

06-01C

FINAL WORK PLAN
Installation of Fencing on the Western and Northern Boundary of Parcel 3
Fort Wingate Depot Activity

Prepared For:

U.S. Army Corps of Engineers, Fort Worth District
819 Taylor Street
Fort Worth, TX 76102



Contract No. W912BV-04-D-2021
Task Order # DY-03

Prepared by:

ECC
16225 Park Ten Place Drive
Suite 500
Houston, Texas 77084



April 2006

Michael Lee

Project Manager

Approved by:

H. Hatch

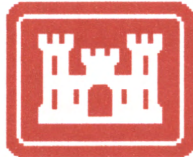
Program Manager

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April 2006

RESPONSE TO REVIEW COMMENTS
DRAFT WORK PLAN – INSTALLATION OF FENCING ON THE WESTERN AND NORTHERN
BOUNDARY OF PARCEL 3, FWDA, Dated March 15, 2006

Reviewers: USACE Ft. Worth District
Comments Received: March 27, 2006
Responses: ECC, 04/06/06

REVIEWER – Mike Scoville

Comment 1. 2.2.5 Reactivation of Building 1 - priority should be given to replacing door locks

Response: The text on replacing the door locks has been moved up near the head of the list.

Comment 2. 2.5.3.4 Vegetation Removal - piled on FWDA side is correct. "Removal" is not required.

Response: The text on removing the vegetation has been deleted

Comment 3. 10.1 Definable feature of work - please provide list of definable features. Activity hazard analysis - please provide correct analysis applicable to project tasks

Response: A list of definable features of work has been provided. Activity Hazard Analyses that are applicable to the work have also been provided

Comment 4. General Please submit any proposed deviations from details provided for construction (post hole size, water gap details, etc) for evaluation.

Response: No deviations are anticipated or identified at this point.

REVIEWER – Madeline Morgan (Safety)

APP comments:

Comment 1. On page 3 - List of AHA - There should also be one for Decontamination or can be included in the Reactivation of a portion noted

Response: The Architectural AHA chosen for building includes building decontamination specifically for Hazmat

Comment 2. Page 5 - Need the chart for the lines of

Cor.
pers
crew

SSHP
Commen

Re:
hav

Comment 9
Respo
Pa

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ACRONYMS AND ABBREVIATIONS

AMSL	Above Mean Sea Level
APP	Accident Prevention Plan
BEC	BRAC Environmental Coordinator
BIA	Bureau of Indian Affairs
BLU	Bomb Live Unit
BRAC	Base Realignment and Closure Act
CEHNC	U.S. Army Engineering and Support Center Huntsville
COR	Contracting Officer Representative
CSHM	Corporate Safety and Health Manger
DA	Department of the Army
DID	Data Item Description
DOD	Department of Defense
DOI	U.S. Department of Interior
°F	Fahrenheit
FAR	Federal Acquisition Regulation
FGDC	Federal Geophraphic Data Committee
FWDA	Fort Wingate Depot Activity
GPS	Global Positioning System
HAZWOPER	Hazardous Waste Operations and Emergency Response
HWMU	Hazardous Waste Management Unit
IAW	In Accordance With
ICM	Improved Conventional Munitions
LF	linear feet
MEC	Munitions and Explosives of Concern
MMSS	Military Munitions Safety Specialist
MSD	Minimum Separation Distance
NNAD	Navajo Nation Archaeology Department
OB	Open Burning
OD	Open Detonation
OSHA	Occupational Safety and Health Administration
PM	Project Manager
POC	Point of Contact
QA	Quality Assurance
QC	Quality Control
QCP	Quality Control Plan
RCRA	Resource Conservation and Recovery Act
SDSFIE	Spatial Data Standards for Facilities Infrastructure and Environment
SSHM	Site Safety and Health Manager
SM	Site Manager
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Plan
SOW	Statement of Work
TAD	Tooele Army Depot
TCPs	Traditional Cultural Properties
TO	Task Order
USACE	United States Army Corps of Engineers
UTM	Universal Transverse Mercator
UXO	Unexploded Ordnance
WMM	Waste Military Munitions
ZCRE	Zuni Cultural Resource Enterprise

1.3 SITE HISTORY

FWDA is an inactive U.S. Army depot whose former mission was to store, ship, and receive material and to dispose of obsolete or deteriorated explosives and military munitions including propellants and munition components. Since 1975, the installation has been under the administrative command of the Tooele Army Depot (TAD), in Tooele, Utah. The active mission of FWDA ceased and the installation closed in January 1993, as a result of the Defense Authorization Amendments and Base Realignment and Closure Act (BRAC) of 1988; the installation has been in caretaker status since 1993.

During FWDA's active life, demilitarization activities were accomplished by open burning (OB) or open detonation (OD) in the OB/OD Area of Parcel 3. Related materials were also treated in the OB/OD Area, including objects that were potentially contaminated with explosives during storage and handling, such as shipping containers and dunnage.

As a result of the OB/OD activities, FWDA is currently under a Resource Conservation and Recovery Act (RCRA) permit to address the hazardous waste management unit (HWMU) associated with this operation. Furthermore, OD operations have resulted in the potential for Munitions and Explosive of concern (MEC) to occur outside of the identified HWMU. MEC may include any of the following: military munitions that are unexploded ordnance (UXO), abandoned or discarded waste military munitions (WMM); soil with a high concentration of explosives; or facilities, equipment, or other materials contaminated with a high concentration of explosives.

In support of previous environmental sampling and assessment tasks required to complete the RCRA closure of the OB/OD Unit, and to support construction of existing security fences, a number of MEC activities and clearance efforts have been conducted within Parcel 3 and along the western boundary of Parcel 3. A summary of all MEC items encountered in the OB/OD Area to date is presented in Table 1. All of the MEC items, including UXO, encountered to date have been removed from Parcel 3 and the adjacent area outside the installation boundary.

The Army has implemented a policy restricting maintenance, characterization, or clearance of areas known or suspected of containing Improved Conventional Munitions (ICM) or submunitions (HQDA, 2004). The specific items found in Parcel 3 that fall under this policy are the Bomb, Live Unit (BLU)-3 and BLU-4 submunitions. A waiver to this policy to allow continued environmental sampling, security patrols, and maintenance of the security fences in the OB/OD Area was requested in December 2001 (PMC, 2001) and was granted in February 2002 (HQDA, 2002). The waiver was granted for activities that can be completed by either following strict UXO avoidance methodologies or in cleared areas. The waiver does not cover UXO clearance or environmental remediation activities.

In 2001, a UXO clearance to a depth of 1-foot was performed along the alignment of the existing western barbed wire fence (USA, 2002). One UXO item (M83 butterfly bomblet) was encountered and detonated in place.

1.4 SITE TOPOGRAPHY

Ground surface elevations in Parcel 3 range from approximately 6,600 feet above mean sea level (AMSL) to 8,260 feet AMSL. A significant portion of the proposed fence alignment is mountainous, rocky terrain. Ground surface elevations along the proposed fence alignment

range from a high of approximately 7,550 feet AMSL at the southwestern corner of Parcel 3 to a low of approximately 7,100 feet in an arroyo along the proposed northern fence alignment.

1.5 SITE CLIMATE

Northwestern New Mexico is characterized by a semiarid continental climate. Most precipitation occurs from May through October as localized and brief summer storms. Spring and fall droughts characterize the area.

Mean annual rainfall for the area ranges between 10 and 16 inches, while the recorded average annual precipitation for FWDA is 11 inches. Depending on local elevations, mean annual rainfall fluctuates between 8 and 20 inches. Most of the precipitation occurs as rain or hail in summer thunderstorms with the remainder results from light winter snow accumulations.

The average seasonal temperatures for the area vary with elevation and topographic features. During winter, daily temperatures fluctuate as much as 50 to 70 degrees Fahrenheit (°F) in a 24-hour period. In summer, daily high temperatures are between 85° F and 95°F. Average temperatures in winter are about 27°F and in summer 70°F, while extreme temperatures are as low as -30°F in winter and as high as 100°F in summer. There are 100 to 150 frost-free days during the year from the middle of May to the middle of October.

The area has generally sunny weather, with the sun shining more than 3,000 hours annually. Average relative humidity varies from 50 to 15 percent, during the wet season (fall) and the dry season (spring), respectively. During spring, the area experiences strong winds from the west and southwest, with an average wind speed of 12 miles per hour (mph). Strong winds, high temperatures, and low relative humidity in the area contribute to high evaporation rates.

1.6 WORK PLAN ORGANIZATION

As specified in the SOW, this Work Plan has been prepared as a Type II Work Plan in accordance with (IAW) the U.S. Army Engineering and Support Center, Huntsville (CEHNC) Data Item Description (DID) MR-005-01. The section and appendix titles for MR-005-01 are reproduced in this Work Plan. Where specific sections or appendices of the MR-005-01 do not apply to the work being performed under this TO, that is noted in the section or appendix titles of this Work Plan. Under the specified Type II Work Plan format, an Accident Prevention Plan (APP) has been prepared as Appendix D to this Work Plan; a Site Safety and Plan (SSHP) is included as an attachment to the APP.

2.0 TECHNICAL MANAGEMENT PLAN

This Work Plan presents information regarding the sequence of activities and procedures for meeting the specification of the task order (TO) detailed in the SOW issued on December 16, 2005 and revised on January 23, 2006. Information regarding mitigation of site hazards and personnel protection are detailed in the APP/SSHP.

2.1 OPERATIONAL GUIDANCE AND AUTHORITY

2.1.1 Regulatory Framework

Fence construction and drum removal activities as described in the SOW will be carried out in accordance with requirements contained in FWDA's RCRA permit No. NM 6213820974 issued on December 1, 2005. Other regulatory authorities under which this TO will be completed include relevant requirements of 29 CFR 1910.120, 29 CFR 1926, and other relevant Department of the Army (DA) and Department of Defense (DOD) requirements regarding personnel, equipment, and procedures.

2.1.2 Anomaly Avoidance

As required by the SOW and IAW the approved waiver, activities for site preparation (Section 2.5.3), chain-link fence construction (Section 2.2.1), barbed wire fence construction (Section 2.2.2), removal of existing barbed wire fencing (Section 2.2.3), and drum removal (Section 2.2.4) will be supported by UXO-qualified personnel performing anomaly avoidance. This requirement will apply at all times within the boundaries of Parcel 3. All ECC and subcontractor personnel, along with equipment and vehicles will remain on existing gravel/semi-improved roads at all times and will not venture into areas where UXO avoidance has not been performed or where anomalies have been identified and marked for avoidance.

Anomalies will be located by UXO-qualified personnel using Schonstedt GA-72 handheld magnetic locators or equivalent. Identified anomalies will be located using Global Positioning System (GPS) technology as described in Section 7.0. As specified by the SOW, anomalies will not be removed or excavated. If a given anomaly is located on the surface and can be identified, the identifying information will be recorded in project documentation and reports. Subsurface anomalies will not be investigated or otherwise identified but will be flagged and noted in the field notes. Field notes of buried or unidentified anomalies will be shared with the Military Munitions Safety Specialist (MMSS)

Additional information on anomaly avoidance and how it will be implemented for a given SOW task is included in appropriate sections below.

2.1.3 Cultural Resource Identification and Monitoring

As required by the SOW, activities for site preparation (Section 2.5.3), chain-link fence construction (Section 2.2.1), barbed wire fence construction (Section 2.2.2), removal of existing barbed wire fencing (Section 2.2.3), and drum removal (Section 2.2.4) will be

supported by personnel from both the Navajo Nation Archaeology Department (NNAD) and Zuni Cultural Resource Enterprise (ZCRE).

There are known archaeological and Traditional Cultural Properties (TCPs) locations near segments of the proposed fence alignment. As part of preparatory activities, these locations will be identified for avoidance as described in Section 2.5.3. Additional monitoring to protect these resources during construction will be performed as described in Sections 2.2.1 and 2.2.2. Additional details are included in Section 10.2.

2.2 TECHNICAL APPROACH

2.2.1 Chain-Link Fence Construction

Following completion of site preparation activities, construction of the chain-link fence IAW the SOW and FWDA's RCRA permit will begin. Approximately 12,930 linear feet (LF) of 6-foot high chain-link fence, topped with three strands of barbed wire will be installed along the western boundary. Details regarding fence construction/installation are contained in drawings attached as Appendix B of this Work Plan. Construction materials and equipment will be transported along the fence line by the most appropriate means allowed by site terrain. Access to construction sites will not be gained from outside (west) of the FWDA boundary without authorization from proper authorities.

Proposed post hole locations will be confirmed to be free of anomalies by UXO-qualified personnel. Post holes will be excavated in 1-foot depth intervals. Following the clearance of a given interval, UXO-qualified personnel will confirm that no anomalies can be detected. This process will be repeated until the full depth of the post hole has been achieved. If a subsurface anomaly is detected within a post hole excavation, the excavation will be backfilled and a new location selected. Reselected locations will not exceed the 10 feet spacing specified in the SOW without prior approval from USACE and FWDA. If a post hole cannot be completed within an area where a post is necessary, the USACE PM and/or the Corps' Military Munitions Safety Specialist (MMSS) will be contacted for guidance. No anomalies will be excavated, removed, or otherwise disturbed under the current TO.

Cultural resources monitoring will be performed on a daily basis by both NNAD and ZRCE personnel during fence construction. Additional information regarding cultural resource monitoring is provided in Section 10.2.

As noted in the fence construction detail drawings (Appendix B), there are portions of the proposed fence alignment where the existing barbed wire fence will have to be removed prior to installation of the new chain-link fence. Along these segments, the existing barbed wire fence will be removed at a rate matching new chain-link fence construction. Under no circumstances will significant portions of the boundary remain unsecured. Site personnel will remain vigilant during the construction work-day to prevent unauthorized entry of persons or livestock. If construction of the new fence requires the fence line to be incomplete overnight (e.g., during curing of concrete pole bases), temporary construction fencing will be installed to minimize unauthorized entry of persons or livestock, to the extent possible.

Warning signs will be installed on the new chain-link fence IAW the SOW (Appendix A).

2.2.2 Barbed Wire Fence Construction

Following completion of site preparation activities, construction of the barbed wire fence IAW the SOW will begin. Approximately 3,000 LF of 5-strand barbed wire fence will be installed

along the northern boundary. Details regarding fence construction/installation are included in the fence construction drawings (Appendix B). Construction materials and equipment will be transported along the fence line by the most appropriate means allowed by site terrain.

Proposed post locations will be confirmed to be free of anomalies by UXO-qualified personnel in the same manner as for chain-link fence construction. If a post cannot be installed within an area where a post is necessary, the USACE PM and/or MMSS will be contacted for guidance. No anomalies will be excavated, removed, or otherwise disturbed under the current TO.

Cultural resources monitoring will be performed on a daily basis by both NNAD and ZRCE personnel during fence construction. Additional information regarding cultural resource monitoring is provided in Section 10.2.

Warning signs will be installed on the new chain-link fence IAW the SOW (Appendix A).

2.2.3 Removal of Existing Fencing

As noted in Section 2.2.1, some portions of the existing 5-strand barbed wire fence along the western boundary of Parcel 3 will be removed where it is coincident with the new chain-link fence, and/or where it will interfere with construction of the new chain-link fence. Other portions of the existing 5-strand barbed wire fence will be removed because the existing fence is outside the FWDA boundary. Anomaly avoidance and archaeological/TCP avoidance will be practiced during removal of existing fencing. Removed fencing materials will be staged at a location identified by USACE or the FWDA BRAC Environmental Coordinator (BEC) for collection by Navajo Nation personnel.

2.2.4 Drum Removal

As noted in the SOW (Appendix A), there are two steel drums, contents and conditions unknown, located in arroyos within Parcel 3. Because MEC resulting from OD operations has been observed in these same arroyos, there is a potential for MEC items to be found around and possibly within the drums.

The drums will be approached by UXO-qualified personnel from an upwind direction, and the area surrounding each drum will be observed. Any anomalies or possible MEC items located will be marked as described in Section 2.1.2. UXO-qualified personnel will then escort NNAD and ZCRE personnel to each site to identify and mark any archaeological/TCP features in the areas where the drums are located. UXO-qualified personnel will then excavate each drum and assess the type (e.g., closed or open head) and possible contents.

If a given drum is empty, it will be inspected and disposed of off-site as described in Section 10.3.1.

If a given drum contains a liquid, it will be opened by UXO-qualified personnel and the contents will be analyzed using a field screening test kit for explosive hazards. If the contents are determined to present an explosive hazard, the area where the drum is located will be evacuated and the USACE PM and/or MMSS will be contacted for guidance. If there is no explosive hazard, samples for appropriate disposal parameters will be collected and the drum will be overpacked, labeled/documentated, and moved to an approved staging area, either within the OB/OD Area or in the existing less than 90-day storage area in Building 5. Upon receipt of characterization data, the drums and materials therein will be transported for off-site disposal as described in Section 10.3.1.

If a given drum contains solid materials (e.g., sediment or other solids), it will be necessary to confirm that there are no MEC items within the solid materials. UXO-qualified personnel will remove all materials from the drums onto 6 mil polyethylene sheeting, where the materials can be checked for the presence of MEC and munitions debris (MD). If MEC or suspect MEC is encountered, the site will be evacuated and the USACE PM and/or MMSS will be contacted for guidance. If the drum contents do not contain MEC or suspect MEC, samples will be collected from the materials for disposal characterization. The materials will then be containerized, labeled/documented, and moved to an approved staging area, either within the OB/OD Area or in the existing less than 90-day storage area in Building 5. Upon receipt of characterization data, the drums and materials therein will be transported for off-site disposal as described in Section 7.3.1.

2.2.5 Reactivation of a Portion of Building 1

As described in the SOW, a portion of Building 1 will be reactivated for use as a project field office. Activities will include:

- cleaning and disinfection of the 1st floor and basement;
- replacing door lock(s);
- repairing/reinstating building utilities;
- upgrading communications system;
- weatherproofing;
- installing fire extinguishers and smoke detectors;
- upgrading exterior lighting;
- installation of air conditioning/heater units;
- purchase and delivering office furniture;
- installing of carpeting;
- relocating existing project files from Building 34 to Building 1;
- purchase and delivering maps; and,
- removing wall paneling and mold and painting the wall.

Because these work tasks are peripheral to fence construction and munitions response, the SOW (Appendix A) will be incorporated by reference for a discussion of their completion details. Information relevant to the performance of these tasks is provided in the APP and SSHP.

2.3 CHANGED CONDITIONS

On-site implementation of changes may be initiated only after a task order modification is approved by the Contracting Officer (CO). This Work Plan was prepared from information available at the time of its preparation, including a review of archival data, a site visit, discussions with FWDA and USACE personnel, and a thorough evaluation of the site. Updates or revisions will be issued in the event of "change conditions" as defined by Federal Acquisition Regulation (FAR) 52.243-5 (b). That is, any unforeseen circumstances arising

during the execution of this Work Plan that are outside the scope of work detailed in the SOW may necessitate revisions to the Work Plan. Revisions involving time extension and funding shall also require the approval of the CO.

