conducted by EODT personnel at the proposed prison sites will be performed in accordance with (IAW) this site-specific SSHP Addendum, the generic WP/SSHP, and applicable U.S. Army Corps of Engineers (USACE), Federal, state, and local regulations.

In the development of this site-specific SSHP, EODT has identified the various site and task hazards that may be encountered at SEDA. The hazard control methods detailed in this SSHP addendum were evaluated and selected to minimize the potential for personal exposure to site or task hazards, and to safeguard the environment and general public. This SSHP addendum is to be viewed as a living document and may be require changes based upon actual on-site implementation of site tasks. Any changes to this SSHP addendum will be approved by the personnel on the following signature page and the CEHNC Contracting Officer (KO).

SITE SAFETY AND HEALTH PLAN APPROVAL

Project: OE Site Sampling and Characterization of the Proposed Prison Site

Site: Seneca Army Depot Activity **Site Location:** Romulus, New York

Contract Number: DACA87-97-D-0005 **Task Order:** 0003

The personnel below have reviewed the attached SSHP addendum for SEDA and recognize that upon completion of this form, the attached site-specific SSHP addendum will be approved by EODT for application to the above referenced project. Changes to this SSHP addendum will be presented in writing, approved by the EODT personnel listed below, and submitted for approval to the CEHNC KO prior to inclusion of the changes into this SSHP.

Reviewed by: _____ Date: 3/8/99
Doug Murray
EODT Project Manager

Reviewed by: _____ Date: 3/9/99
for Michael Short
EODT Director of Operations

Prepared and
Approved by: _____ Date: 3/9/99
Andrew Bryson, CIH, MPH
EODT Occupational Safety and Health Manager

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ATTACHMENTS

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LIST OF TABLES

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LIST OF ACRONYMS AND ABBREVIATIONS

ALARA	As Low As Reasonably Achievable
BIP	blow(n)-in-place
bpm	beats per minute
CEHNC	U.S. Army Engineering and Support Center, Huntsville
CFR	Code of Federal Regulations
CPR	cardiopulmonary resuscitation
CSHP	Corporate Safety and Health Program
CTHA	Certification of Task Hazard Assessment
CWM	Chemical Warfare Material
°C	degrees Celsius
DID	Data Item Description
DoD	U.S. Department of Defense
EC	Emergency Coordinator
EM	Engineering Manual
EMM	earth moving machinery
EOD	explosive ordnance disposal
EODT	EOD Technology, Inc.
EPA	Environmental Protection Agency
ER	Engineering Regulation
EZ	exclusion zone
°F	degrees Fahrenheit
ft	feet
HAZWOPER	Hazardous Waste Operations and Emergency Response
hr	hour
HTW	hazardous and toxic waste
IAW	in accordance with
KO	Contracting Officer
LS&M	location surveying and mapping
mm	millimeter
OE	ordnance and explosive
OSHA	Occupational Safety and Health Administration
OSHM	Occupational Safety and Health Manager
OSS	On-site Safety Specialist
PM	Project Manager
PPE	personal protective equipment
ppm	parts per million

LIST OF ACRONYMS AND ABBREVIATIONS (continued)

QC	quality control
SEDA	Seneca Army Depot Activity
SMSP	Site-specific Medical Surveillance Plan
SR	State Road
SSHP	Site Safety and Health Plan
SOP	standard operating procedure
SOW	Scope of Work
SSHO	Site Safety and Health Officer
SUXOS	Senior UXO Supervisor
SWP	Safe Work Practices
USACE	U.S. Army Corps of Engineers
UXO	unexploded ordnance
UV	ultraviolet
WP	Work Plan
WZ	Work Zone

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1.0 GENERAL

1.1 SCOPE AND APPLICATION

This SSHP addendum describes the safety and health procedures and resources EODT will utilize while conducting an OE site sampling and characterization at two sites within the proposed Prison Site at the SEDA, near Romulus, New York. These sites are the Missile Propellant Test Laboratory and the Quality Assurance (QA) Test Laboratory, identified by their SEDA Solid Waste Management Unit (SWMU) designations 43 and 44A, respectively. The CEHNC authorized this work on February 24, 1999, under Contract DACA87-97-D-0005.

This SSHP addendum to the generic SEDA SSHP has been generated IAW the requirements of the OE Site Sampling and Characterization SOW for the proposed Prison Site. This addendum will identify the safety and health hazards endemic to the site and the tasks to be performed, and will reference applicable the hazard information and control procedures contained in the SEDA generic SSHP. Any site-specific hazards identified that are not addressed in the generic SSHP will be addressed in detail within this site-specific Addendum.

EODT is mandated by its corporate policy to provide site personnel with the requisite training, information and resources needed to ensure that all on-site operations are conducted in a manner that safeguards site personnel from exposure to recognized, uncontrolled safety and health hazards. OE poses a serious safety and health hazard that endangers both human life and environmental quality. Due to the potentially dangerous nature of the SEDA OE operations, this SSHP addendum, will apply to all EODT, subcontractor and USACE personnel who participate in any tasks that involve the potential for personnel exposure to on-site safety or health hazards.

1.2 OBJECTIVE

The primary objective of this OE site sampling and characterization is to characterize, with respect to the presence of OE, the two areas in question that are within the proposed prison site. This objective will be met by EODT through the performance of a geophysical survey; the investigation and characterization of suspect surface and subsurface anomalies; and the generation of a final Site Characterization Report.

1.3 SUBMISSION OF SITE-SPECIFIC ADDENDUMS

(No site-specific changes required to this paragraph. Refer to SEDA generic SSHP.)

NOTE: The paragraphs in this site-specific SSHP that contain the above statement were not significantly effected by the site-specific requirements outlined in the SOW for the proposed Prison Site. Refer to the SEDA generic SSHP to determine the SSHP requirements that will also apply to operations conducted under this site-specific SSHP.)

1.4 SSHP APPROVAL

(No site-specific changes required to this paragraph. Refer to SEDA generic SSHP.)

1.5 SSHP MODIFICATIONS

(No site-specific changes required to this paragraph. Refer to SEDA generic SSHP.)

1.6 REGULATIONS AND GUIDELINES

(No site-specific changes required to this paragraph. Refer to SEDA generic SSHP.)

1.7 REFERENCES

(No site-specific changes required to this paragraph. Refer to SEDA generic SSHP.)

2.0 STAFF ORGANIZATION AND RESPONSIBILITIES

2.1 ROLES AND RESPONSIBILITIES OF EODT PERSONNEL

EODT recognizes that the effective, safe and healthful performance site operations is primarily a function of the ability, skill and knowledge of the on-site personnel assigned to the implementation of the tasks specified in the SOW. However, the other key element to establishing and maintaining a safe and health work environment is the effective management of the personnel, equipment and financial resources needed to implement the safety, health and operational policies and procedures specified in this SSHP and the WP. Figure 2-1 of the Generic SSHP depicts the safety and health Chain-of-Command that will be used during this project.

2.1.1 Program Manager

(No site-specific changes required to this paragraph. Refer to SEDA generic SSHP.)

2.1.2 Project Manager

(No site-specific changes required to this paragraph. Refer to SEDA generic SSHP.)

2.1.3 Occupational Safety and Health Manager

(No site-specific changes required to this paragraph. Refer to SEDA generic SSHP.)

2.1.4 Senior UXO Supervisor

The SUXOS for this project will be Mr. Salvatore Molle. Mr. Molle is a master Explosive Ordnance Disposal (EOD) technician and a graduate of the Basic and Advanced Naval EOD School, Indian Head, Maryland. He has over 18 years combined military and civilian EOD experience, with extensive experience as a SUXOS. He has also completed the OSHA 40-hour General Worker and the 8-hour Supervisor training requirements IAW 29 CFR 1910.120, and will be responsible for the on-site management and oversight of all EODT site-specific operations. As the SUXOS, Mr. Molle will have the following responsibilities:

1. The on-site management of the EODT resources necessary to safely conduct site operations;
2. Reviewing and becoming familiar with the WP and SSHP, as amended, and any other documents pertinent to the conduct of site operations;
3. Providing copies of the project plans to EODT and subcontractor personnel for their review;
4. Ensuring that the safety and health requirements of the SOW are addressed in this SSHP;
5. Acting as the lead technical consultant for all on-site OE related matters;
6. Scheduling and presenting the operational portion of the daily tailgate safety briefing;
7. Enforcing compliance with all aspects and addendums to the SSHP and WP; and
8. Directly interfacing with, and relaying safety and health concerns to, the CEHNC OSS.