Should the Work Plan require modification, the same process of review and approval used in developing the existing approved work plan will be followed.

- The ECC Project Manager (PM) will notify USACE and FWDA of the changed conditions and how the scope of work will be impacted.
- The ECC PM will develop the changes to the Work Plan in conjunction with the USACE and FWDA.
- The revised Work Plan will be submitted to the USACE and FWDA for review and comment
- USACE and FWDA comments will be incorporated into the Revised Final work Plan and resubmitted for final approval.

Under no circumstances will any change to the approved Work Plan be executed without prior approval of USACE CO, and FWDA. If the recommended modifications to the Work Plan are related to safety or quality issues, the affected task(s) may, at ECC or the government's discretion, be suspended until written procedures are developed by ECC and approved by the USACE and FWDA.

2.4 PROJECT ORGANIZATION

2.4.1 Project Team

ECC's management approach provides a streamlined project organization to expedite preparation of plans and allow us to mobilize to the field as quickly as possible. Once in the field, our management approach puts project activities at the appropriate level to eliminate duplication of effort and to place operational authority at the lowest acceptable level. In this capacity, the ECC Project Manager serves as the single point of contact with USACE Fort Worth and is vested with the authority to make decisions concerning project staffing, use of subcontractors, purchasing and implementation of work activities to ensure compliance with schedule and quality requirements. The ECC Site Manager is vested with full authority over field teams and subcontractors to ensure the safe completion of the project within the required schedule.

Our proposed project organization as shown in Figure 2-1 identifies personnel roles, lines of authority (solid) and lines of communication (dashed). Detailed descriptions of the responsibilities each of these personnel is given in Table 2-1. Key personnel include the Project Manager, Site Manager, UXO Team Manager and subcontract Cultural Resource personnel. ECC proposes to assign oversight of QC matters and Safety matters to the Site Manager. In cultural monitoring activities the Cultural Resource subcontractors will have independent authority to stop work. Similarly, in UXO avoidance matters, the UXO Team Leader will have authority to stop work if UXO or ordnance related scrap (ORS) is found. Each person has the responsibility to understand his /her duties and responsibilities, how to perform tasks safely, identify and help fix potential problems, and stop work if he/she believes an imminent danger exists. Roles and responsibilities of our key personnel are described as follows.

Mr. Steven Smith, will serve as the USACE PM, and Mr. Mark Patterson, the FWDA BEC.

Our Program Manager, Herb Hatch, manages the USACE Fort Worth Civil Engineer Contract (CEC) and ensures that all CEC Project Managers are provided with the necessary ECC resources to complete their projects on time and within budget. He is the corporate sponsor to USACE Fort Worth and is the ECC corporate point of contact for USACE Fort Worth should an issue arise that cannot be resolved at the TO level.

The Project Manager will be Mr. Michael Poe. He will have general oversight of the project from cradle to grave and will have hands-on involvement in all aspects of the work including budget and schedule tracking, subcontracting, interfacing with cultural resource personnel, mobilizing and fence installation.

The Site Manager will be Mr. Micahel Poe. He will represent ECC in a supervisory capacity and will be responsible for all field personnel and subcontractors.

The ECC site UXO Team Leader will be Mr. Al Kimbol. He will direct the UXO avoidance team(s) during site preparation activities as well as during fence construction and drum removal activities. He has the authority to enforce site safety issue relative to UXO avoidance. Mr. Kimbol will also serve as as the Quality Control (QC) Manager and the Site Safety and Health Manager (SSHM). In support of Mr. Kimbol's role as SSHM, ECC's Corporate Environmental Safety and Quality Director, Mr. Richard Gioscia, CSP, CIH, CHMM, will provide counsel and oversight for this project. Mr. Kimbol will report directly to Mr. Gioscia.



Corporate Environmental Safety
and Quality Director
Rich Gioscia, CQM, CIH, CSP,
CHMM

Project Manager
Michael Poe

Program Manager
Herb Hatch

Program/Project
Support

Cultural Resources
Consultants
Navajo & Zuni Tribes

Site Superintendent
Michael Poe

UXO Teams
Al Kimbol

TerraNear PMC
Bob Gregory

Subcontractors
Fence Crew
Surveyors & Brushhoggers

Figure 2-1 ECC's Project Organization

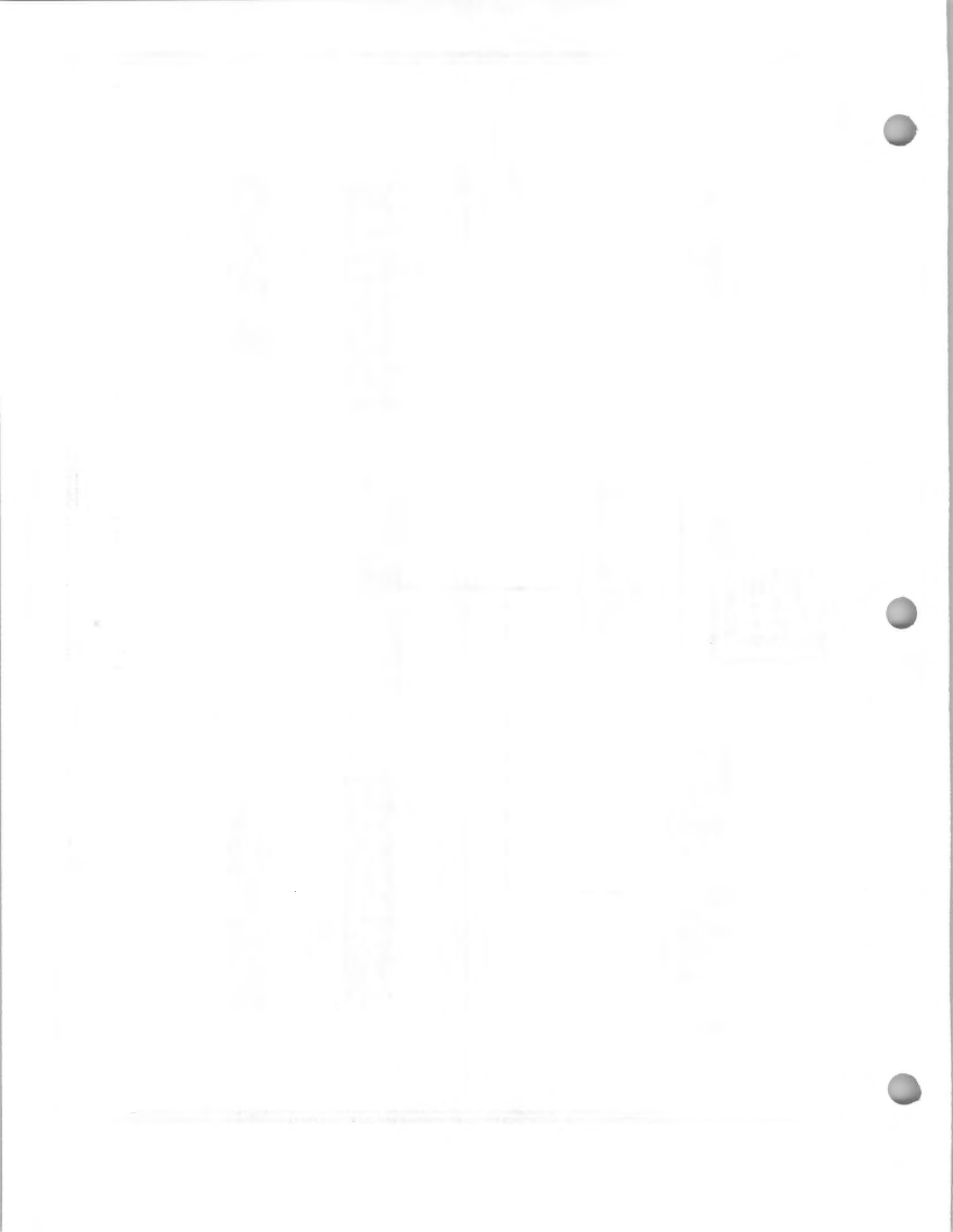


TABLE 2-1 ECC Project Team Member Roles and Responsibilities

TITLE/NAME	RESPONSIBILITIES
Program Manager Herb Hatch	<ul style="list-style-type: none"> • Ensure resources are available • Responsible for Project Budget • Resolve Regulatory-Level Issues • WP/APP/SSHP Review • Notification • Conflict Resolution/Stop Work
Project Manager Michael Poe	<ul style="list-style-type: none"> • Coordinate ECC and subcontractor resources. • Ensure that the work performed meets the SOW and the Quality Control (QC) work plan requirements. • Serve as the liaison with USACE Fort Worth and other Federal, state and local agencies. • Obtain USACE Fort Worth approval of the Work Plan and SSHP prior to field activities. • Ensure the training of employees and subcontractors on SSHP and QCP. • Ensure the availability and proper utilization of required resources for the project. • Monitor progress and schedule compliance. • Provide additional resources, as needed, to meet schedule milestones. • Ensure field personnel have satisfied all training and medical surveillance requirements.
Site Manager Michael Poe	<ul style="list-style-type: none"> • Assign specific work tasks to ECC field personnel and monitor their progress. • Assign specific work tasks to site subcontractors and monitoring their progress. • Verify that personnel assigned to the project are aware of known and potential hazards associated with the work, SSHP requirements, proper use of required Personal Protective Equipment (PPE), safe work practices, proper action in the event of a medical or chemical emergency, and related site-specific safety information. • Ensure overall performance and compliance with SOO and the QC /Work Plan requirements. • Ensure overall performance and compliance with schedule. • Correct work practices or conditions that do not meet specifications and implement corrective actions for non-conformances. • Correct work practices or conditions that could result in injury or exposure to hazards for site personnel as well as subcontractors. • Immediately stop operations in the event of an emergency or serious hazard, in order to protect personnel and the environment. • Prepare/submit required work progress reports. • Maintain all required S&H and QA records.

TABLE 2-1 ECC Project Team Member Roles and Responsibilities (Continued)

TITLE/NAME	RESPONSIBILITIES
Site SSHM and QC Manager Al Kimbol	<ul style="list-style-type: none"> • Ensure that the SOO and approved QCP is followed; • Ensure the implementation of the SSHP and QCP by all field personnel and subcontractors; • Provide S&H and QC training to field personnel and subcontractors; • Ensure compliance with the SSHP including, but not limited to, activity hazard analysis (AHA), use of PPE, decontamination, site control, standard operating procedures used to minimize hazards, safe use of engineering controls, the emergency response plan, and preparation of records by performing a daily S&H inspection and documenting results on the Daily Safety Inspection Log; • Stop work if unacceptable S&H or QC conditions exist and taking necessary actions to reestablish and maintain safe and quality working conditions; • Consult with and coordinate any necessary modifications to the SSHP or QCP with the Project Manager and USACE Fort Worth. • Conduct site inspections and tests; and, • Conduct S&H and QC meetings as needed. • Conduct required training and medical monitoring of personnel. • Coordinate with FWDA to ensure that QC objectives appropriate to the project are set and all personnel are aware of these objectives; • Maintain a QC log to document details for field activities during QC monitoring activities; • Coordinating with the ECC Site Manager (SM) to ensure that QC procedures are being followed; • Conducting periodic QC surveillances of all site activities using the 3 phase inspection process and recording the findings in the Daily Quality Control Report for the Preparatory, Initial and Follow-on QC Report; • Reporting noncompliance with QC criteria to ECC's SM and PM. And documenting on the ECC Nonconformance Report; • Initiate a Rework Items List on nonconformance areas that must be accomplished to meet quality specifications; • Conduct QC Meetings as required by FWDA. Record meeting outcome in the Daily QC Report; • Coordinate with the responsible parties to initiate proper corrective actions to be taken in the event of a QC deviation and document actions on the Corrective Action Request; and • Ensuring that Lessons Learned are documented and forwarded to the ECC QC Manager for analysis.

TABLE 2-1 ECC Project Team Member Roles and Responsibilities (Continued)

TITLE/NAME	RESPONSIBILITIES
Site Supervisor/Senior UXO Supervisor (SUXOS)	<ul style="list-style-type: none"> • WP/APP/SSHP Review • Coordinate with FWDA to ensure that UXO avoidance objectives are set and all personnel are aware of these objectives; • Maintain a UXO log to document details for field activities during avoidance • Coordinate with the ECC SM to ensure that UXO avoidance procedures are followed; • Report noncompliance with UXO avoidance to ECC's SM and PM. and document on the ECC Nonconformance Report; • Notification of UXO or ORS. • - Conflict Resolution/Stop Work
Corporate Safety and Health Manger (CSHM)	<ul style="list-style-type: none"> • APP/SSHP Preparation and Approval • APP/SSHP Review and Implementation Audits • APP/SSHP Modification/Deviation Recommendation Consulting with the SS&H/QA Manager for any on-site training needs. • Consulting with SS&H/QA Manager for on-site emergencies. • Providing onsite consultation as needed to oversee the implementation of the SSHP. • Coordinating any modifications to the SSHP with the Project Manager and the SS&H/QA Manager. • Providing continued support for upgrading/downgrading the level of personal protection. • Conduct/assist with site, task & hazard specific training
Field Personnel	<ul style="list-style-type: none"> - APP/SSHP Adherence - Accident Prevention

2.4.2 Personnel Selection and Training

2.4.2.1 Personnel Qualifications

Minimum qualification requirements for key positions on this project have been established and the qualifications of the proposed personnel have been verified with respect to these requirements. Personnel were selected based on previous experience and their familiarity with the ECC QA/QC system. The project team will provide the specific technical and management capabilities and qualifications to perform the contract work. Project personnel will not be assigned to a position or job for which they do not meet the minimum qualifications.

UXO personnel selected for this project will meet or exceed the *UXO Personnel Training and Experience Hierarchy* requirements shown in DDESB Technical Paper (TP) 18 - *Minimum Qualifications for Unexploded Ordnance (UXO) Technicians and Personnel, 2004*. ECC UXO staff will review the qualifications of potential candidates and hand select the most qualified

prior to mobilizing to the job site. In addition, UXO personnel will meet the requirements specified in HQDA Letter 385-04-1, paragraph 9 (Appendix I).

The Site Safety and Health Officer (SSHO) will maintain personnel files on each employee in a skilled position, to include copies of licenses, training records and certificates of qualifications that support the employee's placement and position. At a minimum the files will include:

- NAVSCOLEOD certification (UXO personnel only);
- Current certificate of medical clearance/annual physical examination;
- 40-hour HAZWOPER safety training certification
- 8-hr HAZWOPER supervisor certification (required by position);
- Current 8-hr annual HAZWOPER refresher certificate; and
- Current certificate for CPR training and First Aid

2.4.2.2 *On-The-Job Training*

As needed ECC senior technical staff members can provide on-the-job training for newly assigned personnel. The training will address topics related to job requirements and will emphasize problem prevention. The senior staff members will monitor the work performed by newly assigned personnel.

2.4.2.3 *Subcontractor Management*

ECC will manage subcontractors as if they were ECC personnel. This will include ensuring that the work meets the quality specifications of the SOW as well as complying with established safety standards and with work practices adopted for the community setting. Should a subcontractor deliver substandard work products, ECC will issue a stop work order, if necessary, notify the USACE and take steps to correct the problem in a timely manner to meet the project schedule.

2.5 **MOBILIZATION AND SITE SETUP**

For this project, ECC will utilize a phased mobilization that involves an initial mobilization by the management team for project preparation followed by the mobilization of the construction personnel one week later.

2.5.1 **Initial Mobilization**

During the initial mobilization, the on-site activities will include:

- Coordination with designated FWDA personnel to finalize access requirements and locate temporary facilities;
- Completion of fence line surveying, cultural sites identification and delineation activities described below in Section 2.5.3;
- Purchase and install upgraded communication equipment IAW the SOW;

- Mobilize equipment and supplies required to meet fence construction as specified in the SOW and the RCRA permit;
- Contact and coordinate with local fire, medical, and other emergency services to ensure availability of services and appropriate response actions IAW the Work Plan and APP;
- Contact and coordinate with local vendors/suppliers for routine purchases to ensure smooth project start up and uninterrupted progress; and
- Inspect each work area to identify possible environmental constraints, terrain limitations, and other interferences.

2.5.2 Mobilization of Manpower and Equipment

ECC will schedule the arrival of the work force in a manner that maximizes productivity. All ECC personnel mobilized to the site will meet requirements for the Occupational Safety and Health Administration's (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) training and medical surveillance requirements as specified in the APP/SSHP.

2.5.2.1 Site-Specific Training

As part of the mobilization process, ECC and cultural resource personnel will perform site-specific training for all on-site personnel assigned to this project. The purpose of this training is to ensure that all on-site personnel fully understand the operational procedures and methods in context with UXO avoidance and Cultural Resources monitoring. Individual responsibilities and safety and environmental concerns associated with operations will also be covered in the training. Personnel trained in each aspect of the work (construction, UXO, cultural artifacts) will conduct the training sessions which will include the topics identified below.

- Field equipment operation with associated safety precautions and health precautions;
- Field inspection and maintenance procedures that will be used;
- Interpretation of relevant sections of this Work Plan and APP/SSHP as they relate to the tasks being performed;
- Personnel awareness of potential site and operational hazards associated with each task;
- Public relations protocol on how to respond to public inquiries;
- Environmental concerns such as endangered/threatened species and historic, archeological or cultural resource issues.
- Identification of features and hazards associated with MEC;
- Additional OSHA or FWDA required training as required by the APP/SSHP.

2.5.2.2 Equipment

All equipment will be inspected according to a checklist as it arrives to ensure it is in proper working order. Checklists will be kept on file as part of the project records. All instruments and equipment that require routine maintenance and/or calibration will be checked initially upon its arrival and then checked again prior to its use each day. If an equipment check indicates that any piece of equipment is damaged or not operating correctly, and field repair

cannot be made, the equipment will be tagged and removed from service. A request for replacement equipment will be placed immediately. Replacement equipment or instrument will meet the same specifications for accuracy and precision as the equipment or instrument removed from service. Results of instrument calibrations will also be recorded in field forms or a log book.

As part of the initial equipment set-up and testing, ECC will also install and test its communication equipment that includes the following:

- Hand-held portable radios used to maintain communications between the office trailer, SM, and the field teams; and
- Cellular telephones (very high frequency band) to be used as back up communications between the office trailer, SM, and the field teams.

2.5.3 Site Preparation

The tasks described in this section are presented as discrete tasks but are interrelated and may take place sequentially or concurrently.

2.5.3.1 Anomaly Location and Marking

Anomaly location and marking activities will take place in a given work area prior to initiation of any other task. The team separation distance for the site will be 200 feet during this activity. Because strict avoidance will be performed and prior clearance has been performed along the majority of the proposed western fence alignment, no Minimum Separation Distance (MSD) will be required during avoidance and construction activities under this TO. UXO-qualified personnel will accompany/escort all personnel performing site preparation activities.

2.5.3.2 Surveying

The drawings provide coordinates for five existing survey monuments along the western boundary (see Sheet 2 of the USACE plans, included in Appendix B). These points will be re-occupied by a New Mexico Licensed Professional Land Surveyor and used to establish control points to be used in fence construction. Additional details regarding surveying to be performed in support of fence construction are included in Section 7.0.

2.5.3.3 Archaeological/Traditional Cultural Property Site Location and Marking

After anomalies in a given area have been located and marked, NNAD and ZCRE personnel will locate and flag archaeological/TCP locations to be avoided in the area. NNAD/ZCRE personnel will also update existing site documentation with site sketches, relevant artifact sketches, notes regarding current conditions, and photographs, as necessary. Additional information regarding cultural resource protection is included in Section 10.2.

2.5.3.4 Vegetation Removal

As required by the SOW, brush and tree clearing will be performed to the minimum amount necessary for the movement of construction equipment and materials and fence installation. NNAD and ZCRE personnel will be consulted prior to removal of vegetation in a given location. Cut vegetation will be piled adjacent to the work site on the FWDA side of the site.

2.5.4 Demobilization

Upon completion of the tasks covered under this scope of work ECC will demobilize all personnel and equipment from the sites. Demobilization activities will also include the surrender of project equipment that has been designated as Government Property, including communications equipment. Other equipment and supplies used in construction of the fence wall will be turned over to FWDA at their request. The office space that was established in Building 1 will also be turned over to FWDA for their use.

2.6 MISCELLANEOUS ACTIVITIES

2.6.1 Public Affairs and Community Relations

ECC personnel or their subcontractors will not make available or publicly disclose any data generated or reviewed under this contract. When approached by any person or entity requesting information about the subject of this TO or any contract, ECC personnel shall defer to the USACE and FWDA for response. Only with respect to public disclosure of cultural features will NNAD and ZCRE be governed by their own policy.

2.6.2 Dissemination of Data

Reports and data generated under this contract shall become the property of the Government and distribution to any other source by the contractor is prohibited unless authorized by the USACE and FWDA.

2.6.3 Reports

At the conclusion of all activities under this TO, ECC will submit a draft report to the USACE and FWDA for review and comments. The report will describe all activities performed in the construction of the fence and disposal of drums and will document how all aspects of quality control specified in FWDA's RCRA permit have been met. As-built drawings and the required Certification of Fence Completion (Permit Section II.C.2) will be included as attachments.

Upon receipt of review comments from USACE and FWDA, ECC will revise and submit a final report.

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3.0 EXPLOSIVES MANAGEMENT PLAN - (NOT REQUIRED)

4.0 EXPLOSIVES SITING PLAN – (NOT REQUIRED)

5.0 GEOPHYSICAL PROVE-OUT PLAN AND REPORT – (NOT REQUIRED)

6.0 GEOPHYSICAL INVESTIGATION PLAN – (NOT REQUIRED)

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7.0 GEOSPATIAL INFORMATION AND ELECTRONIC SUBMITTALS

Geospatial data that will be generated during the performance of tasks under this TO include:

- Locations of MEC items and/or anomalies encountered during tasks performed within Parcel 3 as described in Sections 2.2.1 through 2.2.4;
- Locations of archaeological/TCP features encountered during tasks performed within Parcel 3 as described in Sections 2.2.1 through 2.2.4 and
- Survey coordinates for existing monuments and construction control points as described in Section 2.5.3.2.

All MEC items and/or anomalies encountered will be located using GPS technology, and a list of coordinates and mapped locations will be included in the project report.

All archaeological/TCP features encountered will be located using GPS technology, and a list of coordinates and mapped locations will be provided in ARCINFO format to the USACE cultural Point of Contact (POC), Dr. Jay Newman, at project completion. These locations will not be included in the project report or any other public document, because of the sensitive nature of the information.

Survey coordinates for existing monuments along the fence route and the final product will be established using a New Mexico Licensed Professional Land Surveyor. Coordinates will be surveyed with state-of-the-art GPS equipment and reported in States Plane Coordinates as well as in a format compatible with the FWDA GIS system. All survey results will conform to the CADD/GIS Technology Center Spatial Data Standards for Facilities Infrastructure and Environment (SDSFIE). Horizontal and vertical accuracy for the fence line monuments will conform to Class I, third order or better and will reference the North American Datum of 1983 (NAD83) for horizontal control and NAVD88 for vertical control and the Universal Transverse mercator (UTM) grid system. All survey coordinates related to fence construction will be certified in a letter and drawings in addition to electronic copy. The electronic copy will be in spreadsheet format that can be manipulated. Metadata will be prepared in accordance with Federal Geographic Data Committee (FGDC) metadata standards.

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8.0 WORK, DATA, AND COST MANAGEMENT PLAN

8.1 PROJECT MANAGEMENT APPROACH

The purpose of this Work, Data and Cost Management Plan is to ensure the effective management of allocated funds, manpower, and equipment. This plan describes: the procedures, resources and tools ECC will use to manage the project manpower and equipment resources to ensure effective delivery of the required scope of services. Additional information regarding subcontractor management for this project is provided in Section 2.4.2 Personnel Selection. Procedures for compliance with the SOW and for establishing and maintaining project controls are detailed in Section 10 Quality Control Plan.

8.2 PROJECT SCHEDULE

ECC has developed a proposed Project Schedule in Microsoft Project for the completion of all tasks presented in this WP (Figure 8-1). Work progress will be provided in a tracking Gantt chart as part of the monthly status report and will be reported as physically percent complete.

While there may be variations from the proposed schedule that will not require formal approval, ECC will keep USACE apprised of any schedule advances or delays. Examples include schedule delays as a result of unsafe working conditions (i.e., explosive/safety hazards) or due to inclement weather. Schedule advances may result in areas where terrain is more accommodating and fewer obstacles occur.

8.3 PROJECT COST CONTROL AND TRACKING

ECC will utilize its proprietary "Cost Tracker" software to ensure that the project costs are maintained within the contract's fixed price. A cost report will accompany each monthly status report and will state the cost-to-date and remaining budget in context with the physical percent complete for the construction work. In the event of unexpected and unplanned occurrences that might constitute "changed conditions" as defined by FAR and which have a significant cost impact, the ECC PM will contact the USACE Contracting Officer Representative (COR) to negotiate changes to the fixed price contract.

8.4 RECURRING DELIVERABLES

ECC will prepare and submit monthly project status reports to the USACE PM. The status report will include costs to-date and an updated schedule in tracking Gantt that contrasts current progress with the original base line schedule. The report will be submitted via email to the USACE PM.

- Work performed with a quantitative statement of overall work progress, including percentage of work accomplished on each task;
- Description of problems and non-compliance issues along with corrective measures performed and their final resolution
- Description of anticipated problems that may impede performance of activities under the TO and suggested corrective actions; and

-
- Discussion of work to be performed during the upcoming month and measures necessary to get back on schedule if mitigating factors have caused the schedule to slip.

9.0 PROPERTY MANAGEMENT PLAN

As described in the SOW (Appendix A), site communications equipment described in Section 2.5.2.2 and all equipment, supplies and furnishings described in Section 2.2.5 will become the property of the Government. In addition, any surplus fencing material that was charged to the project by the fencing contractor will be turned over to the Government for future fence repairs and maintenance. These items will be turned over to the FWDA BEC IAW the SOW.

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10.0 QUALITY CONTROL PLAN

This Quality Control Plan (QCP) provides the procedures for controlling and measuring the quality of all work performed during site activities at FWDA.

This QCP has been developed to ensure compliance with appropriate industry and regulatory standards and contract requirements. It will be used to ensure activities related to this project are conducted in a planned and controlled manner, that tasks conform to contractual requirements, and that appropriate documentation is generated to support each activity for which ECC is responsible. The procedures specified in this QCP will be considered minimum acceptable standards for ECC and are designed to meet requirements specified by the client or regulatory agencies. Procedures less stringent than those specified will not be adopted without prior written approval from the client and the ECC Quality Program Management Team.

This QCP must be reviewed and formally approved before field operations commence. It is the personal responsibility of all personnel associated with this project to understand and maintain the quality issues applicable to their work assignments.

Major features of this QCP include

- Project Organization, Roles & Responsibilities
- Personnel Selection and Training
- Quality Assurance/Quality Control
- Site Specific Quality Control Process
- Three Phase Control Process
- Meetings, Progress Reports and Record Keeping
- Field Office Support
- Home Office Support

The first two elements, Project Organization, Roles and Responsibilities and Personnel Selection and Training have been addressed in section 2.4 Project Organization. The remaining elements are discussed below.

10.1 QUALITY ASSURANCE/QUALITY CONTROL

The purpose of the QA/QC process is to provide a system of independent checks and balances to ensure that field activities meet the specifications of the SOW and RCRA permit requirements. Quality control will be the responsibility of ECC and will consist of a series of control procedures designed to achieve project specifications. Quality Assurance (QA) will be exercised by USASE and FWDA POCs, who will provide an independent evaluation of each definable feature of work completed under this TO.

Definable features of work for this TO include the following:

- Work Plan Development
- Site Communications
- Brush Clearing

- Chain- Link Fence Construction (West Boundary)
 - Materials specifications (fabric, braces and rails, concrete, posts, barbed wire, tension wire)
 - Construction Details
 - Post-hole excavation (depth)
 - Post Installation (interval and plumb)
 - Grounding (at gate, corners and alignment changes)
 - Installation of fabric, tension wire, barbed wire, braces & rails, installation
 - Gate Installation
- Barbed Wire Fence Construction (North Boundary)
 - Materials specifications (barbed wire, concrete (optional), posts, gate(s))
 - Construction Details
 - Post-hole excavation (if posts are not driven)
 - Post Installation (interval and plumb)
 - Installation of barbed wire
 - Gate Installation
- Warning Sign Installation
- Fence Certification
- Dismantling Existing Barbed Wire Fence along Western Boundary
- Drum Removal
- Reactivation of Portion of Building 1
- Reporting
 - Field Summary Report from Cultural Monitoring
 - Final Report (including Cultural Monitoring results)

10.2 SITE-SPECIFIC QUALITY CONTROL PROCESS

Site-specific quality control involves a number of specific procedures designed to meet client or regulatory agency requirements. These include:

- Equipment Maintenance Program;
- Record Keeping;
- QC Audits and Inspections, and;
- On-site QC Meetings.

10.2.1 Equipment Maintenance Program

All tools, instruments, and equipment used on-site will be properly maintained and calibrated (as necessary) IAW the manufacturer's specifications or standard industry practices. This applies to communications equipment, vehicles/machinery, environmental monitoring equipment, and personal protective equipment.

Equipment will be protected from dust and contamination and visually checked for damage prior to use. Preventative maintenance will be performed on a regular basis. Critical spare parts will be kept on site to minimize downtime.

ECC's equipment maintenance program consists of the following aspects:

- **Preventive Maintenance:** The assigned operator of each piece of equipment will perform scheduled preventative maintenance to ensure the equipment is maintained in a satisfactory operating condition. Preventive maintenance consists of before, during and after operational checks and documentation of these activities, either in the operators log book or in the team leader's field log book.
- **Routine Repair and Adjustment:** Routine repair and adjustment is based on the manufacturer's schedule for adjustment, calibration or replacement. All equipment used on site will be maintained and submitted for routine repair and adjustment IAW the manufacturer's specifications.
- **Emergency Repair:** Emergency repair includes any unscheduled repair. This type of repair will be conducted using manufacturer required replacement parts and procedures to ensure the continued integrity of the equipment.

Specific equipment that will be maintained for this project includes communications equipment, metal detection equipment and vehicles.

- **Radios/Cellular Phones:** Maintenance for communications equipment consists of checks before, during and after daily operation use. Before-operation checks shall include verification of a complete battery charge and a communications check to ensure the unit is operating properly. During-operation checks shall include periodic checks to ensure battery charge remains adequate and a communications check once an hour for the radios and once a day for the cellular phone. After-operation maintenance shall include a communications check, cleaning, turning off and placing in battery charger.
- **Metal detection equipment:** At the beginning of each day, the Schonstedt GA-72 will be checked for proper operation using metal targets such as nails or other small items that will test its sensitivity. Periodically during the day, the instrument will be checked in the field to ensure adequate battery power.
- **Vehicles:** Before-operation checks shall include an operator general inspection of the entire unit to include fluid levels, safety equipment operation and tire condition. During-operation checks shall include frequent inspections of the dials and gauges and a tire inspection at breaks. After-operation checks shall include topping off of any fluids, which are low, a general cleaning and a recheck of all safety related equipment.

10.2.2 Record Keeping

For all site work, bound log books with consecutively numbered pages will be used by field personnel. The field log books will be used to record the daily activities of the field team,

provide sketch maps and other pertinent items, and to note any observations which might affect the quality of data. The following field log books and site records will be utilized to record the data discussed below:

- **Daily Journal:** The SM will maintain the daily journal. This journal will provide a summary of all operations conducted to include information on weather conditions, problem areas, work plan modifications, injuries, start/stop times, tailgate safety briefs, equipment discrepancies, training conducted, visitors, and any additional items deemed appropriate.
- **Safety Log Book:** The SSHM will maintain this safety log book. The log will be used to record all safety related matters associated with the specific project such as: safety briefings/meeting details; safety audits and near-misses/accidents/incidents. It will include causes and corrective action taken; weather conditions; and any other safety related matters.
- **Training Records:** The SSHO will maintain training records for all site personnel. These records will contain training certificates, licenses and other qualifying data for an individual's duty position.
- **UXO Avoidance Log Book:** The UXO Team Leader will maintain this log and will record the performance and results of any finds involving MEC or ORS.
- **Visitors Sign-in Sheet:** The SM will maintain this log for all personnel that are not directly involved in the project site activities. This log will identify visitors by name, company, date, time in/out and a contact phone number.
- **Photographic Record:** The SM will maintain a photographic record to document work and/or site conditions. Photographs and video tapes will be marked with a unique identifying number relating back to the photographic log, and will be kept in the project files for seven years after project completion. Photographic negatives, electronic copies of digital photos and duplicate copies of video tapes will be provided to the Government upon request.
- **Site Maps:** The SM will maintain working maps of the operating areas. These maps will be used to document task progression and other pertinent activities and locations.

Log books and records will be inspected by the SM on a weekly basis. These inspections will focus on the completeness, accuracy, and legibility of the entries and records. Results of these inspections will be forwarded to the PM. Log books kept by the SM will be inspected by either the PM or the UXO Team Leader.

The log books will be used to compile the final report and serve as documentation to help resolve any problem area addressed after the completion of the project. All log books will be maintained on file for a period of seven years after project completion. These logs may be digital and saved on disk.

10.2.3 QC Audits and Inspections

An audit is an examination and evaluation to determine whether applicable elements of the site-specific QCP and Work Plan have been performed, documented, and effectively implemented in accordance with specified requirements. As part of the QCP, ECC will conduct both internal and external audits and surveillance at FWDA. This is to ensure that all procedures and protocols are being followed and that the resulting data is accurate and defensible. Field audits will concentrate on both MEC avoidance and construction procedures,

proper documentation, and checks of resulting data for completeness and accuracy within established QC limits.

QC inspections are limited to spot checking and visual inspections of work being performed at any given time to ensure SOW compliance. ECC will perform inspection of all work areas to maintain control over field activities identified in the Work Plan.

10.2.4 On-Site QC Meetings

The SSH/QC Manager will conduct periodic QC meetings with the Project Manager, and site personnel over the duration of the project. At a minimum, the following will be covered at each meeting:

- Work accomplished since the last QC meeting.
- Rework items identified and/or completed since the last QC meeting.
- Current schedule, work to be accomplished, and documentation required.
- Completion dates for rework items.
- Results of preparatory phases, initial phases, follow-up phases.
- QC/production issue resolution with required documentation.
- QCP revisions such as changes in procedures.

10.3 THREE PHASE CONTROL PROCESS AND NONCONFORMANCE MANAGEMENT

The Three Phase Control Process is a universal process whereby quality control is achieved through stages ranging from preventative methods to corrective measures and follow-up inspections. Nonconformance management is the mechanism for correcting deficiencies identified under the Three Phase Control Process.

10.3.1 Three Phase Control Process

The SM/SSH/QC Manager will be responsible for verifying compliance with ECC's QCP through implementation of the three phases of control to ensure that all project activities comply with the SOW and approved Work Plan. The three phases comprise a "Preparatory Phase Inspection", an "Initial Phase Inspection" and a "Follow-up Phase Inspection". Because the first two phases are preventive in purpose, work will not be performed at a site until a successful preparatory and initial phase inspections have been completed.

10.3.1.1 *The Preparatory Phase Inspection*

This phase will be performed prior to beginning each definable feature of work. The purpose of this inspection will be to review applicable specifications and verify that the necessary resources, conditions, and controls are in place and compliant before work activities start. The SSH/QC Manager will meet with the staff and subcontractor personnel to communicate expectations and verify that the requisite equipment, material and supplies are available and ready for use..

Work plans and operating procedures will be reviewed by the SSH/QC Manager to ensure they describe pre-qualifying requirements or conditions, equipment and materials, appropriate sequence, methodology, and QA provisions. The SSH/QC Manager will verify that:

- All plans have been prepared and approved and are available to field personnel.
- Appropriate field equipment is available, functional, and properly calibrated.
- Responsibilities have been assigned and communicated.
- Job hazards in the SSHP have been communicated and necessary safety measures are in place.
- Field personnel have the necessary knowledge, expertise, and information to perform their duties.
- Support services are available and the prerequisite site work has been completed.

Discrepancies between existing conditions and approved plans/procedures will be resolved and corrective actions taken for nonconforming conditions identified. This will be verified by the SSH/QC Manager prior to granting approval for work to begin. Preparatory phase inspection results will be documented. Preparatory phase inspection results will be documented in the preparatory inspection checklist and summarized in the Daily QC Report.

10.3.1.2 *The Initial Phase Inspection*

This phase of inspection will be performed during the initial stages of work. Its purpose is to:

- Check the preliminary work for compliance with procedures and contract specifications.
- Verify inspection and testing.
- Establish the acceptable level of workmanship.
- Check safety compliance.
- Check for omissions and resolve differences of interpretation.

The SSH/QC Manager will ensure that discrepancies between site practices and approved specifications are identified and resolved. The initial phase inspection results will be documented.

Discrepancies between site practices and the approved plans/procedures will be resolved and the results documented in the Initial Inspection Checklist and summarized in the Daily QC Report.

10.3.1.3 *The Follow-up Phase Inspection*

This phase is performed after any corrective action or during any definable feature of work. The purpose of this inspection is to ensure a level of continuous compliance and workmanship. The SSH/QC Manager will monitor practices and operations and verify continued compliance with the contract specifications and approved project plans. A Stop Work Order will be issued if required to correct a nonconforming practice. Discrepancies between site practices and the approved plans/procedures will be resolved and corrective actions implemented for nonconforming conditions or practices. Follow-up phase inspection results will be documented in the Follow-up Inspection Checklist and summarized in the Daily QC Report.

Additional inspections performed on the same task may be required at the discretion of USACE or the SM with the approval of the Client. Additional preparatory and initial inspections are generally warranted under any of the following conditions:

- Unsatisfactory work, as determined by ECC or the client;
- Changes in key personnel;
- Resumption of work after a substantial period of inactivity (e.g., 2 weeks or more); and
- Changes to the project scope of work/specifications.