2.1.5 Site Safety and Health Officer

Due to the small crew size and the short duration of the overall project, the responsibilities of the SSHO will be implemented by the Mr. Molle, the SUXOS. During his military EOD and his civilian UXO work experience, he has gained the training and experience needed to exercise the duties of the SSHO. As the SUXOS/SSHO Mr. Molle will be responsible for the following:

1. Authorizing STOP WORK for safety and health reasons;
2. Implementing and enforcing the requirements and procedures outlined in either this SSHP addendum and the generic SSHP;
3. Conducting daily tailgate safety briefings;
4. Conducting, or assisting in, the training of site personnel in site-specific hazards and ensuring completion of the EODT documentation of training form;
5. Specifying proper levels of PPE IAW the requirements of this SSHP;
6. Consulting with the EODT OSHM prior to downgrading levels of PPE;
7. Developing and submitting for approval additional safety and health procedures, as required;
8. Implementing and enforcing the EODT Alcohol/Drug Abuse Policy;
9. Investigating injuries, illnesses, accidents, incidents and near misses;
10. Conducting visitor orientation;
11. Conducting, and documenting, daily safety inspections and weekly safety audits;
12. Coordinating with the EODT OSHM on monitoring and PPE requirements;
13. Conducting monitoring IAW this SSHP; and
14. Ensuring field implementation of the EODT CSHP.

2.2 RESPONSIBILITIES OF ALL SITE PERSONNEL

(No site-specific changes required to this paragraph. Refer to SEDA generic SSHP.)

2.3 SUBCONTRACTOR RESPONSIBILITIES

(No site-specific changes required to this paragraph. Refer to SEDA generic SSHP.)

2.4 CEHNC PROJECT PERSONNEL

The CEHNC personnel assigned to the safety and health coordination and administration of the prison site project are identified below. These personnel will be consulted regarding changes to this SSHP addendum.

- Alicia Allen, Project Manager ..... (256) 895-1552
- Sharon Butler, Contracting Officer ..... (256) 895-1151
- Kellie Williams, Industrial Hygienist ..... (256) 895-1584
- Greg Bayuga, OE Safety ..... (256) 895-1596
- TBD, On-Site Safety Specialist ..... TBD

3.0 SITE DESCRIPTION AND CHARACTERIZATION

3.1 SEDA LOCATION AND DESCRIPTION

(No site-specific changes required to this paragraph. Refer to SEDA generic SSHP.)

3.2 DESCRIPTION OF THE OE REMOVAL ACTION SITE

3.2.1 SEDA 43

SEDA 43 is located in the southeast corner of the depot. This SWMU is triangular, measuring roughly 100 ft on a side with Building 606 in the center of the triangle. The characterization site is approximately 5 acres and includes and surrounds the SWMU. Building 606 was reported to have been used as a missile propellant test laboratory in the 1960's. The QA testing done in the areas around outside the building reportedly involved operational or functional testing of explosive devices.

3.2.2 SEDA 44A

SEDA 44A is located approximately 1,000 ft east of Brady Road and 1,500 ft north of South Patrol Road. The roughly 3-acre site is on an unnamed dirt road that runs parallel to South Patrol Road. Berms run along both sides of the dirt road at SEDA-44A. These bermed areas may contain OE since QA testing was reportedly conducted there. There are no visible signs of any building foundations at this SWMU. Along the north side of the dirt road there are four metal poles that may have been used for holding screens in place while detonating munitions.

3.3 PREVIOUS SITE INVESTIGATIONS

3.3.1 1995 Expanded Site Inspection

As part of a 1995 Expanded Site Inspection (ESI) conducted for the Depot, EM-31 metal detector and ground penetrating radar (GPR) surveys were conducted to delineate the limits of the suspected disposal pits at SEDA 69 and to identify anomalies of metallic origin at both SEDA 43 and 69. Three test pits were also excavated at SEDA 69 over distinct geophysical anomalies and over areas with debris on the ground surface. The purpose of the test pits was to visually identify the contents of the disposal area for Building 606. The ground conductivity measurements in the area of SEDA 43 showed a relatively featureless response as did the in-phase (magnetic) response. The GPR survey of SEDA 43 disclosed no evidence of disturbed soil at either SEDA 43 or 69. With the exception of the GPR data acquired over the disposal trench located on SEDA 69, no anomalies showing discontinuities in subsurface layers or characteristic reflections from buried wastes or objects were detected at SEDA 43.

The ESI reported that no geophysical surveys were conducted at SEDA 44A. However, a total of nine excavations were made into its berms. The soil samples were collected with the use of a

backhoe from a depth of three ft within each of the three berms investigated. Surface soil samples were also collected. The ESI did not report any encounters with OE during the sampling activities.

3.3.2 Archival Search Report

An Archive Search Report (ASR) was conducted by the U.S. Army Corps of Engineers, St. Louis District in 1998. The purpose of the ASR was to identify areas of the SEDA that might be contaminated with OE. The results of the ASR as they relate to the SEDA 43 and 44 sites are presented in paragraph 3.4.2.

3.3 ON-SITE TASKS TO BE PERFORMED

3.3.1 Introduction

(No site-specific changes required to this paragraph. Refer to SEDA generic SSHP.)

3.3.2 General On-site Tasks To Be Performed

During the performance of this project, EODT personnel will be involved in a variety of on-site tasks. A listing of the general tasks to be performed to meed the SOW are presented below while a description of each task and the hazards that may be encountered are presented in paragraph 4.3 of this SSHP addendum.

- Mobilization and site set-up;
- Location surveying and mapping (LS&M) of site/grid coordinates;
- Vegetation removal;
- Removal of surface OE and scrap;
- Geophysical surveying and mapping;
- Sampling of anomalies to characterize the potential OE contamination, which includes excavation and of subsurface anomalies to a depth of two feet;
- Demolition of UXO and hazardous OE; and
- Project close-out and demobilization.

3.4 CONTAMINATION CHARACTERIZATION

3.4.1 Chemical Warfare Materials

Archival research of the SEDA has indicated that the area is not a suspect Chemical Warfare Materiels (CWM) site. In the event that CWM OE or another CWM source is located, EODT personnel will follow the procedures presented in this paragraph of generic SSHP.

3.4.2 OE Contamination

The type of OE contamination expected at the two SWMU sites is directly related to the history of the two sites. SWMU 43 is located at a site where missile propellant was tested. The ASR indicated that liquid Inhibited Red Fuming Nitric Acid and/or other propellants may have been disposed of in

this area. Additionally, SWMU 44 was used for the quality assurance (QA) testing of CS (tear gas) grenades, firing devices and pyrotechnics, and remnants of 40 mm grenades have been seen on the surface during past site visits.

3.4.3 Hazardous Substances and Materials

3.4.3.1 Hazardous Environmental Contaminants

As defined by the Federal EPA, hazardous substances are those products and materials that can threaten human health and/or environmental well-being if released into the environment. Past site sampling and analysis indicates that there is some environmental contamination involving metals such as zinc, lead, potassium, chromium, copper and beryllium. The level of metals contamination at SWMU 43 and 44 sites are considered environmental hazards because some of the analyzed soils contained metals at levels exceeding the contaminant levels presented in the New York State Department of Environmental Conservation Technical Administrative Guidance Memorandum (TAGM). Of note here is the fact that no volatile organic compounds, semi-volatile compounds, pesticides or explosives were detected above the contaminant-specific TAGM level. While those contaminants detected above the TAGM levels may present an environmental hazard, they do not present a hazard to site personnel. The limits presented in the TAGM are designed to protect flora, fauna and human receptors from adverse health effects caused by the accumulation of contaminants or contaminant effects caused from repeated, long term environmental exposures. These limits, however, do not apply to the assessment of occupational workers experiencing short-term exposures due to soil disturbing activities. Additionally, the type and degree of soil contamination detected was assessed by the EODT OSHM and none of the contaminants, or combination of similar contaminants, are present in high enough concentrations to cause an exposure hazard to site personnel during the conduct of the tasks presented in the Prison Site SOW.

3.4.3.2 Hazardous Products Used On-site

As a function of site operations, the potential exists for some site personnel to be exposed to products containing hazardous materials. The hazardous materials that may be used to support site operations include: gasoline, diesel fuel, two stroke engine oil, and spray paints. It is anticipated that personnel exposure to the hazardous materials will be minimal due to the limited quantities that will be used at any one time, and EODT will provide the affected personnel with hazard communication training, as required by paragraphs 6.3 and 6.10 of the generic SSHP. Additionally, personnel will use the SWPs outlined in Section 13.0 of this SSHP to further reduce or eliminate the potential for personnel exposure to hazardous materials.

4.0 HAZARD ASSESSMENT AND RISK ANALYSIS

4.1 INTRODUCTION

A preliminary evaluation of the overall tasks to be conducted at SWMUS 43 and 44 has been performed by EODT's safety, health and UXO-qualified personnel. This preliminary evaluation was conducted using: available information from site characterization data; general task, site and hazard information; and the professional knowledge and experience of EODT's highly qualified staff. A listing and discussion of the chemical, physical and biological hazards anticipated at SEDA are presented in this Section, while the procedures and SWPs that will be used to control these hazards are presented in Section 13.0 of this SSHP addendum.

4.2 TASK HAZARD ASSESSMENT AND EXPOSURE RISK ANALYSIS

4.2.1 Introduction and General Requirements

All known, or potential, chemical, physical, biological and safety hazards that may pose a threat to the well-being of site personnel have to the extent possible, been identified, and the risk of personnel exposure to each has been assessed during the development of this site-specific SSHP Addendum. Emphasis has been placed on identifying situations and tasks that have known, or may create, serious safety and health affects or Immediately Dangerous to Life or Health conditions.

Hazard assessments for SEDA have been made using the best available site data. However, site personnel must understand that hazard evaluation is an ongoing process in which they play a major role, and which will continue for the duration of the project. All site personnel shall be vigilant in identifying hazards in the work place and will bring them to the attention of the SSHO, or the SUXOS. If changes occur in the level or types of hazards present for a currently evaluated task, or if a new task is added to the WP, the SSHO will inform the OSHM of the change and modifications to this SSHP will be made IAW the guidelines in paragraph 1.5 of this SSHP addendum.

4.2.2 Hazards and Risks Associated with Potential Exposures to Chemicals

In assessing the risk of potential exposures to on-site chemical contaminants, data from archival research, past land usages, and the chemical properties of the contaminants were examined. As a result of this examination, it has been determined that the risk of receiving an unprotected overexposure to airborne hazardous chemicals while operating within the Prison Site SOW is essentially non-existent. As stated in paragraph 3.4.3, a number of hazardous metals have been identified in soil at levels above the acceptable TAGM limits. These environmental limits, however, are not applicable as limits for short-term personnel exposures and no contaminants are present in the soil at levels hazardous to site personnel. However, in keeping with EODT's policy to maintain exposures "as low as reasonably attainable" (ALARA), EODT site personnel will use the PPE described in section 7.0, the personal hygiene procedures outlined in Section 12 and the monitoring

procedures outlined in Section 9.0 to further reduce or eliminate the potential for personnel exposure to site contaminants.

4.2.3 Hazards and Risks Associated with OE Hazards

The hazards associated with OE include the possibility of personnel injury or death caused by explosion, fire, fragmentation or over pressurization. These hazards may result if OE are not properly located, identified, handled, transported or disposed. While there is no "safe" procedure for dealing with OE, merely procedures which are considered less dangerous, maximum safety in any OE operation can be achieved through adherence to applicable safety precautions, a planned investigation and remediation approach, and intensive supervision. For all site operations with the potential for exposure to OE, only those personnel absolutely essential to the operation shall be allowed in the restricted area/exclusion zone. As stated in paragraph 3.4.2 of this site-specific SSHP addendum, the OE hazards of concern at SWMUS 43 and 44 are bulk propellants, 40 mm grenades and CS grenades, as well as other grenade and pyrotechnics. EODT personnel will use the OE investigation and remediation procedures in the WP and general safety and health procedures in Section 13.0 of this SSHP.

4.2.4 Physical Hazards

Due to the nature of the anticipated site operations at SEDA, the potential and risk for exposure to physical hazards will be high for this project. The physical hazards which may be encountered during site operations include:

- Heat and cold stress, resulting from exposure to temperature extremes;
- Flammable/explosive materials used for fueling heavy equipment and power tools;
- Material and equipment lifting hazards such as pulled muscles, sprained joints, pinched/crushed fingers and toes;
- Cut/laceration of hands and legs resulting from contact with sharp surfaces/objects;
- Hand and power tool hazards, including cuts/lacerations, noise and flying objects;
- Slip, trip and fall hazards from slippery surfaces; exposed stumps, or uneven terrain;
- Inclement weather such as heavy rain and thunder/lightning storms; and
- Sharp objects including OE fragments, nails, broken glass and exposed tree/brush stumps.

Site personnel will be instructed to remain alert to the presence of potential physical hazards and to immediately report the observance of any uncontrolled or unanticipated physical hazards to the SUXOS and the SSHO. The EODT SSHO shall be responsible for thoroughly evaluating each day's field operations with respect to potential physical hazards. Any suspect or known physical hazards, and the specific procedures to be used to control them, shall be reviewed during the daily tailgate safety briefing. General procedures for reducing or eliminating the physical hazards are discussed in Section 13.0 of this SSHP.

4.2.5 Biological Hazards

During portions of the year when the weather is warm, there is a significant probability that site personnel will encounter biological hazards if they are working in vegetated areas. The biological hazards anticipated for this project include: stinging insects like bees, wasps and hornets; poisonous plants, such as poison ivy, oak and sumac; ticks; mosquitoes; spiders; and poisonous snakes. While encountering hazardous insects and animals during the winter months will be remote, site personnel will remain alert to the presence of hazardous plants since toxic skin reactions are possible from contact with the barren plant stems and branches. Employee awareness and the SWP's outlined in Section 13.0 will be used to reduce, or eliminate, the risks associated with these hazards.

4.3 TASK DESCRIPTIONS AND HAZARDS

Due to the wide variety of project tasks that may be performed at the sites that may be associated with TO 0003, it is not possible to provide a complete listing and discussion of all site-specific tasks that may be performed by EODT personnel during this TO. Therefore, Paragraph 4.3 of each site-specific SSHP Addendum will include both a general listing and a detailed discussion of the tasks to be implemented to meet the requirements of the SOW. Additionally, within each task discussion, a detailed listing of the hazards associated with the identified task will also be presented.

4.4 COMMUNICATION OF TASK HAZARD INFORMATION

Prior to personnel participation in a given task, the SUXOS, OSHM and/or SSHO will communicate to all affected site personnel the information related to the hazards and the risks of exposure associated with the particular task. This hazard information will be communicated through initial site training, task specific training and tailgate safety briefings. Details related to the various training required is included in Section 6.0 of this SSHP.

4.5 EMPLOYEE RIGHT-TO-KNOW HAZARD COMMUNICATION

4.5.1 Communication of Hazardous Products to EODT Site Personnel

In order to comply with the OSHA Hazard Communication (HAZCOM) Standard 29 CFR 1910.1200, EODT will implement the hazard communication requirements specified in this paragraph. These requirements are needed to ensure that site personnel are informed of the hazards associated with the products with which they work. Therefore, the following shall apply to all commercial products used on site that contain hazardous substances:

1. A written Hazard Communication Program will be made available to site personnel;
2. A material safety data sheet (MSDS) will be maintained on site for each product used that contains a hazardous substance,
3. All containers not supplied with adequate hazard labeling shall have a hazard label affixed that communicates the chemical and physical hazards associated with the material;

4. Employees working with hazardous substances shall be trained IAW the requirements of 29 CFR 1910.1200 outlined in paragraph 6.10;
5. An inventory of all hazardous substances used on site will be maintained on site; and
6. Personnel, including subcontractors, who use products that contain hazardous substances, will be informed of the hazards associated with the product.