10.3.2 Nonconformance Management

ECC's QCP includes provisions for preventing quality issues; facilitating process improvements; and for identifying, documenting, correcting, and tracking nonconformances until corrective actions have been verified. Although the primary goal of our QC program is to prevent nonconformances, deficiencies will be identified and corrected in a timely and cost-effective manner and measures taken to prevent their recurrence. Nonconformance management entails identifying nonconformances, notification, corrective action and continual improvement.

10.3.2.1 *Identifying Nonconformances*

The SSH/QC Manager will be notified of all nonconformances identified during field activities to ensure that each nonconformance is documented, reported, tracked, and that corrective action is taken and verified. The SS&H/QC Manager will complete a Nonconformance Report, noting the deficient item, date, time and location, the person who identified the deficiency, and the status of the item to which the deficiency applies. Nonconformances and their status will be tracked by the Nonconformance Report Tracking Log.

10.3.2.2 *Notification*

USACE will be informed of nonconforming items/conditions and the progress towards their resolution. This will be accomplished through the progress reporting requirements and or through attendance at coordination meetings. Notification will be made immediately for any critical items that can not be adequately addressed at the field level. For example, reseating a few fence posts would not require immediate notification whereas out of spec construction for large segments of fencing would.

10.3.2.3 *Corrective Actions*

The SSH/QC Manager will monitor the implementation of corrective actions and ensure that the root cause is addressed.

10.3.2.4 *Continual Improvement and Lessons Learned*

ECC's Quality Improvement Process evaluates the effectiveness of our QC program and ensures continuous improvement in the quality of our work. All project personnel are encouraged to provide recommendations for improving work processes and techniques. The

intent is to identify activities that are compliant but may be performed in a more efficient or cost-effective manner.

During the course of field activities, data or information may be discovered that could eliminate or reduce challenges and/or offer opportunities for quality and productivity improvements through value engineering. These lessons learned will be valuable tools in updating plans and procedures for follow-on field operations.

Lessons learned will be captured, documented, and submitted to the client during the entire project. In the event of accidents the SSHM will perform this function. If the lesson learned will affect the job by making it better, cheaper or faster, then the SM will gather this information, and include it with the weekly status report.

Topics for consideration for determining lessons learned include:

- Problems encountered,
- Solutions developed to solve the problems,
- Alternative procedures or processes that improve the field operations, and
- Quality/Productivity Improvements.

10.4 MEETINGS, PROGRESS REPORTS AND RECORD KEEPING

10.4.1 Meetings and Communications

ECC will participate in any periodic or special called meetings at the discursion of the Government. In addition ECC will be prepared to participate in one BRAC cleanup meeting conducted by the government at Gallup, NM during the completion of this TO. Participants of the meeting will include, at a minimum, the PM. If conditions warrant, the SM and UXO Team Leader will attend. Within seven calendar days of a meeting, ECC will prepare and submit a summary report of the meeting discussions. All meeting notes will be archived with the project files.

In addition to meeting records. ECC will prepare and maintain project files of all key communications throughout the project. This will include any telephone conferences, discussions, verbal directions, telephone conversations, site visits, facsimile transmissions, letters, or any other forms of communications participated in by ECC on matters pertinent to the project in which decisions are made. The records will identify all personnel involved in the communications, the dates and times of the communications, subjects of the communications, and conclusions, directions received, or actions taken as a result of the communications. Records of all communications will be available for the Government upon request.

10.4.2 Progress Reporting

During the field portion of this TO, the SM will prepare monthly Project Status Reports for submittal to CESWF. The reports will provide a summary description of:

- Work items performed, problem identification (current and anticipated), problem resolutions and/or corrective actions taken.
- Significant aspects of UXO avoidance or Cultural Resource Monitoring

- A quantitative statement of overall work progress in terms of percentage complete for each definable feature of work.
- A discussion of work to be performed during the next four week time frame.

10.5 HOME OFFICE SUPPORT

ECC will provide program/project management and related services for the duration of this Task Order from the Houston, Texas and Burlingame, California offices. Home office support will include budget tracking, contracting, record backup and filing, project management resources.



11.0 ENVIRONMENTAL PROTECTION PLAN

11.1 INTRODUCTION

The scope of services described in this Work Plan has been designed to protect environmental resources in the vicinity of the fence construction work. Activities from UXO avoidance to drum removal and cultural resource monitoring are designed to preserve various aspects of the environment.

Other environmental aspects not addressed above include endangered or threatened species, wetlands, water resources and mitigation of anthropogenic activities

11.2 IDENTIFICATION OF AREAS REQUIRING PROTECTION

11.2.1 Endangered/Threatened Species

Currently there are no known endangered or threatened species identified and located within the project areas defined by the SOW. Although no systematic survey of rare, threatened, and endangered species at FWDA has been performed, previous documentation (TPMC, 2004) has indicated that several federal or state listed and candidate endangered or threatened species possibly occur within FWDA boundaries. Listed species include the following:

Haliaeetus leucocephalus - Bald eagle (Federal Threatened)

Falco peregrinus - Peregrine falcon (Federal Endangered)

Erigeron rhizomatus - Zuni fleabane (Federal Endangered)

Mustela nigripes - Black footed ferret (Federal Endangered)

Candidate species include the following:

Empidonax trailiji extimus - Southwestern willow flycatcher (Federal & State)

Vireo vicinior - Gray vireo (State)

Strix occidentalis lucida - Southern spotted owl (Federal)

Euderma maculatum - Spotted bat (Federal and State)

Accipiter gentilis apache - Northern goshawk (Federal)

Erigeron acomanis - Acoma fleabane (Federal)

Astragalus micromerius - Chaco milkvetch (State Sensitive)

Astragalus accumbens - Zuni milkvetch (State Sensitive)

Mammillaria wrightii var. *wrightii* - Wright's pincushion cactus (State-Protected)

Pediocactus papyracanthus - Grama grass cactus (Federal, State-Protected)

Helianthus paradoxus - Pecos sunflower (Federal, State-Protected).

A 5,780-acre portion of the installation, much of which was transferred to the DOI in June, 2000 for management by BIA (Parcel 1), has previously been identified as an area where positive sightings of threatened and endangered bird species have occurred. This area is just south of Parcel 3 and has much of the same types of soils and habitats. In particular, the Zuni Fleabane plant grows in settings similar to areas within Parcel 3.

If any endangered or threatened species are identified, ECC will perform all site activities in such a manner as to avoid or minimize adverse effects to any endangered or protected plant/wildlife species and resources discovered on the site. If endangered or threatened species are encountered during site activities, ECC will locate and flag-off the areas and immediately notify and obtain guidance from USACE before continuing operations within the flagged area. All ECC site personnel will adhere to the specific guidance received from USACE. Additional information on threatened and endangered species is contained in Appendix J.

11.2.2 Wetlands

Wetlands are not identified within the areas defined by the SOW. No disturbance, digging or excavation of soils will occur within an identified state or Federal jurisdictional wetland.

11.2.3 Water Resources

ECC will keep activities under surveillance to avoid pollution of surface and ground waters. Special management techniques as set out below will be implemented to control water pollution by site operations.

11.3 MITIGATION PROCEDURES

11.3.1 Solid Waste Disposal

Solid wastes and trash will be placed in appropriate containers, which will be emptied regularly. ECC will dispose of all solid waste in compliance with Federal, State, and local requirements for solid waste disposal.

11.3.2 Hazardous Waste Disposal

Hazardous waste (if any) will be removed from the project site and will be manifested, transported, and disposed of in accordance with applicable Federal, State, and Local rules, laws, and regulations.

11.3.3 Spill Control and Prevention

Special measure will be taken to prevent chemicals, fuels, oils, greases, garbage, sewage, and other pollutants from entering public waters.

With the exception of the heavy equipment on site, there is very little potential for spillage of large quantities of chemicals. ECC will take all necessary precautions to prevent spills and will

implement contingency measures for cleanup should any occur. To minimize the potential for and impact of spillage, ECC will:

- Submit spill response procedures as part of the SSHP for review and approval;
- Use and store minimal quantities of fuels and oils on-site;
- Apply work practice controls to prevent spills during refueling and maintenance of power tools, site vehicles, and equipment;
- Maintain on-site spill response supplies and equipment necessary to contain spilled materials and to remove and contain materials that become contaminated due to spillage.

ECC will perform, at a minimum, the following emergency procedures if a spill occurs:

- Immediately (within 1 hour), notify FWDA;
- Halt site operations in the area and take immediate measures, using properly protected personnel, to control and contain the spill;
- Isolate the spill area through flagging, remove or extinguish ignition sources, and evacuate all unnecessary personnel from the area;
- evacuate personnel upwind to the pre-designated assembly area, if mandated by the nature of the spill;
- post personnel at access routes to prevent unauthorized personnel from entering the area; and
- Implement control measures, if needed, to reduce vapors, gases, and/or dust emissions.

11.3.4 Storage Areas and Temporary Facilities

Whenever possible, ECC will locate on-site storage areas in such a manner as to minimally affect site resources. Site storage requirements may include the use of storage trailers or sheds for equipment storage. All storage locations will be approved by FWDA prior to their use.

11.3.5 Access Routes

During site activities ECC will, to the greatest extent possible, use existing paved and unpaved roadways to minimize the impact to undisturbed areas. If new site access routes are required, ECC will establish them so as to minimize their impact on surrounding resources.

11.3.6 Protection and Restoration of Trees and Shrubs

ECC will take all actions necessary to protect and prevent damage to trees, shrubs, and vegetation not identified for removal. No ropes, cables, or wires will be attached to trees for anchorages. Where trees may be defaced or otherwise damaged by site equipment or operations, ECC will implement protective measures, including placement of boards, planks, poles, or fencing around the tree(s) or shrub(s), as directed by FWDA.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions.

2. It is essential to ensure that all entries are supported by appropriate evidence and are clearly documented.

3. The second part of the document outlines the various methods used to collect and analyze data for research purposes.

4. These methods include both qualitative and quantitative approaches, each with its own strengths and limitations.

5. The third part of the document provides a detailed overview of the statistical techniques used to interpret the data.

6. This section covers a range of topics, from basic descriptive statistics to more advanced inferential methods.

7. The fourth part of the document discusses the ethical considerations that must be taken into account when conducting research.

8. It is crucial to ensure that all research is conducted in a transparent and honest manner, and that the rights of participants are protected.

9. The fifth part of the document provides a summary of the key findings and conclusions drawn from the research.

10. Finally, the document offers some thoughts on the future of research in this field and the challenges that lie ahead.

11. In conclusion, this document highlights the importance of rigorous and ethical research practices in the pursuit of knowledge.

12. We hope that this document will provide a useful resource for anyone interested in learning more about research methodology.

12.0 INVESTIGATION DERIVED WASTE PLAN – (NOT REQUIRED)

13.0 INTERIM HOLDING FACILITY SITING PLAN – (NOT REQUIRED)

14.0 PHYSICAL SECURITY PLAN – (NOT REQUIRED)

THE NATIONAL ARCHIVES

COLLECTIONS

RECORDS

1963-1964

15.0 REFERENCES

HQDA, 2002. Memorandum, Request for Waiver at Fort Wingate. Prepared by the Office of the Director of Army Safety, 5 February 2002.

HQDA, 2004. Letter, Improved Conventional Munitions and Submunitions. Prepared by Headquarters, Department of the Army, 30 March 2004.

PMC, 2001. Request for Waiver to the Army Restriction on Maintenance, Characterization, and Clearance of Ranges and Other Areas Known or Suspected of Containing Improved Conventional Munitions and Submunitions (HQDA Letter 385-01-01). Prepared by PMC Environmental, 14 December 2001.

TPMC, 2004. Draft BRAC Cleanup Plan, Version 3, Fort Wingate Depot Activity. Prepared by TerranearPMC, 4 November 2005.

USA, 2002. Final Site Specific Final Report, Ordnance and Explosive Construction Support, Western Boundary Fence Line, Fort Wingate Depot Activity. Prepared by USA Environmental, 11 January 2002.



APPENDIX A

**TASK ORDER STATEMENT OF WORK
INSTALLATION OF FENCING ON THE WESTERN AND NORTHERN BOUNDARY
OF PARCEL 3 AT
FORT WINGATE DEPOT ACTIVITY (FWDA)
GALLUP, NM**

Revised January 23, 2006

APPENDIX

STATE OF TEXAS

COUNTY OF DALLAS

DEPARTMENT OF HEALTH

HEALTH SERVICES DIVISION

HEALTH CARE SERVICES

HEALTH CARE SERVICES

**STATEMENT OF WORK
INSTALLATION OF FENCING ON THE WESTERN AND NORTHERN BOUNDARY
OF PARCEL 3 AT
FORT WINGATE DEPOT ACTIVITY (FWDA)
GALLUP, NM**

Revised January 23, 2006

1.0 OBJECTIVE: The objective of this task order is to remove portions of the existing barbed wire fence, provide and install new chain link fence, provide and install a new barbed wire fence and install warning signs, conduct archeological and cultural monitoring as part of fence installation, perform UXO avoidance as part of fence installation, perform tree/brush removal as part of fence installation; reactivate an office, establish communications, and remove two drums in an arroyo. The fence shall be installed to meet the requirement under Section II.C.2 of FWDA's RCRA Permit, and installed **on or before June 28, 2006**. The permit (issued December 1, 2005) can be found at <http://www.nmenv.state.nm.us/hwb/fwdaperm.html>.

2.0 SITE INFORMATION:

2.1 Location FWDA is situated in northwestern New Mexico, in McKinley County. The installation is located 8 miles east of Gallup, NM and approximately 130 miles west of Albuquerque, NM on U. S. Route 66. The project site is located on the western and northern boundary of parcel 3 at FWDA. The proposed fence corridor runs across terrain that is rugged, rocky, with intermittent sheer inclines, and present access problems for personnel and equipment. The fence corridor separates FWDA from Navajo Tribal Trust property to the west.

2.2 History FWDA is an inactive U. S. Army Depot whose former mission was to store, ship and receive material and to dispose of obsolete or deteriorated explosives and military munitions. Ft Wingate was originally established in 1850. In 1941, the Fort underwent major construction and expansion for the administration and igloo area. In 1971, the depot was placed in reserve status and renamed Fort Wingate Depot Activity. Since 1975, the installation has been under the administrative command of the Tooele Army Depot in Tooele, Utah. The active mission of FWDA ceased and the installation closed in January 1993, as a result of the Defense Authorization Amendments and Base Realignment Closure Act (BRAC) of 1988.

The installation is almost entirely surrounded by federally owned or administered lands, including both national forest and tribal lands. North and west of FWDA are Navajo tribal trust and allotted lands. The land to the west is mostly undeveloped and is tribal trust and allotment land administered by the BIA, Navajo Nation, and individual Native American allottees. FWDA currently occupies approximately 24 square miles (15,273 acres) of land with facilities formerly used to operate a reserve storage activity providing for the care, preservation, and minor maintenance of assigned commodities, primarily conventional military munitions.

2.3 Points of Contact.

Position	Name	Address/phone number
BRAC Environmental Coordinator FWDA	Mark Patterson	505-488-5411/Fax-5412

Caretakers FWDA	Mike Chee, Richard Cruz	505-488-5411/Fax-5412
Caretaker MDA	Martin Eastridge	Cell# 505-649-0352 Fax 505-679-7503
Corps PM & COR	Steven Smith	817-886-1879
Corps QA REP	Michael Scoville	817-886-1875
Corps MMSS	Harmon Slappy	817-885-1885
Corps Cultural POC	Dr. Jay Newman	817-886-1721
Zuni POC	Darrel Tsabetsaye	505-782-7031
Navajo POC	Sharlene Begay-Platero	505-863-6414

2.4 Post Regulations. All vehicles entering FWDA are subject to post regulations. Drivers of vehicles must be willing to show proof of insurance upon request of the caretakers office. Speed limit on the post is 15 mph in admin area and 25 mph all other areas. FWDA is generally open (main gate unlocked) from 06:45 to 17:00 hours 5 days a week. A series of gates lies between the administrative area and the project site. The contractor will be required to coordinate with the MDA and FWDA caretakers' office during the execution of this contract for access into FWDA and the work sites. Firearms are prohibited on FWDA, violators will be removed from the project.

2.5 MEC Related Issues:

2.5.1 Work Standard Munitions and Explosive of concern (MEC) is a potential safety hazard within Parcel 3 (OB/OD Grounds) and may constitute an imminent and substantial endangerment to site personnel and the local populace. The entrance gate to Parcel 3 is gate 209, and once past this gate the contractor shall remain on existing roads at all times until reaching the project area. All personnel on site shall adhere to the applicable provisions of 29 CFR 1910.120.

2.5.2 Chemical Warfare Material The site is not suspected to contain Chemical Warfare Materiel (CWM). However, if suspect CWM is encountered during any phase of site activities the contractor shall immediately withdraw upwind from the work area, secure the site and contact the Corps of Engineers on site Military Munitions Safety Specialist (MMSS). The contractor's Work Plan shall include process and procedures outlined in Interim Guidance Document CEMP-CE (200.1a) dated 23 Apr 2004, Notification Procedures for Discovery of Recovered Chemical Weapons Material during USACE Projects.

2.5.3 Improved Conventional Munitions The site may contain improved conventional munitions (ICMs) and will require an amendment request to the existing waiver to the Army restriction on maintenance, characterization, and clearance of ranges and other areas known or suspected of containing improved conventional munitions and submunitions (HQDA Letter 385-04-1). The amendment is being prepared by the Fort Worth District Corps (CESWF) and once approved work will be allowed to commence.

The submunitions for the subject waiver are the Bomb, Live Unit (BLU) -3 and BLU-4 bomblets. The purpose of the waiver amendment is to allow access, execution of MEC anomaly avoidance and fence removal/installation along the fence corridor on the western and northern boundary of Parcel 3 at FWDA. Due to the presence of ICM at the site all ordnance safety specialists must meet the requirements listed in HQDA Letter 385-04-1.

2.5.4 Potential MEC In 1995 UXB International, Inc. conducted a MEC clearance to a depth of 1 foot in 512 grids each measuring 100' x 200' along 6,600 feet of the western boundary (a portion of the proposed fence corridor) of Parcel 3 and disposed of 69 live items ranging from tracers to a 90mm projectile. Majority of the items were found on the surface or near surface. Ten of the items found required blow-in-place procedures. Five of the items disposed of were the M83 fragmentation 'Butterfly' bomblets.

2.6 SITE VISIT: A pre-bid site visit will be conducted by the government on **January 18 and 19, 2006**. Meet at the fire station (Bldg 34) at 8:00am on the 18th. Expect to depart Fort Wingate around noon on the 19th. Site visit will be at the contractor's expense. The contractor shall determine the makeup of its visit team at its own discretion. The objectives of the site visit are for the contractor's team to gain familiarization with the site in general, to gain information required to put together a proposal, and if awarded this Task Order to prepare an acceptable and executable Work Plan. Expected duration for viewing the fence alignments and drums is most of a day. Expected duration of viewing Building 1 is approximately 2 hours. No UXO/MEC related activities will be performed during the site visit. CESWF will prepare an Abbreviated Site Safety and Health Plan (ASSHP) and provide a MMSS for this visit. The contractor shall email the site visit team's names and positions to Mr. Scoville at michael.g.scoville@swf02.usace.army.mil.