4.5.2 Communication of Hazards to EODT Subcontractor Personnel

As part of the EODT Hazard Communication Program, the SUXOS and SSHO will ensure that all subcontractor personnel are informed of the hazards related to the site, site tasks to be performed and hazardous products used on site. EODT will make a copy of this SSHP available to subcontractor personnel and subcontractor personnel will be required to sign the EODT SSHP Team Review form certifying that they have read and understand the SSHP. Further, subcontractor personnel will be provided the same level of hazard information training provided to EODT site personnel.

4.5.3 Subcontractor Communication of Task/Product Hazards to EODT

EODT subcontractors will be required to provide the SSHO with information related to any task hazards which may be created by the subcontractors performance of assigned tasks. The subcontractor will also provide the SSHO with MSDSs for any commercial products they bring on site that contain hazardous materials, and will provide documentation of hazard communication training conducted by the subcontractor for those personnel using the identified products.

4.6 CERTIFICATION OF TASK HAZARD ASSESSMENT

During development of each site-specific SSHP Addendum, an assessment of each task will be performed for each task (or group of similar tasks) to identify all tasks where PPE and other control procedures will be needed to protect site personnel from the hazards associated with the task. These assessments will be conducted to comply with the OSHA PPE standard (29 CFR 1910.132), and to certify the performance of the assessment, a CTHA form will be completed for each task or group of similar tasks. The hazard assessments will be conducted using the best available site-specific information related to the site and the task(s). The CTHA forms will be used on a daily basis by the SSHO and SUXOS to inform site personnel of the hazards expected during the day's activities and the controls that will be needed to mitigate the hazard(s).

5.0 ACCIDENT PREVENTION

(No site-specific changes required for this Section. Refer to the SEDA generic SSHP for data related to this Section.)

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6.0 TRAINING PLAN

(No site-specific changes required for this Section. Refer to the SEDA generic SSHP for data related to this Section.)

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7.0 PPE PROGRAM

7.1 INTRODUCTION

All personnel performing operations on site shall be required to use the appropriate level of protection, as specified in this section and the CTHA forms presented in the Attachment 2 of this site-specific SSHP Addendum. It is anticipated that site personnel will use Level D and a Modified Level D during the performance of the SOW. The PPE levels presented in this Section will be reassessed if any of the following occur:

1. The results obtained from the on-site monitoring are below the action levels specified for the initial/current PPE levels;
2. The results obtained from the on-site monitoring are above the action levels specified for the initial/current PPE levels;
3. Previously unidentified chemicals or conditions are noted;
4. A new task is introduced to the SOW or a previously assigned and evaluated task is expanded in scope; and
5. Discovery and confirmation of CWM.

For project tasks assigned after the approval of this site-specific SSHP addendum, the EODT OSHM, in conjunction with the SSHO, will assess the task hazards, assign the appropriate PPE level, complete a CTHA form and forward it to the KO for approval. Upon approval of the CTHA form, the SSHO will brief the effected site personnel and provide them with information related to the task hazards, the PPE to be used, and the other SWPs to be used to control the hazards.

7.2 SPECIAL CONSIDERATIONS

The following special considerations shall be observed in the selection and use of PPE for the levels discussed below.

1. Hard hats are required only when working around heavy equipment or when an overhead or impact hazard exists.
2. Steel toe/shank boots are not required during surface/subsurface location of anomalies unless a serious toe hazard exists, whereupon a fiber safety toe will be used.
3. Safety glasses will be required only when an eye hazard exists and will provide personnel with protection from impact hazards, and, if necessary, UV radiation.
4. The OSHA standards for PPE, 29 CFR 1910.132 - 138 will be incorporated into all phases of PPE selection, use and training.
5. Personnel using or dispensing products that contain hazardous materials that present a skin contact hazard, will wear chemical resistant gloves.

7.3 TASK SPECIFIC ASSIGNMENT OF PPE

Initial task-specific PPE assignments for each project site will be presented in a table similar to that provided in Table 7-1. This table will be used to list the anticipated site tasks and the level of PPE that will be worn during the initial performance of each task. Downgrading or upgrading of the initial PPE levels in Table 7-1 may occur if specified conditions related to contamination levels are met and if approval has been obtained from the OSHM. Changes to the initial PPE levels will be documented in the site Safety Log maintained by the SSHO. Currently listed in this generic version of Table 7-1 are the tasks that may apply to all sites where the specified level of PPE is typically worn in the absence of any chemical contaminants. When a new site is assigned to EODT through the modification to TO 0003, Table 7-1 will be modified in the site-specific SSHP Addendum and will include the site-specific tasks and initial PPE assignments.

TABLE 7-1: INITIAL TASK-SPECIFIC ASSIGNMENT OF PPE LEVELS

Task to be performed	Level of PPE
Mobilization and site set-up / Demobilization and site closure	D
Vegetation clearing with bladed gas powered weed cutters or chain saws	Mod D1 *
Location surveying and mapping	D
Surface clearance of OE and debris	D
Performance of the Geophysical Survey	D
Anomaly sampling and subsurface investigation of anomalies	D
OE disposal operations	D
Handling Scrap Metal and ORS	D
Refueling gasoline or diesel powered equipment	Mod D2 *

* - See paragraph 7.5 for explanation of D1 and D2.

7.4 LEVEL D PPE

The following is a general description of the typical Level D PPE that will be worn during site activities identified in Table 7-1:

1. Work clothes (cotton);
2. Leather work gloves (if a potential exists for hand cut, abrasion, pinch or puncture);
3. Boots - work boots;
4. Hard hat (as required, see paragraph 7.2);
5. Safety glasses (as required for eye impact and UV protection); and

6. Snake leggings (required when working in wooded/vegetated areas during warm weather conditions where snakes may be present on site).

7.5 MODIFIED LEVEL D PPE

For this project, two modifications to Level D have been included and are referred to as Mod D1 and Mod D2. In each case, both levels of Mod D will include the same basic PPE as Level D, but this has been modified by the addition of PPE that is specific to a given task. The two levels of Mod D PPE are listed below.

- Mod D1 - For Vegetation Removal
  1. Same PPE as Level "D";
  2. Hard hat with face shield (wire or nylon mesh);
  3. Leather anti-vibration work gloves;
  4. Kevlar chaps (for use with chain saw);
  5. Toe guards or steel-toed boots; and
  6. Ear plugs and muffs.

- Mod D2 - For Refueling
  1. Same PPE as Level "D"; and
  2. Nitrile gloves.

7.6 LEVEL C PPE

No use of Level C PPE is anticipated for this project. In the event that site conditions change or chemical hazards become apparent, the OSHM will re-address the potential for Level C PPE usage.

7.7 RESPIRATOR ISSUE

No use of respiratory equipment is anticipated for this project. In the event that site conditions change or chemical hazards become apparent, the OSHM will re-address the potential for using respirators.

7.8 PPE INSPECTION, MAINTENANCE AND STORAGE

Site personnel using PPE will be responsible for keeping PPE and all other equipment clean, and in good working condition. EODT shall establish and maintain a PPE storage area where field personnel may store their PPE during non-use times. Respirators used on site will be allowed to dry after decontamination in an area that is free of site contaminants and other hazards. All site personnel will be responsible for daily inspections of their PPE to ensure that it is maintained in safe working order. PPE that is worn out or defective will be brought to the attention of the SSHO and replaced as needed.

8.0 MEDICAL SURVEILLANCE

(No site-specific changes required for this Section. Refer to the SEDA generic SSHP for data related to this Section.)

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9.0 MONITORING PLAN

9.1 INTRODUCTION

On-site monitoring will be conducted IAW the specifications of this Section to evaluate the level of chemical and physical hazards to which site personnel may be exposed. Direct reading, real-time instruments will be used whenever possible, or required, to detect and qualify the hazards. If a reading is achieved which exceeds the action levels specified in Table 9-1, the EODT SSHO will take the steps outlined in this Section to correct the situation or minimize the exposure.

9.2 RESPONSIBILITIES

On-site monitoring will be conducted by the EODT SSHO, or by other site personnel who have been trained by the SSHO in the proper calibration and operation of monitoring equipment. All monitoring equipment will be provided and operated by EODT. Any instrument readings that meet or exceed the action levels specified in Table 9-1 will be reported to the OSHM to the OSHM by the SSHO.

9.3 EQUIPMENT

The monitoring equipment listed in this paragraph has been selected to provide the most feasible and effective methods of hazard monitoring. The SSHO will be responsible for ensuring that all monitoring equipment is set-up, calibrated, and operated IAW the manufacturer's instructions and the directives of this Section. To monitor the potential chemical or physical hazards at the SWMU 43 and 44 sites, the instruments listed below will be used.

1. Sound level meter - This instrument will be used to screen high noise operations and measure the sound power being emitted by a source.
2. Noise dosimeter - This instrument will calculate the 8-hour, time-weighted noise exposure.
3. Direct reading thermometers - If warranted by conditions, direct reading digital thermometers will be used for assessing cold and heat stresses IAW Section 10.0 of this SSHP addendum. The thermometer for assessing heat stress will be an oral thermometer.

9.4 SCHEDULE

The exposure monitoring specified in this site-specific SSHP addendum will focus on the potential for personnel to potential chemical and physical hazards that may be encountered or generated during on-site operations. Table 9-1 identifies the type(s) of monitoring equipment to be used, the frequency at which the monitoring will be conducted, assignment of monitoring responsibility, monitoring method to be employed, action level, and resultant action to be taken. The general monitoring requirements for those hazards anticipated at SEDA are currently listed in Table 9-1, however, this table will be modified as needed for each site added to TO 0003.

TABLE 9-1: SITE MONITORING SCHEDULE AND ACTION LEVELS

Hazard to be Monitored	Monitoring Equipment	Monitoring Responsibility	Monitoring Frequency/Location	Action Level	Action to be Taken
Heat Stress	Digital Oral Thermometer	EODT SSHO	As required by the SSHO, based upon site conditions and the requirements of Para 10.5 of this SSHP.	1. Oral Temperature greater than 99.6°F. 2. Oral Temperature greater than 100.4°F.	1. Reduce next work cycle to two thirds of last cycle. 2. Halt operations involving impermeable and semi-permeable clothing.
Cold Stress	Digital Thermometer	EODT SSHO	Every four hours once ambient temperature becomes less than 60.8 °F.	See Table 10-4 to determine the temperatures where specific controls must be taken.	See Table 10-4 for appropriate control measures.
Noise	Sound Level Meter	EODT SSHO	Conducted initially during the operation of potential high noise operations, and periodically thereafter, according to the recommendations of the EODT OSHM, and for each demolition shot.	Sound levels greater than 85 dBA.	Conduct noise dosimetry reading to determine the 8-hour noise TWA. Effected personnel will be issued and use hearing protection devices during the monitoring.
	Noise Dosimeter	EODT SSHO	Whenever noise levels in the hearing zone exceed 85 dBA.	None set, follow directions in Action to be Taken column.	Report dosimeter readings to the EODT OSHM to ensure hearing protection is adequate for the level of noise experienced.

The guidelines presented in Table 9-1 represent the minimum requirements. Monitoring frequency will be escalated or reduced based on the results of previous monitoring and/or other signs of potential exposures (odors, etc.). Monitoring for high noise will be conducted in the worker's hearing zone.

9.5 NOISE MONITORING

High noise levels associated with vegetation removal will be monitored to determine if hearing protection devices will be required, and to aid in the proper selection of the hearing protection devices. Initial sound level readings will be taken in the hearing zone of the effected personnel. Noise dosimetry will be conducted for any operation where sound level readings exceed 85 dBA. Table 9-1 will be consulted to determine the type, amount and frequency of noise monitoring.

9.6 COLD AND HEAT STRESS MONITORING

Cold stress and heat stress monitoring will be conducted IAW the guidelines presented in Section 10.0. This monitoring will be conducted by the SSHO, and will be used to adjust personnel work schedules and rates in the event that temperature extremes are experienced during site operations. The action levels presented in Table 9-1 will be used by the SSHO to determine when, and what type of, adjustment to site operations will be required to minimize the potential for heat or cold stress.

9.7 MONITORING EQUIPMENT CALIBRATION AND MAINTENANCE

All sampling and monitoring instrumentation used on site will be calibrated and/or response checked IAW the manufacturer's specifications, before and after use each day. If an instrument fails to calibrate or respond correctly, it will be removed from service until it can be repaired IAW manufacturer's specifications. Instruments used in the EZ during operations related to soils with high lead levels will be cleaned with wet wipes after each day of use to remove any gross amounts of dust or debris.

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10.0 HEAT AND COLD STRESS PREVENTION

(No site-specific changes required for this Section. Refer to the SEDA generic SSHP for data related to this Section.)

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11.0 SITE CONTROL

11.1 CENTER OF OPERATIONS

Due to the short duration and small crew size anticipated for this project, EODT does not anticipate establishing a field office at the project site. However, due to current, on-going projects at SEDA, EODT currently has an office and storage area at the entrance to the former Open Burning Grounds. EODT will utilize this area for document and equipment storage unless a different location is designated by the Base Realignment and Closure office that may be closer to actual sites where operations are being conducted under a given TO. The office area will be used to store project documents, files, materials and supplies in a secured area that will be locked at the end of each day's operations.

11.2 PROJECT SITE ACCESS

For each project site, access control will be established and access will be restricted to those personnel directly involved in site operations. Prior to EODT personnel initiating hazardous operations, site boundary and access control will be established around the appropriate work and exclusion zones. Appropriate signs and barricades will be used to restrict access and visiting personnel will be directed to check in at the site office.

11.3 ACCESS CONTROL AND SECURITY

11.3.1 Establishing Work Zones and Exclusion Zones

During the conduct of OE operations, a system of work and exclusion zones will be used to keep the number of personnel on site to a minimum, and to only those personnel necessary for conduct of a given on-site task. For the purpose of this site-specific SSHP addendum, a WZ is defined as any location where EODT or subcontractor personnel are conducting any of the site tasks specified in the SOW that involves the potential for personnel exposure to safety or health hazards. In addition to the WZ, EODT will establish an exclusion zone (EZ) whenever site personnel are involved in the investigation or detonation of anomalies or known OE. This EZ will be established to prevent access by non-project or off-site personnel into an area where they could be exposed to blast or fragmentation hazards stemming from the detonation of an UXO. The size of the EZ will be determined by the size of the PWD.

Authorized entry into any WZ will be given to only those personnel required to safely conduct the task at hand, and visitors will be controlled and escorted as described in this Section. WZ security will be the primary duty of the SUXOS and SSHO, but all site personnel will also take an active role in ensuring that the site is not accessed by unauthorized personnel. Depending upon the nature of OE contamination within a site, EODT may utilize a system of ropes, engineering tape, flags or signs to establish the WZ and EZ zones on-site.

11.3.2 HTW Sub-zones

Since the type and degree of HTW contamination at the SWMUs 43 and 44 does not present an acute exposure hazard to on-site personnel, as established and explained in paragraph 3.4.3.1 of this addendum, none of the HTW sub-zones described in the generic SSHP will need to be established at SWMUS 43 and 44.

11.4 SITE CONTROL DURING DEMOLITION OPERATIONS

Site access control will be especially critical during demolition operations. OE within a grid that is found to be fuzed or unsafe to move will be BIP or the OE may be consolidated within the grid for disposal at the end of the day if it is determined to be unfuzed and safe to move. During demolition operations, the demolition team will post sentries and road barriers in strategic locations so as to effectively secure the EZ in a full 360° arc around the demolition location. The size of the EZ will be determined according to the requirements of the WP and the type of ordnance being demolished. Road blocks may be placed by EODT personnel if the need arises and after coordination with the CEHNC OSS who will coordinate with the responsible SEDA personnel. During demolition operations, EODT will also utilize bullhorns and sirens to announce verbal and audible warnings prior to initiating the demolition shot.

11.5 EQUIPMENT STORAGE AND SECURITY

During non-working periods, all project equipment used on site, to include hand tools, will be secured in a lockable location. For the storage of explosives, EODT shall use Government provided facilities which will remain locked at all times when explosives are not being issued or received. Two keys will be required to gain access to the magazine, and EODT ordnance accountability and explosives logs will be used to control inventory.

11.6 SITE MAPS

(No site-specific changes required to this paragraph. Refer to SEDA generic SSHP.)

11.7 SITE COMMUNICATIONS

(No site-specific changes required to this paragraph. Refer to SEDA generic SSHP.)