3.0 SPECIFIC REQUIREMENTS:

The Contractor shall provide all materials, labor, tools, equipment, utilities, water, vehicular transportation, security, field notes, testing, insurance, notices, documentation, safety programs, and submittals necessary to carry out the work in accordance with applicable Federal, state, Army, and local regulations and with the requirements of this SOW, unless stated or directed otherwise by the Contracting Officer's Representative (COR). This is a firm fixed unit price task order. Payment will be made according to the attached bid schedule. **Period of performance shall extend to October 31, 2006.** Pending receipt of addition funding to award options, winning contractor's bids shall be locked in for six months after award. Bid prices will be renegotiated after the six months expires if all the options are not awarded.

A project kickoff/initiation meeting will take place within a day or two after the contractor's mobilization. The contractor shall notify Mark Patterson and Steven Smith of the meeting date at least 10 days prior to the meeting. Personnel attending the meeting shall include all contractor personnel mobilized at the time. Key government personnel will also attend.

3.1 (TASK 1) WORK PLAN: The contractor shall prepare a Type II Work Plan (hereinafter referred to as the Work Plan) IAW DID MR-005-01. Since the primary effort on this job is the fence, the work plan format and contents shall be modified to include sections for the fences, drums, radios, and Building 1. Contractor may omit sections that are not applicable (Sections 2.3 [Chapter 3] through 2.6, 2.12 through 2.14). Radios will be addressed in Section 2.9

(Property Management Plan). Cultural resources and environmental protection shall be addressed in Section 2.11.

As part of the Work Plan, the contractor shall develop a Quality Control (QC) Plan, acceptable to the government, IAW DID MR-005-11 that shall ensure a quality product from all aspects of the project to include any work performed by a subcontractor on the project. The contractor shall develop QC procedures and submit those procedures, for all phases and types of work, in the project work plan(s). The contractor shall ensure that documentation is maintained and provided in the final report that supports the QC process. The individual performing the UXOQC shall not be involved in the performance of other MEC field tasks. In addition to the QC process by the contractor, the government may perform Quality Assurance (QA) on all phases and types of work performed. All work completed by the contractor is subject to a 100% inspection by the government. Any work that fails the government QA process shall be re-done by the contractor at no cost to the government. The government will perform Quality Assurance based upon a Quality Assurance Surveillance Plan (QASP). The government's final QASP will be developed based upon the contractor's Quality Control Plan (QCP). The contractor shall provide full documentation to the USACE detailing what failed the QA process, why it failed, and how the problem was corrected.

3.2 (TASK 2) ERECT CHAIN LINK FENCE IAW RCRA PERMIT SECTION II.C.2: The contractor shall furnish all services, materials, supplies, labor, equipment, and supervision as required to erect 12,930 LF of chain link fencing as described in 3.2.1. Coordinates for the start, corners, end and centerline of the proposed fencing will be supplied to the contractor. Scrap generated by installation of fence as well as materials left from previous fence installation activities will be policed up and turned into a scrap dealer or disposed IAW local, state, and federal laws. The contractor shall provide on site UXO avoidance and cultural resource support during all phases of fence installation activities.

3.2.1 Chain Link Fence (West Boundary). The Contractor shall provide and install a 6 foot high chain link fence topped with 3 strands of barbed wire angled away from the secure area along the proposed baseline shown on the plans in accordance with the following specifications. Suggested installation details are shown in the plans. The contractor shall submit a set of proposed installation details including gates, water gaps, gully crossings, and sag/hump crossings if substantially different from what is provided herein. A nominal 10' gate shall be installed at the location shown on the plans or an alternate location approved by the contracting officer. Gully crossings, sag/hump crossings, and water gaps shall be installed as necessary

3.2.1.1 CHAIN LINK FENCE FABRIC

Chain Link Fence Fabric shall consist of ASTM A 392, Class 1, zinc coated steel wire with minimum coating weight of 1.2 ounces of zinc per square foot of coated surface. Fabric shall be fabricated of 9 gauge wire woven in 2 inch mesh. Fabric height shall be 6 feet. Fabric shall be twisted and barbed on the top selvage and knuckled on the bottom selvage.

3.2.1.2 GATE FOR CHAIN LINK FENCE

The gate shall be the type shown and installed at the location shown on the drawings or as directed by the Contracting Officer. Gate frames shall conform to strength and coating requirements of ASTM F 1083 for Group IA, steel pipe, with external coating Type A, nominal pipe size (NPS) 1-1/2. Gate fabric shall be as specified for chain link fabric. Gate leaves more than 8 feet wide shall have either intermediate members and diagonal truss rods or shall have

tubular members as necessary to provide rigid construction, free from sag or twist. Gate leaves less than 8 feet wide shall have truss rods or intermediate braces. Gate fabric shall be attached to the gate frame by method standard with the manufacturer except that welding will not be permitted. Latches, hinges, stops, keepers, rollers, and other hardware items shall be furnished as required for the operation of the gate. Latches shall be arranged for padlocking so that the padlock will be accessible from both sides of the gate. Each end member of gate frames shall be extended sufficiently above the top member to carry three strands of barbed wire in horizontal alignment with barbed wire strands on the fence.

3.2.1.3 Metal Posts for Chain Link Fence

Steel pipe used for posts shall conform to the specifications of ASTM A120. Steel sections used for posts and braces shall be good commercial quality weldable steel. All material shall be new and no used, re-rolled or open seam material will be acceptable. All posts and braces shall meet the weight and length requirements shown on the plans. Galvanized steel sections shall conform to ASTM A123. All posts and braces, except galvanized products, shall conform to ASTM A123. All posts and braces, except galvanized products, shall be painted with an approved anti-corrosive paint and after installation all areas where the paint coat has been damaged shall be shop-coated with paint of the same color as the shop coat. No other painting will be required. All fittings required for posts and braces shall be pressed or rolled steel, forged steel, malleable iron or wrought iron of good commercial quality and shall conform to the details shown on the plans.

3.2.2 BRACES AND RAILS

Braces and rails shall be Group IA, steel pipe, size NPS 1-1/4 and shall be zinc coated Type A conforming to the requirements of ASTM 123.

3.2.3 WIRE

3.2.3.1 TENSION WIRE

Tension wire shall be Type I, Class 4 coating, in accordance with ASTM A 824.

3.2.3.2 BARBED WIRE

Barbed wire shall conform to ASTM A121, zinc-coated, Class 1. The barbed wire shall consist of two strands of 12-1/2 gauge wire, twisted with two-point 14 gauge barbs spaced not more than 5 inches apart.

3.2.4 CONCRETE

Concrete shall have a minimum of 4 sacks of cement per cubic yard and have a minimum 28-day compressive strength of 2000 psi. The maximum water cement ratio gal/sack is 8.0. Aggregate shall not exceed 1-1/2" in diameter.

3.2.5 CHAIN LINK FENCE INSTALLATION

All clearing and installation activities shall be limited to areas approved by Contractor's onsite UXO support personnel. Fence shall be installed to the lines indicated. The area on either side of the fence line shall be cleared to the extent indicated in paragraph 3.6 Brush Clearing. Line

posts shall be spaced equidistant at intervals not exceeding 10 feet. Posts shall avoid cultural and archeological sites as determined by the Navajo and Zuni cultural POCs. Terminal (corner, gate, and pull) posts shall be set at abrupt changes in vertical and horizontal alignment. Fabric shall be installed on the outside (off installation side) of the posts. Fabric shall be continuous between terminal posts; however, runs between terminal posts shall not exceed 500 feet. Any damage to galvanized surfaces, including welding, shall be repaired with paint containing zinc dust in accordance with ASTM A 780.

3.2.6 EXCAVATION

Post hole locations shall be cleared/approved by the Contractor's onsite UXO support personnel. Post holes shall be cleared of loose material. Waste material shall be spread evenly within areas approved by Contractor's onsite UXO support personnel. Hole locations shall avoid cultural and archeological sites as determined by the Zuni and Navajo cultural POCs. The ground surface irregularities along the fence line shall be eliminated to the extent necessary to maintain clearance between the bottom of the fabric or barbed wire and finish grade shown on the drawings.

3.2.7 GROUNDING

Chain Link fence shall be grounded on each side of all gates, at each corner, and where the fence alignment changes more than 15 degrees. Grounding locations shall not exceed 650 feet. Each gate panel shall be bonded with a flexible bond strap to its gate post. Fences crossed by power lines of 600 volts or more shall be grounded at or near the point of crossing and at distances not exceeding 150 feet on each side of crossing. Ground conductor shall consist of No. 8 AWG solid copper wire. Grounding electrodes shall be 3/4 inch by 10 foot long copper-clad steel rod. Electrodes shall be driven into the earth so that the top of the electrode is at least 6 inches below the grade. Where driving is impracticable, electrodes shall be buried a minimum of 12 inches deep and radially from the fence. Electrode locations shall be approved by the contractor's onsite UXO support personnel and avoid cultural and archeological sites as determined by the Zuni and Navajo cultural POCs. The top of the electrode shall be not less than 2 feet or more than 8 feet from the fence. Ground conductor shall be clamped to the fence and electrodes with bronze grounding clamps to create electrical continuity between fence posts, fence fabric, and ground rods. After installation the total resistance of fence to ground shall not be greater than 25 ohms.

3.3 (TASK 3) ERECT BARBED WIRE FENCE IAW RCRA PERMIT SECTION II.C.2:

The contractor shall furnish all services, materials, supplies, labor, equipment, and supervision as required to erect 3,000 LF of barbed wire fencing as described in 3.3.1. Fence shall be installed on a line extending west from a corner of the inner FWDA security fence (X=2489883.30, Y=1622772.21) to intersection with the Chain Link replacement fence on the west boundary or as directed by the contracting officer. Scrap generated by installation of fence will be collected and turned into a scrap dealer or disposed IAW local, state, and federal laws. The contractor shall provide on site UXO avoidance and cultural resource support during all phases of fence installation activities.

3.3.1 Barbed Wire Fence (North Boundary). The Contractor shall provide and install a 5-strand barbed wire fence along the proposed baseline shown on the plans. Suggested installation details are shown in the plans. The contractor shall submit a set of proposed installation details including gates, water gaps, gully crossings, and sag/hump crossings if substantially different from what is provided herein. A 10' metal panel gate shall be installed at

the location shown on the plans or as approved by the contracting officer. Gully crossings and water gaps shall be installed as necessary.

3.3.2 GATES FOR BARBED WIRE FENCE

For barbed wire fencing, standard metal gate assemblies with frame and fittings necessary for complete installation shall be furnished as shown.

3.3.3 METAL POSTS FOR BARBED WIRE FENCE

Metal posts shall be "T", "H" column, tubular, or any other shape approved by the Contracting Officer, and shall be properly adapted to provide means for attaching the fencing to the posts in a manner that will not damage the posts nor the fencing material. Metal line posts shall not be less than 6 feet 6 inches in length, and shall not weigh less than 1.33 lbs. Per linear foot. Except in solid rock, line posts shall be provided with tapered anchor plates securely attached thereto. Anchor plates shall have a minimum area of 15 square inches and weigh not less than 0.67 lbs. Length shall be as indicated. Tubular posts shall be fitted with watertight malleable iron caps. Post locations shall be approved by the contractor's onsite UXO support personnel and avoid cultural and archeological sites as determined by the Zuni and Navajo cultural POCs.

3.3.4 BARBED WIRE FOR FENCE

Barbed wire shall conform to ASTM A121, zinc-coated, Class 1. The barbed wire shall consist of two strands of 12-1/2 gauge wire, twisted with two-point 14 gauge barbs spaced not more than 5 inches apart.

3.3.5 BARBED WIRE FENCE INSTALLATION

Wire shall be installed on the north side of the post indicated. Wire shall be pulled taut to provide a smooth uniform appearance, free from sag. Wire shall be fastened to line posts at approximately 15 inch intervals unless indicated otherwise. Metal posts shall be driven or set in concrete as indicated. All clearing and installation activities shall be limited to areas approved by Contractor's onsite UXO support personnel. Fence shall be installed to the lines indicated or as directed by the contracting officer. The area on either side of the fence line shall be cleared to the extent indicated in paragraph 3.6 Brush Clearing. Line posts shall be spaced equidistant at intervals not exceeding 10 feet. Posts shall avoid cultural and archeological sites as determined by the Navajo and Zuni cultural POCs. Terminal (corner, gate, and pull) posts shall be set at abrupt changes in vertical and horizontal alignment. Fabric shall be installed on the outside (off installation side) of the posts. Fabric shall be continuous between terminal posts; however, runs between terminal posts shall not exceed 500 feet. Any damage to galvanized surfaces, including welding, shall be repaired with paint containing zinc dust in accordance with ASTM A 780.

3.3.6 EXCAVATION

Locations for driven posts and post holes shall be cleared/approved by the Contractor's onsite UXO support personnel. Post holes shall be cleared of loose material. Waste material shall be spread evenly within areas approved by Contractor's onsite UXO support personnel. Hole locations shall avoid cultural and archeological sites as determined by the Zuni and Navajo cultural POCs. The ground surface irregularities along the fence line shall be eliminated to the extent necessary to maintain clearance between the bottom of the fabric or barbed wire and

finish grade shown on the drawings.

3.4 (TASK 4) CERTIFICATION OF FENCE COMPLETION IAW RCRA PERMIT SECTION

II.C.2: The contractor shall prepare for submittal to NMED the Certification as specified in the first paragraph of this permit section. The government will provide the base map for this effort, however the contractor shall make the modifications required to comply with the permit and within the timeframe specified.

3.5 (TASK 5) WARNING SIGNS: The contractor shall supply and install 3 separate types of signs along the chain link and barbed wire fences. As a minimum, signs shall be constructed of .080 aluminum. One sign shall be printed in both English and Spanish to read as shown in the attachment. The second sign shall be printed in Navajo and Zuni to reflect the same meaning as the English/Spanish versions and the third shall be a picture sign depicting danger. See the attachment for sign details. Signs shall be placed side by side at equidistant intervals, not to exceed 100 feet. Signs shall be placed at a consistent height on the fences. Attach signs to fence so that top of sign is even with the top strand of fence wire. Attach signs to fence with 11-gauge (minimum) galvanized wire and a minimum of four (4) twists. Signs shall match existing signage on the inner fence of the OB/OD grounds as shown in attached specs and photos. The sign supplier for these signs is UNICOR Sign Shop located at 3901 Klein Blvd., Lompoc, California 93436. The phone number is (805) 735-6211, Fax (805) 735-4507.

3.6 (TASK 6) BRUSH CLEARING: The contractor shall perform tree and brush clearing necessary to conduct project activities. Before the new fencing is installed a corridor 15 feet wide cleared of brush and trees the full length of the centerline of the proposed fence corridors is required to facilitate installation of the new fences. Ten feet of the cleared 15 feet corridor will fall on the inside of parcel 3. Trees and brush will be staged along the cleared fence corridor within parcel 3. All Information on the type and extent of tree and brush clearing requirements and/or restrictions can be obtained during the site visit. Procedures and equipment requirements shall be approved by the MMSS prior to execution. Brush clearing areas shall be coordinated and approved by the Zuni and Navajo cultural POCs. Burning is not allowed on this project.

3.7 (TASK 7) DISMANTLE EXISTING FENCE: The contractor shall dismantle only those sections of the existing barbed wire Western Boundary fence that share the same alignment as the proposed new chain link Western Boundary fence, interfere with installation of the new fence, or fall on the western side of the new fence. Dismantled fencing material will be moved to and staged at a location TBD for collection by the Navajo Nation. The contractor shall provide on site UXO avoidance and Navajo and Zuni cultural resource avoidance support during all phases of fence dismantling activities.

3.8 (TASK 8) UXO ANOMALY AVOIDANCE: The contractor shall conduct UXO anomaly avoidance in support of tasks 2, 3, 5, 6, and 7. Due to the presence of improved conventional munitions (ICM) at the site all ordnance safety specialists must meet the requirements listed in HQDA Letter 385-04-1. The contractor shall submit resumes of the UXO support personnel as part of their bid. All MEC items shall be located with GPS. Provide data in a format compatible with ARCVIEW/ARCINFO. The UXO portion of the project report shall satisfy DID MR-030 where applicable to this project.

3.9 (TASK 9) CULTURAL RESOURCE MONITORING:

3.9.1 BACKGROUND

The Prime Contractor is to subcontract to the Zuni Cultural Resources Program and the Navajo Cultural Resources Program to accomplish the Cultural Resources aspects of the Ft Wingate Fence Construction Project. *It is imperative that the Zuni and Navajo cultural resources staff be able to work together to prepare all required documentation and successfully complete the required fieldwork and associated reports.*

The purpose of this Contract shall be to assist Ft. Wingate and the US Army Corps of Engineers Ft. Worth District and its contractors in fulfilling the Federal requirements under Section 106 and 110 of the National Historic Preservation Act (NHPA) and Bulletin 38 (Traditional Cultural Properties) as they pertain to the identification and evaluation of traditional cultural properties for a section of Ft. Wingate outlined for the western and northern fence. Any proposed undertaking under the responsibility of the US Army Corps of Engineers, Fort Worth District and Dept. of Defense (DOD) must follow and account for the responsibilities under Federal and State Cultural Resources laws and regulations, Executive Orders, and DOD/ US Army Corps of Engineers Regulations. Any projects will need to consider the legal responsibilities and obligations of the US Army Corps of Engineers/DOD with respect to the National Historic Preservation Act (NHPA) of 1966 (PL 89-665 et seq.), National Environmental Policy Act (NEPA) of 1969 (PL 90-190), Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 (PL 101-601), Executive Order 13007 (Accommodation of Sacred Sites- 24 May 1996), and Government-to-Government Relations with Native American Indian Tribal Governments (Presidential Memorandum of 29 April 1994).

The area for the Ft Wingate fence construction project (see project map) has already been surveyed for cultural resources sites and properties under the larger cultural resources inventory survey conducted in the 1980's (OCA 1997). Both tribes are aware of this. Under the direction of the prime contractor, the cultural resources contractors are to coordinate and work with all sub-contractors to insure all Cultural Resource properties within the project work areas and for all required access points/roads are delimited/flagged and avoided during fence construction (posthole excavation, fence layout, access requirements). No one, including the cultural resources contractor, shall go outside the fence corridor or other designated project work/access areas without UXO escort due to the presence of UXO.

Project Administration Points of Contact: The US Army Corps of Engineers Ft. Worth District Technical Manager for Cultural Resources on the Project is Dr. Jay R. Newman, Archaeologist, USACE Ft. Worth (jay.r.newman@swf02.usace.army.mil; 817-886-1721, 817-886-6499 FAX).

Costs for the cultural portions of the work plan and project report shall be separated according to the bid schedule. However, there shall be no separate work plan or report for cultural resources. They shall be included in the overall project work plan and report.