11.8 BUDDY SYSTEM

(No site-specific changes required to this paragraph. Refer to SEDA generic SSHP.)

12.0 PERSONNEL AND EQUIPMENT DECONTAMINATION

12.1 PERSONNEL HYGIENE AND SANITATION FACILITIES

(No site-specific changes required to this paragraph. Refer to SEDA generic SSHP.)

12.2 POTABLE AND NONPOTABLE WATER SUPPLIES

(No site-specific changes required to this paragraph. Refer to SEDA generic SSHP.)

12.3 SITE HOUSE KEEPING

(No site-specific changes required to this paragraph. Refer to SEDA generic SSHP.)

12.4 PERSONNEL DECONTAMINATION

Since the type and degree of HTW environmental contamination at the SWMUs 43 and 44 does not present an acute health hazard to on-site personnel, no personnel decontamination other than standard hygiene practices will be needed during this project.

12.5 EMERGENCY PDS

Since the type and degree of HTW environmental contamination at the SWMUs 43 and 44 does not present an acute health hazard to on-site personnel, no emergency personnel decontamination other than standard hygiene practices will be needed during this project.

12.6 EQUIPMENT DECONTAMINATION

Tools and equipment used on site will be kept free of accumulations of soil and other debris and will be washed prior to removal from the site. Equipment used in the field, to include PPE, shall be cleaned and inspected at the end of each work day to ensure that the equipment is maintained in safe operating condition. Any equipment found to be defective will be brought to the attention of the SSHO and SUXOS.

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13.0 ENGINEERING CONTROLS, SWP'S AND STANDING ORDERS

(No site-specific changes required for this Section. Refer to the SEDA generic SSHP for data related to this Section.)

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14.0 EMERGENCY RESPONSE / CONTINGENCY PROCEDURES

(No site-specific changes required for this Section. Refer to the SEDA generic SSHP for data related to this Section.)

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15.0 LOGS, REPORTS, AUDITS, INSPECTIONS, AND RECORD KEEPING

(No site-specific changes required for this Section. Refer to the SEDA generic SSHP for data related to this Section.)

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ATTACHMENT 1 OF APPENDIX A

TO THE

ADDENDUM 2 - SITE-SPECIFIC SAFETY AND HEALTH PLAN

CORPORATE SAFETY AND HEALTH PROGRAM CERTIFICATION

FOR THE

PROPOSED PRISON SITE
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK

Contract Number: DACA87-97-D-0005
Task Order: 0003

Prepared For:

The U.S. Army Engineering and Support Center
Huntsville, Alabama

Prepared By:

EODT
EOD TECHNOLOGY, INC.

2229 Old Highway 95
Lenior City, Tennessee 37932

March 1999

1.0 STATEMENT

In accordance with the Occupational Safety and Health Administration (OSHA) requirements outlined in paragraph (b) of the Hazardous Waste Operations and Emergency Response standards, found in 29 CFR 1910.120, and 29 CFR 1926.65, EOD Technology, Inc. (EODT) has developed, and actively implements, a comprehensive Corporate Safety and Health Program (CSHP). This program was developed to not only meet regulatory requirements, but more importantly, to provide EODT with the foundation necessary for ensuring the continued health and well being of all EODT, subcontractor, and client personnel involved in the conduct of site operations. To further meet regulatory compliance, and to ensure its continued development and improvement, the CSHP is reviewed on a periodic basis by EODT's Occupational Safety and Health Manager and Director of Operations. This periodic review allows for the inclusion of new or updated hazard control technology and regulatory requirements. The EODT CSHP will be made available to client personnel for review upon request.

As required by OSHA, the EODT CSHP addresses all necessary and applicable items presented in 29 CFR 1910.120(b)(1)-(4) and 29 CFR 1926.65(b)(1)-(4), and includes the following:

1. The EODT safety and health organizational structure;
2. A comprehensive workplan defining the tasks and objectives for EODT's site operations;
3. An outline and description of the necessary elements to be included in the site specific safety and health plans (SSHP) required for operations on hazardous waste sites, including the use of the SSHP as a tool for pre-entry briefings and hazard information;
4. The specifications for the EODT training and medical surveillance programs;
5. The procedures needed to ensure coordination between EODT and its contractors and subcontractors, including procedures to ensure all affected parties are informed of the known hazards and emergency response procedures associated with site activities;
6. A description of the relationship between the CSHP requirements and the SSHP; and
7. Attachments which contain the EODT standard operating procedures and OSHA required programs to be used for controlling site hazards.

2.0 CERTIFICATION

The signature of the responsible individual below certifies that the statements listed above are true and factual.

Andrew L. Bryson, CIH, MPH
Name (typed)

Signature

3/9/99
Date

ATTACHMENT 2 OF APPENDIX A

TO THE

ADDENDUM 2 - SITE-SPECIFIC SAFETY AND HEALTH PLAN

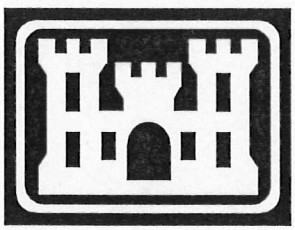
CERTIFICATION OF TASK HAZARD ASSESSMENT FORMS

FOR THE

PROPOSED PRISON SITE
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK

Contract Number: DACA87-97-D-0005
Task Order: 0003

Prepared For:



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March 1999

PREFACE

As a part of the SEDA Generic WP submission, EODT has previously submitted generic CTHA forms for those on-site activities which EODT has anticipated having to perform on a regular basis during OE operations within the SEDA facility. These generic CTHA forms were producing using EODT's professional knowledge regarding the degree and nature of the hazards that will typically be encountered during OE operations in the SEDA area. This professional knowledge has allowed EODT to generate the generic CTHA forms which will address the greatest majority of site-specific tasks and hazards. Assignment of a generic CTHA form to a site-specific task presented in this SSHP addendum certifies that the site-specific task has been assessed and it has been found that the hazard information, SWPs and PPE requirements contained in the generic CTHA are adequate to effectively protect personnel during performance of the site-specific task. Therefore, for the site-specific tasks to be performed at the proposed Prison Site, the CTHA forms identified below will be used and applied to the designated site-specific task. If a generic CTHA form is missing from the list below, it simply means that the generic task addressed by that specific CTHA form does not apply to the proposed Prison Site OE operations as defined in the SOW.

CTHA Form No.	Generic SSHP Page No.	Site-specific Task
001	A-2-1	Mobilization/Demobilization and Site Set-up/Close-out
002	A-2-2	Location Surveying and Mapping
003	A-2-3	Visual Surface Sweeping and Debris Removal
004	A-2-4	Vegetation Grubbing and Clearing
005	A-2-5	Geophysical Surveying
006	A-2-6	Magnetometer Surveying
007	A-2-7	Subsurface Anomaly Investigation (to include anomaly sampling)
008	A-2-8	Demolition Operations
010	A-2-10	Maintenance, Fueling and Servicing of Machinery/Equipment
011	A-2-11	All Other Non-specific Site Tasks Not Otherwise Mentioned

APPENDIX B

TO

ADDENDUM 2 OF THE GENERIC WORK PLAN

FOR THE

OE SITE SAMPLING AND CHARACTERIZATION

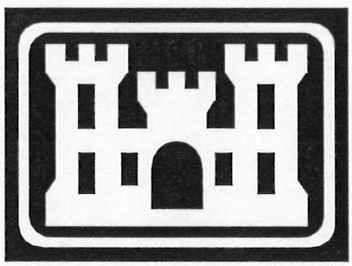
IN SUPPORT OF

PROPOSED PRISON SITE
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK

SCOPE OF WORK

Contract Number: DACA87-97-D-0005
Task Order: 0003

Prepared For:



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March 1999

This appendix contains the SOW for contract number DACA87-97-D-0005, Task Order 0003, for the OE Site Sampling and Characterization at the proposed Prison Site, Seneca Army Depot Activity, Romulus, New York.