3.9.2 CULTURAL TASKS

3.9.2.1 - Development of a Work Plan (to be located in Section 2.11 of the Type II work plan covered under DID MR-005-01):

A Work Plan shall be generated from the results and topics discussed at the Project Initiation Meeting and to include proposed schedules, strategies, and methodology to be employed for the Ft Wingate Fence Construction Project.

3.9.2.2 - Archaeological Site Delimiting/Flagging for Avoidance for Fence Construction:

The purpose of this task is to locate and delimit/flag all cultural resources for avoidance within the fence construction corridor. Sites within this corridor are to also have their existing site forms updated including site sketches, relevant artifact sketches, notes of current conditions, and photographs. This task shall be conducted in accordance with New Mexico SHPO and Secretary of the Interior's Standards. Artifacts shall not be collected and no subsurface testing shall occur as part of this Contract. The cultural resource personnel shall include brief cultural awareness/educational discussion as part of the daily safety brief.

3.9.2.3 – Traditional Cultural Properties (TCP) Location/Areas of Concern for Native Americans Avoidance During Fence Construction:

The purpose of this task is to identify and delimit areas of concern to Native Americans for avoidance during fence construction activities. This should be handled and areas identified early in project development to facilitate any required changes in the projected fence layout. During fence construction, directions by the cultural resources monitors to construction crews shall ensure avoidance of these areas (as well as any and all archaeological site locations). It is anticipated that 2 personnel from each tribe are sufficient to perform this task in the field.

3.9.2.4 - Cultural Resources Fence Construction Monitoring:

This task shall consist of cultural resources monitoring of all construction and associated work for the Ft Wingate fence construction project (corridor and all required access routes). The goal is to absolutely minimize the effects of construction activities on potentially eligible cultural resource/TCP properties. Contractor will be expected to guide fence construction personnel on avenues of access and fence construction/posthole/grounding rod excavation and pole placement minimizing any adverse effects to cultural resource properties.

Prior to this fieldwork, the Contractor shall complete a simple Monitoring Work Plan briefly summarizing work conducted to date, a general schedule for meeting Task Order requirements, and individuals, duties, and schedule for conducting monitoring. This work plan shall be a separate section or attachment of the Type II work plan described above.

The fence construction site shall be monitored on a daily basis to minimize any adverse effects to cultural resources from fence construction activities. This will include photographic documentation of ongoing work and base maps will be marked documenting any site disturbance which is to be avoided at all costs and as well as any previously undiscovered cultural resource entities found during project activities. Brief Monitoring Reports (preferably via EMAIL to Dr. Jay Newman at USACE) shall be made on a weekly basis unless emergency situations require more immediate communications. It is anticipated that 1 person from each tribe is sufficient to perform this task in the field.

3.9.2.5 - Field Summary Report:

An interim project summary (part of the draft final project report) is due 30 days following the completion of the fieldwork. The report shall contain a status of the project events and give a summary of the sites marked for avoidance and their updated description/recording. In addition, Monthly Progress Reports shall be due in FAX or EMAIL form to Dr. Jay R. Newman.

3.9.2.6 - Report Preparation (Cultural portion of the Project Report):

Results of all flagging/recordation/updating site work shall be incorporated into a professional quality report consisting of a draft document and then final form after receipt of Ft. Worth District and New Mexico SHPO technical comments. Site interpretations by Native American monitors will be incorporated into the final report. These documents shall conform to the standards of the profession, Dept. of Defense, and SHPO requirements (Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation- Federal Register Vol 48 # 190 29 Sept 1983).

3.9.2.7 - GIS Site Recordation:

All cultural resource properties marked for avoidance shall be GPS located and recorded in GIS format. ARCINFO format shall be used unless otherwise directed by the Government. All GIS information shall be delivered on standard CD.

3.9.3 Special Considerations

Rights: All original materials, visual aids, software, and text developed in performance of the tasks outlined herein shall be property of Ft. Wingate and shall not be used, distributed, or published by the Contractor or any Contractor employee, directly or indirectly, without specific permission provided by Ft. Wingate Cultural Resources Technical Representative.

Special Conditions: If, during the course of this project, the Contractor encounters any previously unrecorded Native American remains, the Contractor shall immediately cease work at that location and take measures to secure and protect the find and shall immediately notify the USACE Ft Worth Technical Representative (Dr. Newman) and Ft Wingate personnel. No other work can take place at this location until provisions of the Native American Graves Protection and Repatriation Act have been addressed. Contractor may continue work in other locations. Should inclement weather prevent the Contractor from carrying out fieldwork immediate notification to the USACE Ft Worth Technical Representative (Dr. Newman) and Ft Wingate personnel shall be made. The cultural resources contractor should be prepared to perform work under all but the most extreme of these conditions within the specified project area as necessary however.

Personnel Qualifications: All personnel working on the cultural resources aspects of this project shall meet the applicable professional qualification standards established in "Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines". Provide resumes and telephone numbers of cultural resource personnel from each tribe as part of the proposal.

Inspection of Work

The Ft Worth District USACE and Ft Wingate reserve the right to periodically inspect all phases of the work associated with this Task Order to insure the work is performed in compliance with the terms of the Task Order and all associated contracts/subcontracts. If USACE Ft Worth or Ft Wingate determine that the work is not conducted in accordance with the Scope of Work, USACE Ft Worth and Ft Wingate reserve the right to require correction of deficiencies. Time spent in correcting deficiencies shall *not* be at the cost to the Government. All work will be available to USACE Ft Worth and Ft Wingate at all times for inspection.

Production of Draft and Final Documents (Cultural section of the project reports)

The reports are shall fully address the requirements of this Scope of Work. All reports are to meet recognized professional standards applicable to Federal archaeological projects as set forth in the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (Federal Register Vol 48 #190 29 Sept 1983). All archival requirements will be met in accordance with 36 CFR Part 79, Curation of Federally-Owned and Administered Archaeological Collections Final Rule (Federal Register Vol 55 #177, 12 Sept 1990).

3.10 (TASK 10) SITE COMMUNICATIONS: Radio and cell phone communication within parcel 3 is poor or non-existent. The contractor shall purchase, install as needed, and maintain for the duration of the task order the equipment needed to establish and maintain radio communications throughout all phases of the task order. The contractor shall install a repeater setup, if necessary (hand radios alone may not suffice), to provide direct communication between the fire station/Building 1 and the OB/OD grounds. An antenna may be required for the system to carry the signal. Consult with the FWDA or MDA caretakers for a location. The repeater system shall be of quality and durability to operate once the project is complete. A spare repeater system (less the antenna) shall be provided to Mark Patterson. coordinate with a local electronics firm to purchase a one year service contract with access to a local repeater and frequency (trunking system). Radio service shall be available prior to work beginning in parcel 3.

The contractor shall replace the two existing truck radios for the FWDA caretakers with radios compatible with this local frequency. Also, replace the existing base station in Bldg 34 and install a new base station in Bldg 1 to communicate with this system.

The contractor shall purchase 7 hand held radios with batteries (walkie talkies) along with 7 battery chargers to communicate on the one system. , and 7 spare batteries. Radios shall be compatible with the frequency of the FWDA base station and truck radios of the caretakers. Contractor is to determine the frequencies of the existing radios. Four of the hand radios, chargers, two truck radios, two base stations, spare batteries shall be turned over immediately to Mark Patterson for use by the government. The remaining radios can be used by the contractor. The contractor may purchase more radios to suit its need. ALL communications equipment purchased under this task order shall become the property of the Government at the end of the field work. Turn it in to Mark Patterson.

3.11 (TASK 11) Reporting and Records Management

The Contractor shall prepare a single project report documenting all efforts under this project along with specific requirements mentioned under each task as applicable, significant actions, milestones, approvals, deliverables, photographs, and anything else that can be used to satisfy an auditor's inquiries about the completion of this project. The report shall be tabbed for easy recognition of sections and attachments. The report shall include write ups from each subcontractor as mentioned in the sections above placed in a logical sequence. The report shall include section on the fence, UXO work, cultural resources, drum removal, building reactivation, and communications equipment. The report shall contain a separate attachment or section for the Fence Certification required by NMED.

The intent of records management is to provide complete documentation of the work conducted under this contract. Project-related information shall include all data and documentation

developed by the Contractor. CESWF will review the report and provide comments if needed. The contractor will be paid for the final document only. Documents generated during the course of this contract are expected to be maintained in both electronic and hard copy. All electronic text documents shall be in Microsoft Word® format. Hard copies shall be scanned into PDF format. All electronic engineering drawings shall be submitted in format which adheres to the DOD Tri-Service Criteria for computer-assisted design. All electronic analytical and associated data shall be in Microsoft Excel® format. Electronic submittals shall be on compact disk (CD) and in read-only or read-write as specified in the Document Distribution Section below. If data compression is used, any applications software needed to install data shall be provided.

3.12 (TASK 12) PROJECT MANAGEMENT: The contractor shall perform project management activities necessary to maintain project control and to meet reporting requirements, which include but not limited to the following.

3.12.1 Schedule The contractor shall prepare and submit a proposed Project Schedule in Microsoft Project format. The schedule shall be adjusted and refined during the duration of the project. The contractor shall update the schedule monthly, or when significant changes occur.

3.12.2 Telephone Conversations/Correspondence Record The contractor shall keep a record of each phone conversation and written correspondence concerning this Task Order IAW DID MR-055. A copy of this record shall be attached to the Project Status Report.

3.12.3 Project Status Report The contractor shall prepare a monthly Project Status Report during field mobilization and include the following and any other items required in the SOW. Project Status Reports shall be submitted by email to CESWF. Reports shall be brief (1 to 2 pages) describing:

(1) Work performed and a quantitative statement of overall work progress, including percentage of work accomplished on each task.

(2) Description of current problems that may impede performance in accomplishing planned activities outlined in the SOW and suggested corrective actions.

(3) Discussion of work to be performed during the next four week time frame.

3.13 (TASK 13) BRAC CLEANUP MEETING: The contractor shall be prepared to have their Project Manager participate in one BRAC cleanup meetings (8 hour duration) conducted by the government at Gallup, NM if the meeting occurs while the contractor is mobilized on site. If there is no meeting, the contractor will not be paid for this task. The contractor shall prepare and submit a summary report of the meeting discussions.

3.14 (TASK 14) DRUM REMOVAL: Two 55 gallon drums located in arroyo in Parcel 3 shall be identified, inspected/sampled, removed and the drums and contents disposed of IAW all local, state, and federal regulations. Locations will be provided during the site visit. The contractor shall provide UXO and cultural resources support (similar to the fence) for this work.

3.15 (OPTIONAL TASKS) REACTIVATE OFFICE: Options may or may not be funded and may be awarded in any order. This office will be used as a temporary office to satisfy the appropriate codes.

OPTION 1. Building cleaning and disinfection: The contractor shall provide all necessary labor, tools, and material to disinfect and clean 1st floor and basement in accordance with the attached

document "Hantavirus Infection – Southwestern United States: Interim Recommendation for Risk Reduction" CDC Morbidity and Mortality Report Dated 30 July 1993/Volume 42, No. RR-11.

OPTION 2. Utilities:

Electric – The contractor shall provide all necessary labor, tools, and material to verify operation of wall plugs, switches, and light fixtures and repair as necessary in accordance with National Electrical Code. Install conduit containing wire on wall surfaces and minimize disturbances to walls. If the current breaker box is too outdated, install a new box.

Water\sewer – The contractor shall provide all necessary labor, tools, and material to verify operation of water and sewer system including operation of restroom fixtures on 1st floor. Contractor shall block off water lines to 2nd floor. Install an under sink 5 gallon on demand electric water heater in the restroom.

OPTION 3. Communications:

3A. Contractor to provide all labor, tools, and materials to install 2 telephone lines at 3 locations (BEC office, Corps office, and in common/conference area).

3B. Contractor shall also provide labor, tools, and materials to provide Broadband internet access. Access point shall be an appropriate contractor supplied internet/dsl/cable/satellite router link with minimum of 4 gigabyte speed ports available. Equipment shall become the property of the Government at completion of contract.

OPTION 4. Weather proofing:

4A. Contractor to provide all labor, tools, and materials to Caulk and repair ground floor and basement windows and doors to provide a weather tight structure.

4B. Contractor shall also provide labor, tools, and materials to block off second floor at top of stairs and provide locking door for access. The partition and door shall be removable.

OPTION 5. Safety: Contractor to provide all labor, tools, and materials to install Fire extinguishers and Smoke detectors in the 1st floor areas of Building 1 to comply with appropriate Life Safety codes.

OPTION 6. Exterior lighting – contractor shall provide all labor, tools, and materials to install one exterior building mounted flood light and attendant wiring and interior control switch to illuminate the parking area located west of Building 1.

OPTION 7. Air conditioners/ heaters – Contractor shall provide all labor, tools, and materials to properly size and install 4 window mount AC/heater units and associated 220V or 110 V wiring as appropriate and provide secure, theft proof installations for BEC Office, bathroom, Corps Office, and common/conference area. The BEC Office, conference area, and Corps Office are behind the common door. Open up (do not remove) multipane window doors to allow for installation. Interior windows (not of historic value) will have to be replaced to accommodate the units.

OPTION 8. Furniture – contractor shall provide the following office furniture\materials\supplies. Additional items and clarification will be provided prior to bidding deadline.

2 office chairs with lumbar support

1 standard size office desk

6 5-shelf book cases

10 letter size file cabinets

10 boxes letter size hanging file folders
2 legal size file cabinets
10 boxes legal size hanging file folders
3 5-drawer stacking large (30x42 min) map cabinets
3'x6' layout table
2 Desk Lamps
conference table with chairs (information will be provided on size/number chairs)
Conference phone
Heavy duty cross cut shredder
Computer desk and chair
Stereoscope
Light Box

OPTION 9. Carpet: Contractor shall provide all labor, tools, and materials to install commercial grade (mid-grade quality) carpet in 1st floor Army occupied area.

OPTION 10. Relocate admin files and equipment from T-34 and Building 5 (former COE office) to Building 1: Contractor shall provide all labor, tools, and materials to move files, cabinets, furnishings, and other office type items from Building T-34 and Building 5 (former COE office) to the designated Records room in Building 1.

OPTION 11. USGS Quad sheets:

Contractor shall provide electronic and paper copies of the following USGS Quad sheets:

Gallup East
Church Rock
Bread Springs
Fort Wingate
Pinehaven
Upper Nutria
Page
Ciniza

Quad sheets shall be provided in USGS standard electronic format on a CD. Five (5) hard copies shall also be provided.

OPTION 12. The contractor shall replace the door locks on 15 interior doors leading to separate rooms with new independently (different) keyed locks. The contractor shall replace the two external door locks with new locks keyed alike. Supply two sets of keys to each lock.

OPTION 13. The contractor shall remove the moldy wall paneling (approx. 200 square feet) on the west wall of the southwest office and prepare the surface behind the panel for paint. Prime and paint (off-white) the same surface.

4.0 SUBMITTALS AND CORRESPONDENCE

4.1 Format of Reports The front cover of the report or plan shall be prepared in accordance with Attachment 1 of DID MR-030 and shall bear the following statement in addition to other requirements. *"The views, opinions, and/or findings contained in the report are those of the author(s) and should not be construed as an official Department of the Army position, policy, or*

decision, unless so designated by other documentations." The cover shall also denote which version of the report/plan presented (e.g. Draft or Final).

4.2 Computer Files All final text files generated by the contractor under this Task Order shall be furnished in Microsoft Word 6.0 or higher software. Spreadsheets shall be in Microsoft Excel Spreadsheet version 98 or higher format. All DGM data will be delivered in a format compatible with ESRI (Arcview/Arcinfo) system

4.3 PDF Deliverables In addition to the paper and digital copies of submittals, the final version of all reports and plans shall be submitted, uncompressed in PDF format along with a linked table of contents, linked tables, linked photographs, linked graphs and linked figures, all of which shall be suitable for viewing on the Internet.

4.4 Review Comments Various reviewers will have the opportunity to review contractor submittals. The contractor shall review all comments received through CESWF and evaluate their appropriateness based upon their merit and the requirements of the SOW. The contractor shall develop a formal, annotated response to each comment. If the contractor does not concur with a comment, the issue shall be discussed and resolved with CESWF.

4.5 Responsible Personnel Reports shall identify the title of contractor staff and subcontractors that had significant and specific input into the reports' preparation or review.

4.6 Public Affairs The Contractor shall not make available to the news media or publicly disclose any data generated or reviewed under this task order or discuss any aspect of the work performed during this project without prior approval from the Government. If approached by the news media, the Contractor shall refer them to the COR for response. Reports and data generated under this task order shall become the property of the Government and distribution to any other source by the Contractor, unless authorized by the COR, is prohibited. Discussions with regulatory organizations regarding this work shall be pre-coordinated with the Fort Worth District COE technical representative and shall be thoroughly documented by the Contractor.

4.7 Contract Administration. Contract administration will be conducted by the U.S. Army Corps of Engineers COR in coordination with the Fort Worth District Office (CESWF-PER-DD). All work shall be coordinated with the COR. Technical questions concerning the project should be directed to the Contracting Officer's Technical Representative. The following points of contact are provided for the Contractor's information.

COE PM & COR

Mr. Steven Smith
U.S. Army Corps of
Engineers
CESWF-PER-DD
P.O. Box 17300
Fort Worth, TX 76102-0300
(817) 886-1879
(817) 296-3426 (cell)

COE MMSS

Mr. Harmon Slappy
U.S. Army Corps of
Engineers
CESWF-PER-DI
P.O. Box 17300
Fort Worth, TX 76102-0300
(817) 886-1885
(817) 307-6579 (cell)

Fort Wingate BEC

Mr. Mark Patterson
Fort Wingate Army Depot
(Fed Ex/UPS address)
7 miles east of Gallup, NM
Fort Wingate, NM 87316
(505) 488-5411
(505) 862-4079 (cell)

4.8 Submittals The contractor shall furnish copies of the documents identified in paragraph 4.9, or as specified in this SOW, to each addressee listed below in the quantities indicated. When Final documents are submitted, the contractor shall provide to each addressee listed

below 1 copy on CD of the Final computer file versions of all submittals, and 1 copy on CD of the Final PDF versions of all submittals. For purposes of the SOW, all days are considered calendar days.

ADDRESSEE	COPIES
US Army Corps of Engineers District, Fort Worth ATTN: CESWF-PER-DD (Mr. Steven Smith) PO Box 17300 819 Taylor Street, Room 3A12 Fort Worth, Texas 76102	2
Mark Patterson Fort Wingate Army Depot 7 miles east of Gallup, NM Fort Wingate, NM 87316	5

4.9 Submittals and Due Dates

Work Plans and Reports shall include all areas of the project (UXO, Cultural, Fence, Communications, and bid options).

SUBMITTAL

Proposed Project Schedule
BRAC Meeting Report
Draft Type II Work Plan
Final Type II Work Plan
4 Radios/batteries/charges
All other comm. equipment in Task 10
Draft Project Report and Fence Certification
Final Project Report

DUE DATES

10 days after award
5 days after meeting
15 days following award
7 days after receipt of comments
10 days prior to field mobilization
Last day of field work
30 days after completion of fieldwork
14 days after receipt of comments

5.0 EVALUATION CRITERIA:

The successful Contractor will demonstrate through its proposal and price, the best overall, technically proficient and cost-effective, method to complete the above Scope of Work. The proposal shall be prepared in accordance with the basic contract provisions and shall include the information listed below. The Contractor's submitted proposal shall be concise and without ambiguity, and be no more than 5 pages (not including the bid schedule or resumes). The proposal shall not contain extraneous information such as advertising or marketing information. The evaluation factors are listed in order of importance. Price is **equal** to the sum of the first four factors.

- Contractor's approach to executing the project
- Maximize the use of local, and especially Native American subcontractors and labor
 - Provide points of contact and phone numbers for cultural resource (Zuni and Navajo) and fence contractors
- Similar experience with UXO/MEC
- Similar experience with cultural resources

This is a competitive award; the Contractor shall submit a Firm-Fixed Price unit price cost proposal with sufficient cost breakout to allow adequate evaluation by the Government. The completed bid schedule shall be provided with the proposal. The entire bid schedule (with options) will be evaluated.

6.0 REFERENCES:

6.1 Basic Contract

6.2 Federal Acquisition Regulation (FAR) Clause 52.236.13, Accident Prevention

6.3 Data Item Descriptions - The Data Item Descriptions are part of this contract and are available at: URL: <http://www.hnd.usace.army.mil/oew/MRxxxDIDs2.aspx>

6.4 Drawings. The following drawings are provided for use in performing the work described in this document.

- Seq No. 1 Project Location
- Seq No. 2 Boundary Fence Alignment
- Seq No. 3 Chain Link Fencing Installation Details 1
- Seq No. 4 Chain Link Fencing Installation Details 2
- Seq No. 5 Barbed Wire Fencing Installation Details 1
- Seq No. 6 Barbed Wire Fencing Installation Details 2
- Seq No. 7 OB/OD Area MEC Surveys and Topography

6.5 HQDA Letter 385-04-1

6.6 Current RCRA Permit (Issued December 1, 2005) See NMED website.

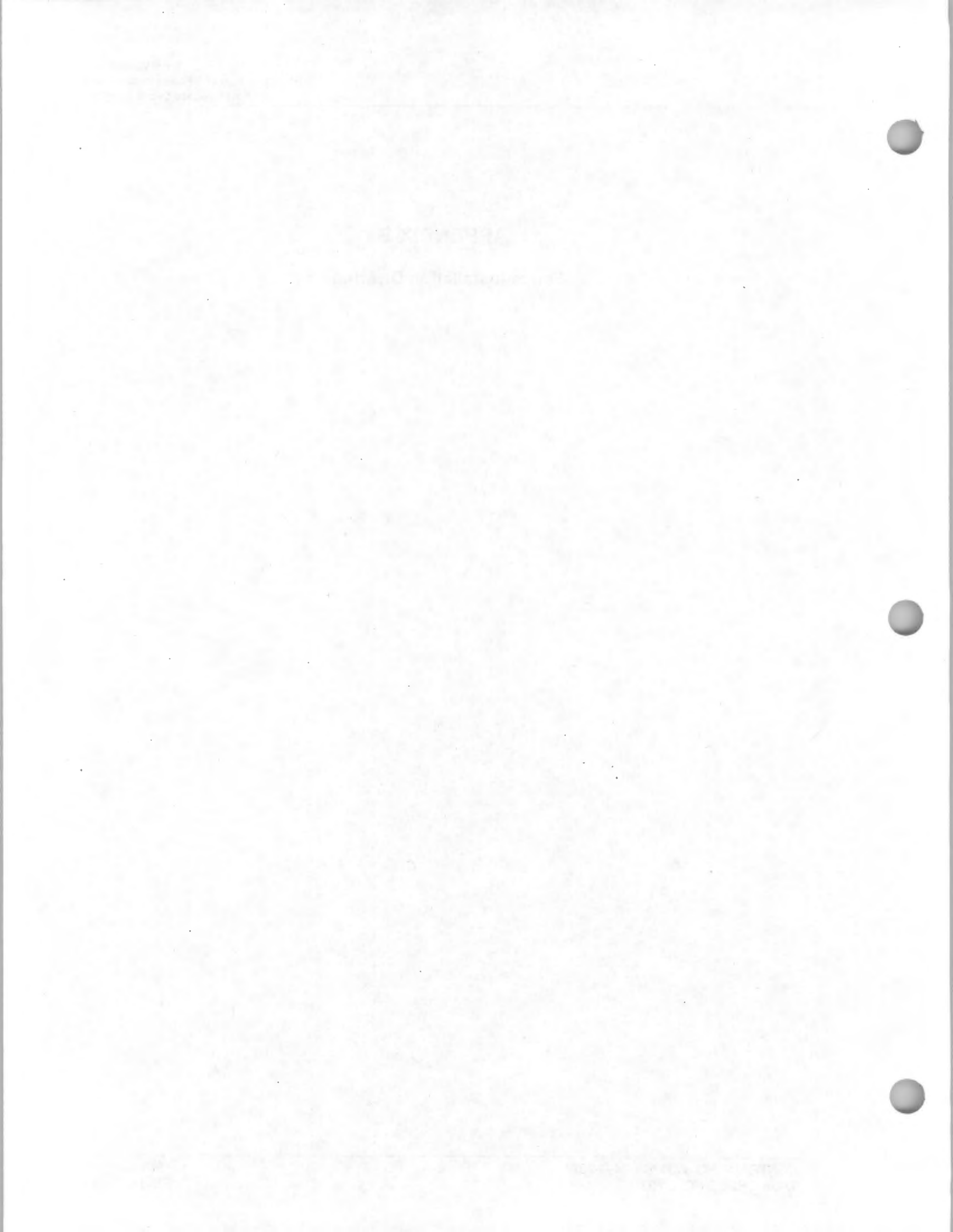
6.7 Sign specs and photos (attachments).

6.8 "Hantavirus Infection – Southwestern United States: Interim Recommendation for Risk Reduction" CDC Morbidity and Mortality Report Dated 30 July 1993/Volume 42, No. RR-11.

6.9 Parcel or OB/OD topo map

END of SOW.

APPENDIX B
Fence Installation Drawings



OP/OD)



APPENDIX C
Local Points of Contact



TABLE C-1: PROJECT POINTS OF CONTACT

SERVICE / CONTACT	AGENCY / POSITION	TELEPHONE NUMBER
Mark Patterson	FWDA BRAC Environmental Coordinator	(505) 488-5411
Martin Eastridge	Missile Defense Agency (MDA) Caretaker	(505) 649-0352
Steven Smith	USACE Project Manager	(817) 886-1879
Michael Scoville	USACE Quality Assurance Representative	(817) 886-1875
Harmon Slappy	USACE Military Munitions Safety Specialist	(817) 886-1885
David Holladay	USACE Military Munitions Safety Specialist	(505) 342-3463
Dr. Jay Newman	USACE Cultural Resource	(817) 886-1721
Sharlene Begay-Platero	Navajo Nation - Wingate Project Coordinator	(505) 863-6414
Darrell Tsabetsaye	Pueblo of Zuni - Wingate Project Coordinator	(505) 782-7031
Elaine Cleveland-Mason Antionette Kurley-Begay	Navajo Nation Archaeology Department - Shiprock	(505) 3261214
Dr. Jonathan Damp Davis Nieto	Zuni Cultural Resource Enterprise	(505) 782-4814
Michael Poe	ECC Project Manager	(281) 994-4164 (office) (281) 723-2673 (cell)
Michael Poe	ECC Site Manager	(281) 994-4164 (office) (281) 723-2673 (cell)
Al Kimbol	ECC SSHO and UXOSO	(303) 298-7607 (office) (803) 707-3344 (cell)
Mike McSherry	ECC PSHM	(973) 338-7011 (office) (215) 776-0108 (cell)

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Appendix D
Accident Prevention Plan

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ACCIDENT PREVENTION PLAN SIGNATURE SHEET

Project: Installation of Fencing on the Western and Northern Boundary of Parcel 3
Site: Fort Wingate Depot Activity, Gallup, New Mexico

The Accident Prevention Plan (APP) presented in this document has been developed for the U.S. Army Corps of Engineers (USACE), Fort Worth District as part of ECC's site-specific Work Plan (WP) developed in support of the Scope of Work for the above referenced project. The ECC personnel referenced below have reviewed and approved this APP for implementation once approval has been received from USACE. Procedures for the submission, approval, integration and implementation of changes to this APP are discussed within the body of the APP and will be followed whenever a change will significantly impact the safety of site personnel, the environment or off-site personnel.

Reviewed and Approved by: Michael Lee Date: 4-12-06
Project Manager

Reviewed and Approved by: Michael Lee Date: 4-12-06
Site Manager

Reviewed and Approved by: [Signature] Date: 04/12/06
Site Safety and Health Officer

Reviewed and Approved by: [Signature] Date: 2006.04.13 08:53:00 -04'00'
Program Health and Safety Manager

Reviewed and Approved by: Rich Gioscia Date: 2006.04.13 09:19:12 -06'00'
Program Quality Control Manager

REPORT FOR THE YEAR 1954

The year 1954 was a year of significant achievement for the organization. We have successfully completed our annual budget and are pleased to report that we have exceeded our goals in many areas. Our financial position is strong and we are confident that we will continue to grow in the coming years.

Our primary focus has been on improving our operational efficiency and reducing costs. We have implemented a number of new procedures and systems that have resulted in a significant increase in productivity. Additionally, we have invested in new equipment and facilities that will further enhance our capabilities.

We have also placed a strong emphasis on employee development and training. Through a variety of programs and courses, we have provided our staff with the skills and knowledge necessary to perform their jobs more effectively. This investment in our human resources has been a key factor in our success.

In conclusion, we are proud of the accomplishments of our organization in 1954. We look forward to continuing our growth and success in the future. Thank you to all of our employees, customers, and supporters for their dedication and hard work.

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1.0 BACKGROUND INFORMATION

1.1 PLAN INTRODUCTION AND INTEGRATION

This Accident Prevention Plan (APP) and the attached Site Safety and Health Plan (SSHP) have been developed and submitted to support the Work Plan for Installation of Fencing on the Western and Northern Boundary of Parcel 3 at Fort Wingate Depot Activity (FWDA), and has been developed to meet the U.S. Army requirements as outlined in the Section 01.A.11 of the U.S. Army Corps of Engineers (USACE) Engineering Manual (EM) 385-1-1, Safety Manual. EM 385-1-1 is the primary safety guidance document to which all site activities conducted by ECC at FWDA will adhere. ECC and all subcontractors will be responsible for complying with EM 385-1-1, followed by this APP, which is intended to supplement EM 385-1-1.

This APP and the attached SSHP have also been developed in accordance with (IAW) the U.S. Army Engineering and Support Center, Huntsville (CEHNC) Data Item Description (DID) MR-005-06.

This APP will act as ECC's environmental, safety and health (ES&H) document for this project, with the SSHP being used to contain site-specific data and procedures.

As stated in the MR-005-06, 'The APP shall be an implementing document with emphasis on "who" will have each of the specific responsibilities and "how" and "when" each of the applicable requirements will be performed.' However, the historical intent of a SSHP has been to provide a document for field personnel that effectively summarized the hazards associated with the project and the procedures and controls that will be used to mitigate and when possible eliminate the hazards. As such, where duplication exists between the APP requirements and the SSHP, ECC has chosen to present the bulk of the ES&H control data in the SSHP presented in Attachment 1 of this APP. Elements of this APP that are better addressed in the SSHP have been identified in this APP and a statement has been included that specifies where in the SSHP the required element can be found. Conversely, if an element is better suited for presentation in the APP, it has been addressed in this document and a statement has been inserted in the SSHP indicating that the element is presented in the APP.

1.2 CONTRACTOR

The contractor for the performance of this project is ECC. As the contractor for this Task Order, ECC will be responsible for its successful completion and for the management of all resources required to meet the contract Statement of Work (SOW).

1.3 CONTRACT NUMBER

The contract number for this project is W912BV-04-D-2021, Task Order DY-32.

1.4 PROJECT NAME

The name of this project is Installation of Fencing on the Western and Northern Boundary of Parcel 3 at Fort Wingate Depot Activity (FWDA).

1.5 BRIEF PROJECT DESCRIPTION

The current SOW includes installation of fencing on the western and northern boundary of Parcel 3 at FWDA, characterization and removal of two drums located in Parcel 3, upgrades to the FWDA communication system, and reactivation of a portion of an existing office building (Building 1).

1.5.1 Description of Work to be Performed

The current SOW includes installation of fencing on the western and northern boundary of Parcel 3 at FWDA, characterization and removal of two drums located in Parcel 3, upgrades to the FWDA communication system, and reactivation of a portion of an existing office building (Building 1). Detailed information regarding these activities is contained in the Work Plan and SSHP.

1.5.2 Location

Parcel 3 is located in the southern portion of FWDA. Building 1 is located within the Administration Area. Maps showing these locations are included in Appendix B of the Work Plan.

1.6 CONTRACTOR ACCIDENT EXPERIENCE

The table below presents ECC's Total Recordable Injury and Illness Rate (TRIIR), Lost Work-day Rate (LWDR) and Experience Modification Rating (EMR).

Table 1.1
ECC Safety Experience Rates

Year	EMR	RIR
2005	0.72	0.6
2004	0.71	1.36
2003	0.68	0.31
2002	0.66	2.15
2001	0.90	2.03

1.7 PHASES OF WORK REQUIRING ACTIVITY HAZARDS ANALYSES

During the course of work, ECC personnel will be involved with activities that will potentially expose them to chemical, physical and biological hazards which will be controlled through the use of engineering, administrative and personal protective equipment controls. Additionally, because the operations conducted during this project are governed by Occupational Safety and Health Administration (OSHA) standards in 29 Code of Federal Regulations (CFR) 1910.120 and 1926.65, ECC is required to develop an SSHP for this project (see Attachment 1 to this APP). During the SSHP development, ECC will conduct an activity hazard analysis (AHA) of the tasks outlined below. The results of the AHA will be expressed in the ECC Certification of Activity Hazard Analysis (CAHA) forms presented in Attachment 2 of this APP. Additional information on the AHA process can be found in Section 3.0 of the attached SSHP.

Tasks for which an AHA will be performed include:

- Mobilization and Site Set Up;
- Anomaly Avoidance;
- Cultural Resource Identification and Monitoring
- Site Preparation;
- Chain Link Fence Construction;
- Barbed Wire Fence Construction;
- Removal of Existing Fencing;
- Drum Removal; and
- Reactivation of a Portion of Building 1 (including building decontamination).

1.8 STATEMENT OF SAFETY AND HEALTH POLICY

ECC

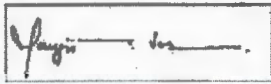
Environmental, Safety, and Quality Policy

Fundamental goals of ECC are to ensure the health, safety, and well-being of our co-workers and the communities in which we work, to protect and enhance the environment, and to provide our clients with valued and quality services.

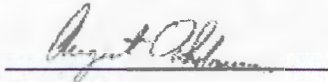
To achieve these goals, we commit to do the following:

- Implement a work process that emphasizes management leadership, employee involvement, worksite analysis, and hazard prevention.
- Incorporate pollution and loss prevention principles into our operations.
- Thoroughly plan and execute our work accordingly.
- Ensure that employees and subcontractors are qualified and competent.
- Comply with company procedures, contract requirements, and applicable laws, standards, and regulations.
- Recognize outstanding team and individual performance.
- Exceed the expectations of our clients
- Monitor and optimize the effectiveness of our management system.

With everyone's participation, we will achieve these goals and fulfill our commitments within a work culture that strives for zero incident performance and continuous improvement.



Manjiv S. Vohra, PE
President & CEO



August Ochabauer
Vice President, Operations



Richard Gioscia, CIH
Vice President, ESQ

2/28/2005

2.0 RESPONSIBILITIES AND LINES OF AUTHORITIES

2.1 IDENTIFICATION AND ACCOUNTABILITY OF PERSONNEL RESPONSIBLE FOR SAFETY

2.1.1 General ES&H Responsibilities

ECC's Corporate Environmental Safety and Health Program (CESHP) specifies that all ECC personnel are responsible for ES&H, with ES&H responsibility starting with the President of ECC and radiating outward to all management, administrative, operations, and field personnel. To achieve this philosophy, ECC empowers all personnel with stop work authority regarding known or potential ES&H issues. Additionally, all ECC personnel are held accountable for performing their assigned tasks in a manner that ensures continuous, active hazard evaluation and safe task performance.

2.1.2 Key ES&H Personnel

The key personnel at ECC that are responsible for safe project performance include:

- ECC's V.P of Environmental Safety and Quality (VPESQ);
- ECC's V.P. Director of Operations;
- The Project Safety and Health Manager (PSHM)
- The Project Manager (PM);
- The project Site Manager (SM);
- The project Senior Unexploded Ordnance (UXO) Supervisor (SUXOS);
- The Site Safety and Health Officer (SSHO) [for munitions and explosives of concern (MEC) operations, this individual is also a UXO Safety Officer (UXOSO)];
- The project Team Leaders; and
- The field personnel.

The ES&H responsibilities of the personnel filling the roles listed above are presented in detail in Section 4.0 of the SSHP in Attachment 1 of this APP.

2.2 LINES OF AUTHORITY

As a part of its corporate structure, ECC has developed a system whereby the lines of authority for personnel responsible for operations and ES&H are separate. All issues related to on-site operations regarding production, and resources are handled initially on site by the SUXOS who reports to the PM. Issues that cannot be handled by the PM are delegated to the Directory of Operations who gets authority from the President of ECC. While ES&H is the responsibility of all personnel, the SSHO is the on-site representative of ECC VPESQ. As such, the SSHO is responsible for ensuring overall compliance by site personnel and to maintain autonomy, the SSHO reports directly to the PSHM for ES&H issues.