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APPENDIX C

TO

ADDENDUM 2 OF THE GENERIC WORK PLAN

FOR THE

OE SITE SAMPLING AND CHARACTERIZATION

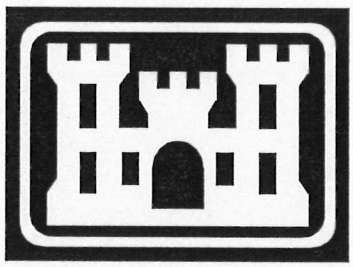
IN SUPPORT OF

PROPOSED PRISON SITE
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK

SITE MAPS

Contract Number: DACA87-97-D-0005
Task Order: 0003

Prepared For:



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Huntsville, Alabama

Prepared By:

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EOD TECHNOLOGY, INC.

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Knoxville, Tennessee 37932

March 1999

TABLE OF CONTENTS

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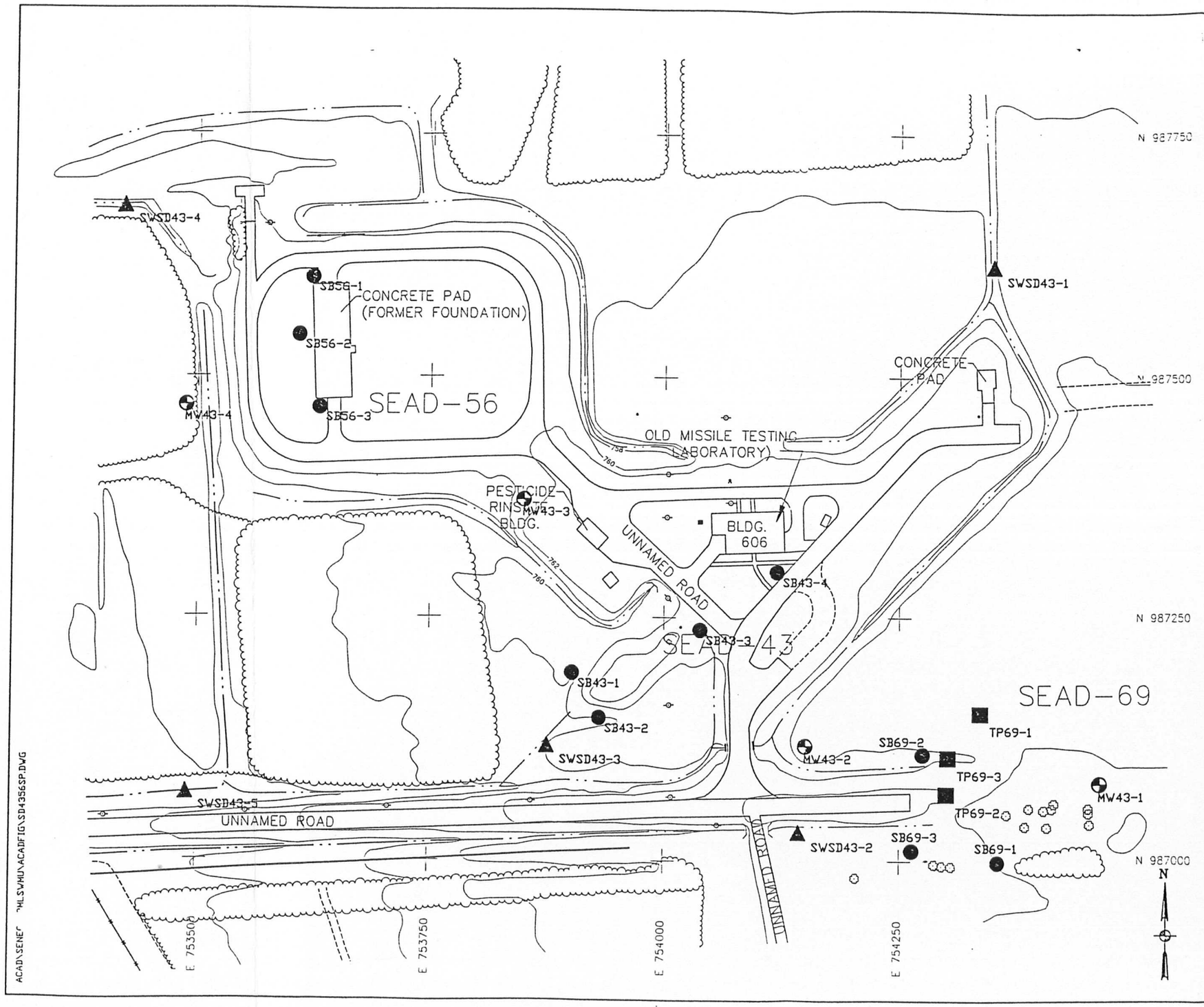


ACAD\SENECA\HLSWMU\ACADFIG\SD43S6SP.DWG

LEGEND

- MINOR WATERWAY
- MAJOR WATERWAY
- FENCE
- UNPAVED ROAD
- BRUSH LINE
- LANDFILL EXTENTS
- RAILROAD
- 760 GROUND SURFACE ELEVATION CONTOUR
- ROAD SIGN
- DECIDOUS TREE
- GUIDE POST
- FIRE HYDRANT
- MANHOLE
- CORDINATE GRID (250' GRID)
- POLE
- UTILITY BOX
- OVERHEAD UTILITY POLE
- MAILBOX/RR SIGNAL
- MONITORING WELL
- SURVEY MONUMENT
- SOIL BORING
- SURFACE SOIL SAMPLE
- SEDIMENT SAMPLE
- SURFACE WATER/ SEDIMENT SAMPLE
- TEST PIT

SEAD 43: BLDG.606 OLD MISSLE PROPELLANT TEST LABORATORY
SEAD 56: FORMER HERBICIDE AND PESTICIDE STORAGE AREA
SEAD 69: DISPOSAL AREA

50 0 50 100
(Feet)

PARSONS

PARSONS ENGINEERING SCIENCE, INC.

CLIENT/PROJECT TITLE

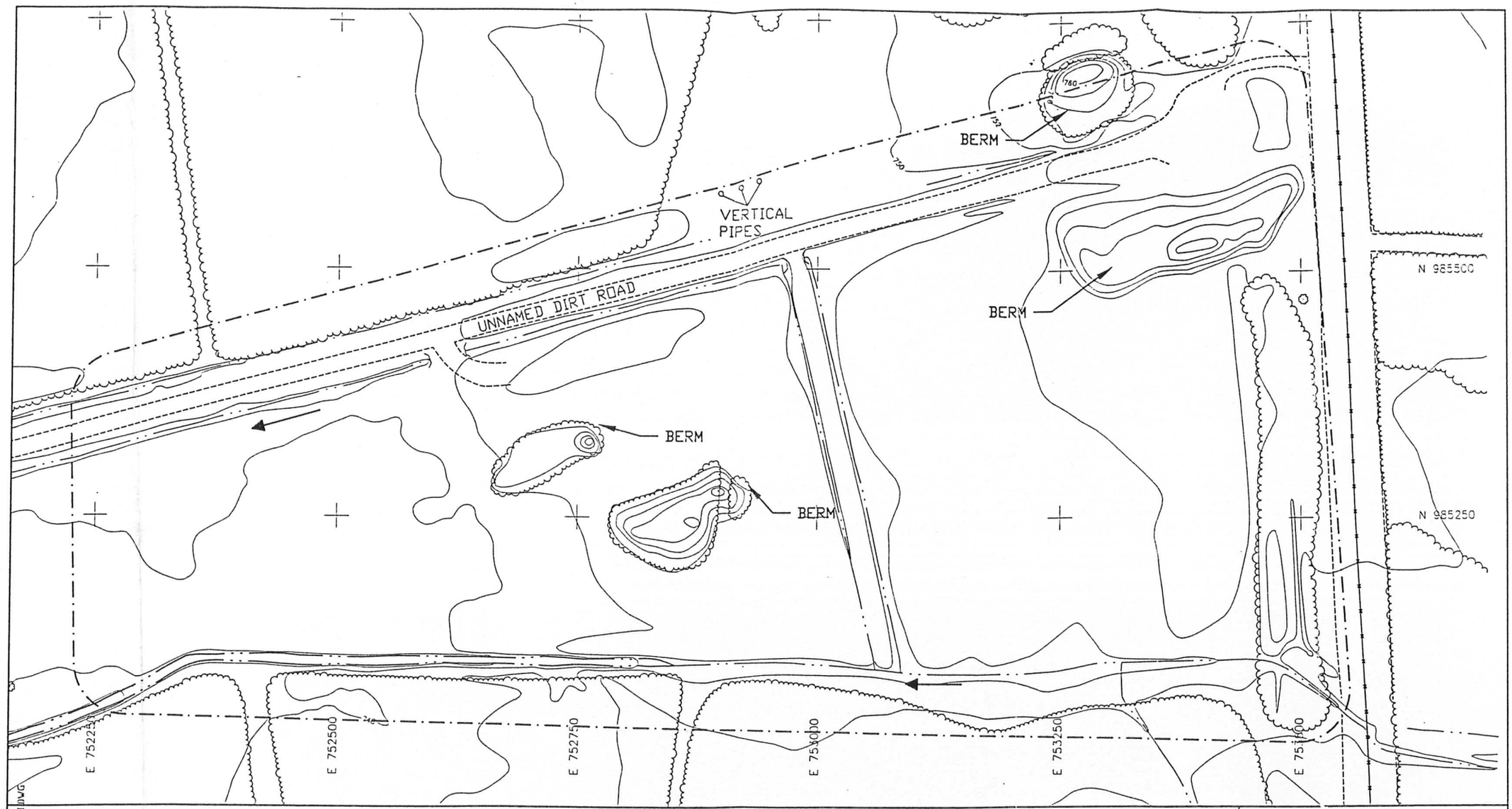
SENECA ARMY DEPOT

EXPANDED SITE INSPECTION
8 MODERATELY-LOW PRIORITY AOC'S

DEPT: ENVIRONMENTAL ENGINEERING | DWG. NO. 720518-01002

FIGURE 2.7-2
SEAD-43,56 AND 69
LOCATION OF SAMPLING POINTS

SCALE: 1" = 100' | DATE: 4/14/95 | REV: A



PARSONS

PARSONS ENGINEERING SCIENCE, INC.

CLIENT/PROJECT TITLE

SENECA ARMY DEPOT
EXPANDED SITE INSPECTION
8 MODERATELY-LOW PRIORITY AOC'S

DEPT.	Proj. No.
ENVIRONMENTAL ENGINEERING	720518-01002

FIGURE 1.1-18
SEAD-44A QUALITY ASSURANCE TEST LABORATORY
SITE PLAN

SCALE	DATE	REV.
1" = 100'	DECEMBER 1995	A

APPENDIX D

TO

ADDENDUM 2 OF THE GENERIC WORK PLAN

FOR THE

OE SITE SAMPLING AND CHARACTERIZATION

IN SUPPORT OF

PROPOSED PRISON SITE
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK

POINTS OF CONTACT

Contract Number: DACA87-97-D-0005
Task Order: 0003

Prepared For:

U.S. Army Engineering and Support Center
Huntsville, Alabama

Prepared By:

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10938 Hardin Valley Road
Knoxville, Tennessee 37932

March 1999

POINTS OF CONTACT

1. EMERGENCY SERVICES---911

Hospital (non-trauma):
Geneva General Hospital ..... (315) 798-4222

Hospital (trauma):
Syracuse University Hospital .....

Police:
SEDA Police/Security ..... (607) 869-0448

Local EOD:
725th Ordnance Company (EOD) ..... (315) 772-5408

Fire:
SEDA Fire Department ..... (607) 869-1316

Air Ambulance:
Mercy Flight 911

Surface Ambulance:
South Seneca Ambulance 911

2. KEY PERSONNEL

A. CEHNC Personnel
Alicia Allen, Project Manager ..... (205) 895-1552
Karen Butler, Contracting Officer ..... (205) 895-1151
_____, Safety Officer ..... (205) 895-
Kevin Healy, Lead Engineer ..... (205) 895-1627

B. SEDA and New York Corps Personnel
Steve Absolom, BRAC Environmental Coordinator ..... (607) 869-1309
Randall Battaglio, NY Corps of Engineers Project Manager ..... (607) 869-1523

C. EODT Personnel

Jeffrey Bleke, Program Manager ..... (352) 332-8398
Douglas Murray, Project Manager ..... (423) 988-6063
Andrew Bryson, CIH, Program Safety/Training ..... (423) 988-6063
Michael Short, QA/QC Manager ..... (423) 988-6063

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APPENDIX E

TO

ADDENDUM 2 OF THE GENERIC WORK PLAN

FOR THE

OE SITE SAMPLING AND CHARACTERIZATION

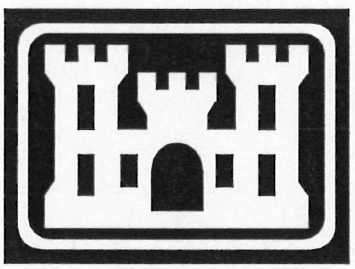
IN SUPPORT OF

PROPOSED PRISON SITE
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK

SAMPLE FORMS

Contract Number: DACA87-97-D-0005
Task Order: 0003

Prepared For:



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Prepared By:

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EOD TECHNOLOGY, INC.

10938 Hardin Valley Road
Knoxville, Tennessee 37932

March 1999

TABLE OF SAMPLE FORMS

The sample forms to be used the implementation of the SOW for Addendum 2 at the proposed Prison Site are enclosed in the Appendix E of the SEDA Generic WP. Site personnel will refer to Appendix E of the Generic WP for the appropriate documents.

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APPENDIX F

TO

ADDENDUM 2 OF THE GENERIC WORK PLAN

FOR THE

OE SITE SAMPLING AND CHARACTERIZATION

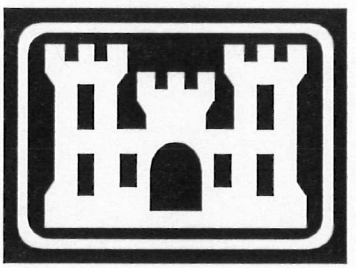
IN SUPPORT OF

PROPOSED PRISON SITE
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK

RESUMES

Contract Number: DACA87-97-D-0005
Task Order: 0003

Prepared For:



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Prepared By:

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EOD TECHNOLOGY, INC.

10938 Hardin Valley Road
Knoxville, Tennessee 37932

March 1999

The resumes for the EODT key personnel (i.e., the Program Manager, PM, OSHM and SUXOS) are presented in the Appendix F of the Generic WP. Current plans are for the Key personnel to remain the same for the execution of this TO. In the event that personnel changes occur prior to, or during site operations at SWMUs 43 and 44, the updated resume(s) will be included in this Appendix.

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APPENDIX G

TO

ADDENDUM 2 OF THE GENERIC WORK PLAN

FOR THE

OE SITE SAMPLING AND CHARACTERIZATION

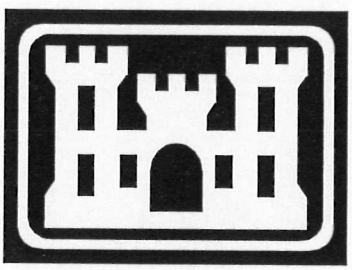
IN SUPPORT OF

PROPOSED PRISON SITE
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK

STANDARD OPERATING PROCEDURES

Contract Number: DACA87-97-D-0005
Task Order: 0003

Prepared For:



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March 1999

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The SOPs that will apply to the performance of the OE removal and site sampling at SWMUs 43 and 44 are listed below. The actual SOP's to be referenced have been submitted previously as part of Appendix G in the SEDA WP. The tab numbers presented below correlate to the tab numbers in Appendix G of the Generic. In the event that site-specific SOPs must be submitted, they will be amended to this Appendix.

APPENDIX H

TO

ADDENDUM 2 OF THE GENERIC WORK PLAN

FOR THE

OE SITE SAMPLING AND CHARACTERIZATION

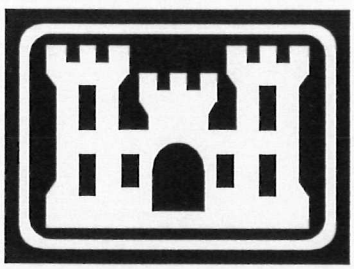
IN SUPPORT OF

PROPOSED PRISON SITE
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK

MATERIAL SAFETY DATA SHEETS

Contract Number: DACA87-97-D-0005
Task Order: 0003

Prepared For:



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The general MSDSs anticipated for this project have been included in Appendix H to the Generic WP. If site-specific products that contain hazardous materials are used, the MSDS for the material will be amended to this Appendix.

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