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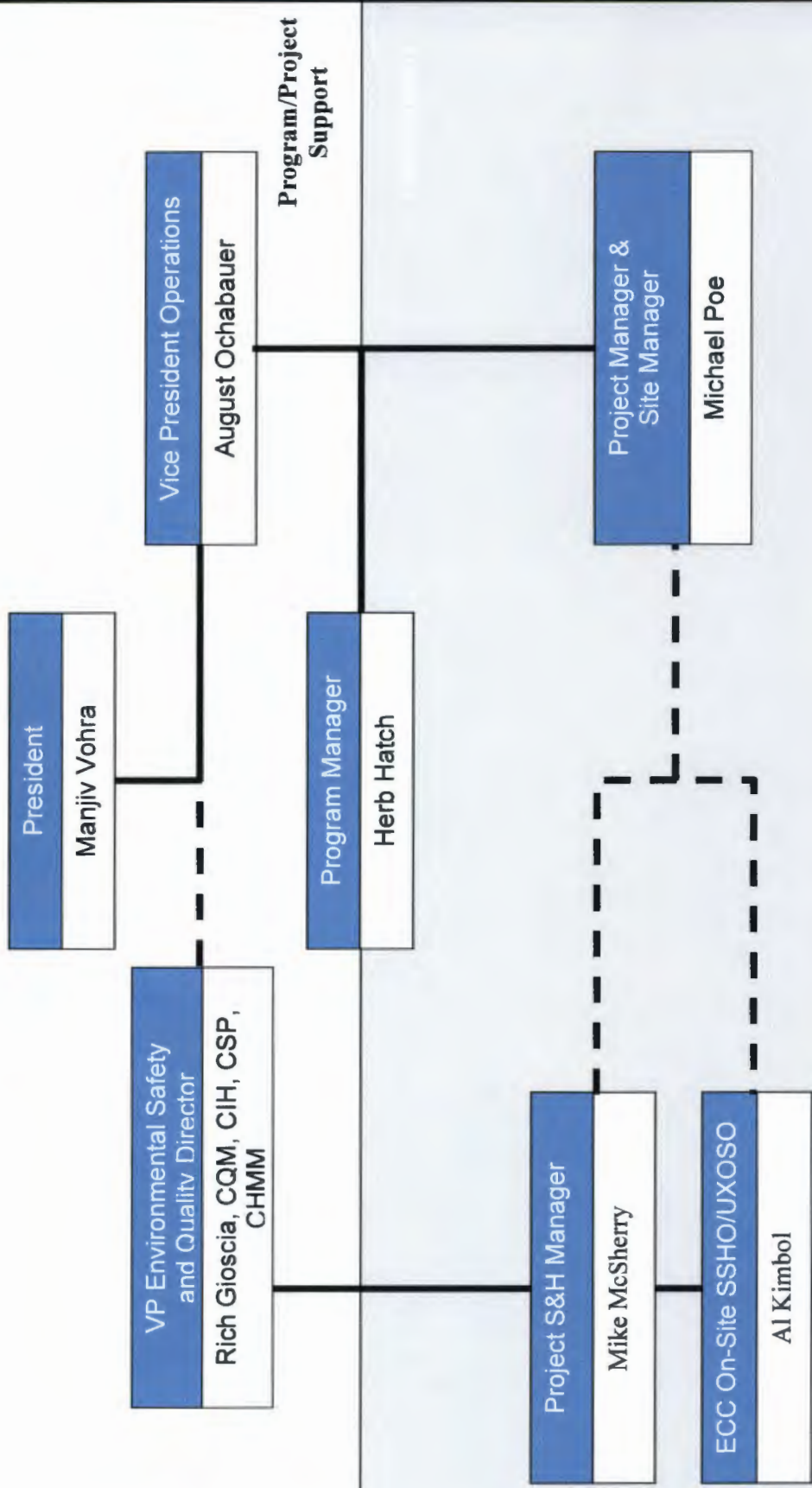


Figure 2-1 ECC's Project Safety and Health Organization



Date	Description	Particulars	Debit	Credit	Balance
1900	Jan 1	Balance			
1900	Jan 15	To Cash	100.00		100.00
1900	Jan 20	By Cash		50.00	50.00
1900	Jan 25	To Cash	200.00		250.00
1900	Jan 30	By Cash		150.00	100.00
1900	Feb 1	Balance			100.00
1900	Feb 10	To Cash	75.00		175.00
1900	Feb 15	By Cash		100.00	75.00
1900	Feb 20	To Cash	125.00		200.00
1900	Feb 25	By Cash		150.00	50.00
1900	Feb 30	Balance			50.00
1900	Mar 1	Balance			50.00
1900	Mar 10	To Cash	100.00		150.00
1900	Mar 15	By Cash		75.00	75.00
1900	Mar 20	To Cash	150.00		225.00
1900	Mar 25	By Cash		100.00	125.00
1900	Mar 30	Balance			125.00
1900	Apr 1	Balance			125.00
1900	Apr 10	To Cash	200.00		325.00
1900	Apr 15	By Cash		150.00	175.00
1900	Apr 20	To Cash	100.00		275.00
1900	Apr 25	By Cash		100.00	175.00
1900	Apr 30	Balance			175.00
1900	May 1	Balance			175.00
1900	May 10	To Cash	150.00		325.00
1900	May 15	By Cash		100.00	225.00
1900	May 20	To Cash	100.00		325.00
1900	May 25	By Cash		150.00	175.00
1900	May 30	Balance			175.00

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3.0 SUBCONTRACTORS AND SUPPLIERS

3.1 IDENTIFICATION OF SUBCONTRACTORS AND SUPPLIERS

ECC intends to subcontract fence construction, surveying, laboratory analytical, transportation, building reactivation tasks, and disposal services associated with this project. To support site operations, ECC will utilize several local and out-of-area subcontractors and suppliers, including, but not limited to:

- Terra PMC, team partner for work plans, reporting and drum removal;
- Sun Mesa Enterprises for surveying services;
- Navajo Nation Archaeological Department and Zuni Cultural Resource Enterprise for cultural resource identification and monitoring;
- Gallup Fence and Construction Company for fence construction;
- Local or regional companies for the transportation and disposal of waste materials;
- HASA Construction Company for building renovation;
- Rental car companies for the acquisition of site vehicles; and
- Local suppliers for heavy equipment, generators, etc.

3.2 CONTROL AND COORDINATION OF SUBCONTRACTORS AND SUPPLIERS

Control of subcontractors and suppliers will be maintained by ECC's site control plan as implemented by the SM. Suppliers and subcontractors wishing access to the site will be required to notify the SM of their arrival and sign in with the SM. The SM will then be responsible for ensuring that deliveries are made and equipment is properly stored and secured. The SM will also ensure that all site related personnel and subcontractors are properly trained (i.e. 3-day On-Site Training) and have read and understood the SSHP (i.e. Signed SSHP Review Form).

3.3 SAFETY RESPONSIBILITIES OF SUBCONTRACTORS AND SUPPLIERS

As a part of ECC's subcontractor agreement and purchase order system, subcontractors agree to conduct their operations IAW ECC's site plans and applicable Federal, state and local ES&H requirements. Enforcement of these requirements will be made by the SM with consultation and coordination by the SSHO and PSHM. All subcontractors and suppliers will be responsible for providing adequately trained and experienced personnel who arrive at the site with appropriate equipment that is in safe operational condition. Subcontractors or suppliers that arrive at the site with inadequate or defective equipment will be required to remove such items from the site and will not be allowed to perform affected operations until such time as operationally safe equipment is used. Additionally, the subcontractor and suppliers will agree to inform the SM of any hazardous activities they are required to conduct prior to its performance to allow the SM and SSHO to assess the task to ensure all hazards are identified and controlled by procedures in either this APP or the SSHP.

4.0 TRAINING

4.1 SUBJECTS TO BE DISCUSSED IN THE SAFETY INDOCTRINATION/SSHP REVIEW

As required by OSHA in 29 CFR 1910.120(i) and 1926.65(i), ECC will provide all site personnel with hazard communication training (Section 5.12 of the SSHP) prior to their participation in site operations. The SM will also ensure that all site related personnel are properly trained (i.e. 3-day On-Site Training) and have read and understood the SSHP (i.e. Signed SSHP Review Form). All required site-specific training is outlined in Section 5.0 of the SSHP. In addition, hazard/risk analysis (Section 3.0 of the SSHP) will be addressed in the safety indoctrination. Copies of all site related ES&H forms can be found in Attachment 4.

4.2 MANDATORY TRAINING/CERTIFICATIONS APPLICABLE TO PROJECT

The mandatory training requirements and required certifications are provided in Section 5.0 of the SSHP. A copy of the Safety Indoctrination Form, SSHP Review Form and the 3-Day On-Site Training and Hazard Information Training Log are included in Attachment 4. At least two on-site personnel will have first aid/CPR certification. Copies of these certifications will be maintained on-site as part of the on-site project files.

4.3 IDENTIFY REQUIREMENTS FOR EMERGENCY RESPONSE TRAINING.

All ECC personnel involved with responding to an on-site emergency will be briefed in their roles and responsibilities as part of the initial indoctrination training discussed in paragraph 4.1 above. During this training, ECC personnel will be briefed on emergency equipment and first aid procedures found in Section 14.0 of the SSHP. ECC personnel will also be briefed on emergency response and contingency procedures presented in Section 15.0 of the SSHP. This training will be documented and will also involve a documented rehearsal of the emergency response plan prior to the start of site activities.

4.4 REQUIREMENTS FOR SUPERVISOR/EMPLOYEE SAFETY MEETINGS

ECC will conduct a daily safety briefing (Section 5.15 of the SSHP) to address potential site and task hazards prior to the deployment of personnel each day. This briefing will be conducted by the SM and augmented by the SSHO. During this briefing, all ECC and subcontractor personnel will be briefed on the tasks to be conducted that day, the hazards associated with the tasks, and the mitigation methods that will be employed by site personnel to reduce or eliminate their risk of exposure.

5.0 SAFETY AND HEALTH INSPECTIONS

5.1 DAILY AND WEEKLY SAFETY INSPECTIONS AND AUDITS

Daily inspections shall be conducted by both the SM and the SSHO to ensure that site operations and personnel are complying with this APP, the SSHP, and other regulatory requirements. The results of these inspections shall be recorded in the Safety Log and documented on the ECC Safety Inspection and Audit Log form. Any site or operational discrepancies identified will be noted on this form, and the results of the inspection shall be reported to the PSHM and the SM. On a weekly basis, the SSHO shall conduct a compliance audit of the site. This audit will also be noted in the Safety Log and then documented on the ECC Safety Inspection and Audit Log.

Results of the daily and weekly inspections, including deficiencies, will be posted on a safety bulletin board that is accessible to all site personnel.

5.2 PERIODIC CORPORATE SAFETY AND HEALTH INSPECTIONS

During the course of this project, it is anticipated that the ECC PSHM will make periodic inspections of the project to ensure initial and continued compliance of the project with applicable MEC, safety, and health regulations. During these inspections, the PSHM will be escorted by the SSHO and together the two will comprise the Corporate Safety Inspection Team (CSIT). ECC views the audits conducted by the PSHM to be essential to the safe and healthful performance of site operations. On an as needed basis, other ECC management personnel may be included in the CSIT. The results of these inspections will be posted on the site safety bulletin board.

5.3 DEFICIENCY TRACKING AND FOLLOW-UP

Any deficiencies noted during a site inspection or audit will be reported to the CESHM who will then ensure that the deficiency is entered into an ECC site deficiency tracking log. This log annotates the nature and extent of the deficiency, the required corrective actions, the person(s) responsible for correcting the deficiency, and the date the deficiency is corrected.

5.4 EXTERNAL INSPECTIONS/CERTIFICATIONS REQUIRED

ECC will have all necessary documentation/certifications on site through out the duration of the project, in case of any external inspection. Certifications will be posted on the site safety bulletin board.

6.0 SAFETY AND HEALTH EXPECTATIONS, INCENTIVE PROGRAMS, AND COMPLIANCE

ECC's accident experience goal for this project is to perform this project without accident or defect. To facilitate this goal, ECC will implement the requirements of this APP, the attached SSHP, the ECC CESHP, and the Standard Operating Procedures (SOPs) in Attachment 3 of this APP. Additionally, ECC shall make all project and site management personnel aware of this goal and shall empower all site personnel with stop work authority for known or potential uncontrolled safety hazards.

6.1 ECC'S SAFETY INCENTIVE PROGRAM

ECC does not currently implement a formal safety incentive program.

6.2 POLICIES AND PROCEDURES REGARDING NONCOMPLIANCE

6.2.1 General Requirements

As outlined previously in this APP, designated corporate and on-site personnel have been tasked with the overall responsibility of ensuring the safe and healthful conduct of site operations. Additionally, ECC has expended significant energy and resources toward the design and development of written programs and procedures used to safe guard site personnel from the hazards associated with this project. It is imperative that site personnel realize that their compliance with established safety and health procedures is of paramount importance in the prevention of accidents and emergencies that could compromise their safety and health, and also the well being of other site personnel, the environment, and the public. Because violations of the safety and health procedures and programs outlined in either this APP or the SSHP can result in serious personal injury, illness or environmental insult, personnel violating the safety or health requirements of this SSHP may be subject to disciplinary action.

6.2.2 Safety and Health Violations

It is the general policy of ECC that no personnel engage in any activity for which: 1) they are not properly trained; 2) the consequences of the activity are uncertain; or 3) the activity hazards have not been assessed. As deemed necessary, the SSHO may impose other prohibitions to ensure the safe conduct of operations. The prohibitions presented below are strictly forbidden at any time, during any on-site operation, with violation of these possibly resulting in termination of employment.

- Horseplay or fighting
- Use of alcohol on site or during the period from mobilization to the site each day, until demobilization from the site each workday
- Illegal use of drugs
- Use of prescription or over-the-counter medications without SSHO approval
- Eating, drinking, or smoking in a work zone (WZ) without prior approval of the SSHO

- Unnecessary sitting or kneeling on potentially contaminated surfaces
- Climbing on/over obstacles unless this approved by the SSHP or SSHO
- Starting/maintaining an open flame of any type unless authorized by the SSHO
- Use of equipment that has not been inspected and deemed safe for operation
- Entry into a work site without prior approval of the SM
- Initiation of work without the presence of a buddy
- Failure to report an incident that results in personal injury or property damage

6.2.3 Disciplinary Actions

If a CSHP, APP or SSHP nonconformance occurs, appropriate positive disciplinary action will be taken. In all cases where a potential violation has been reported, the SSHO in conjunction with the SM will conduct an investigation to validate the report and to determine the severity of the violation. Violations will be divided into two categories: major and minor. An example of a minor violation is reporting to or conducting work without the prescribed personal protective equipment (PPE). A major violation is any violation of the SSHP that could have resulted, or did result, in an accident involving personal injury or property damage. Table 6-1 outlines the disciplinary actions and procedures to be followed if a noncompliance issue results from personnel actions.

TABLE 6-1: DISCIPLINARY ACTIONS FOR MINOR AND MAJOR VIOLATIONS

MINOR VIOLATION ISSUES	
First Offense:	A verbal warning will be given to the individual; the offense to be noted in individual's file and supervisor's project file; a discussion with the individual's supervisor or Team Leader will be conducted.
Second Offense:	Written reprimand by the SM will be entered in individual's file; discussion with individual and individual's supervisor.
Third Offense:	Potential termination of employment as determined by the PM or other members of ECC management
MAJOR VIOLATION ISSUES	
Any Offense:	Minimum penalty for a major violation will consist of a written reprimand being entered in individual's file and a discussion between the individual and the SUXOS being conducted. Depending upon the severity of the violation, the SUXOS may temporarily dismiss the individual from the job site pending further investigation of the offense. Major violations immediately be reported to the PM and PSHM by the SSHO or SM. Upon completion of a full investigation, the individual's employment may be terminated, if deemed appropriate by the PM or other members of ECC management .

Dear Sir,
I have the pleasure to inform you that your application for the position of [Job Title] has been reviewed and we are pleased to offer you the position on the following terms:
[Details of offer]

Yours faithfully,
[Signature]
[Name]
[Title]

[Redacted line]

[Redacted line]

[Redacted text block]

7.0 ACCIDENT REPORTING

7.1 EXPOSURE DATA

On a monthly basis the ECC PM will coordinate with the ECC PSHM to ensure the acquisition and presentation of the exposure data. This will include the number of man hours expended toward the contract and any reportable accidents that occurred during the month and that have accumulated since the project start.

7.2 ACCIDENT INVESTIGATIONS REPORTS AND LOGS

Any incidents that require medical attention other than first aid will be reported to the on-site USACE representative as soon as possible but not more than 24 hours of the incident. This will be accompanied by a Contractor Accident Notification (See Attachment 2). Accidents/incidents which result in a fatality, any on-site or off-site medical treatment of employees, lost workdays, and/or property damage assessed at a cost of \$2,000 or more shall be reported to the Contracting Officer (CO)/Contracting Officer Representative (COR). Initial reporting by the SM will be telephonically to the ECC PM and by the SSHO to the PSHM or VPESQ. The ECC PM will then report the incident to the CO/COR as soon as possible after the PM learns of the incident.

ECC will then initiate an accident investigation by the SM with the assistance from the SSHO, and the SM will initiate the completion of the appropriate accident reporting forms, to include the ENG-3394. The ECC PM and PSHM will review the initial data presented on the accident report forms and will ensure they are complete and accurate prior to their submission to the CO/COR. The initial draft of USACE Eng-3394 form, with supporting documentation will be submitted to the CO/COR within five working days after the date the incident occurred.

7.3 IMMEDIATE NOTIFICATION OF MAJOR ACCIDENTS

In the event of an accident that requires off-site treatment or any incident that could bring adverse attention or publicity to FWDA, the ECC PM will notify the CO/COR immediately. In the event of a fatality or a serious incident resulting in the hospitalization of three or more personnel, the USACE H&S Officer, Madeline Morgan, will be notified at (817) 886-1316 or (817) 233-2700. A draft copy of ECC accident report form will be completed and forwarded by ECC within 24 hours of the incident. Additionally, ENG 3394 will be completed and forwarded to the CO/COR within five days.

8.0 MEDICAL SUPPORT

The medical support and surveillance program applicable to this project is provided in Section 7.0 of the SSHP.

9.0 PERSONAL PROTECTIVE EQUIPMENT

The PPE plan applicable to this project has been included in Section 6.0 of the SSHP.

10.0 APPLICABLE PLANS/PROGRAMS/PROCEDURES

Because an SSHP has also been developed for this project, the majority of applicable plans, programs and procedures have been addressed in the SSHP. Where a specific element does not apply to this project, a negative statement has been added below.

10.1 LAYOUT PLANS

Plans for the mobilization and set-up of temporary facilities at the site are discussed in the ECC WP. Trailers and other temporary structures used as field office or storage shall be anchored with rods and cables or steel straps with ground anchors such that the system will withstand expected wind conditions. The anchoring system will meet State and local standards for anchoring mobile trailer homes.

10.2 EMERGENCY RESPONSE PLANS

The site emergency response and contingency plans covering the following procedures are presented in Section 15.0 of the SSHP. The Wildfire Prevention Plan and the Man Overboard/Abandon Ship plans required by the DID are not required for this project.

1. Procedures and Tests
2. Spill Plans
3. Firefighting Plan
4. Posting Of Emergency Telephone Numbers

Section 15.0 of the SSHP will address emergency response issues such as fire, inclement weather, explosions and personal injury and illness associated with site activities and on-site chemical, physical or biological hazards.

Emergency personnel will be notified in advance of any work activities conducted at FWDA. In the event of an emergency, the telephone numbers for all emergency services and contacts are listed in Table 15-1 of the SSHP (Attachment 1). These phone numbers shall be posted in the office/break area, and all site personnel shall be aware of the procedures for obtaining off-site emergency services. As indicated in the SSHP, in addition, a map showing evacuation routes is provided as Figure 15-1 in the SSHP.

10.3 HAZARD COMMUNICATION PLAN

The Hazard Communication Plan for this project is presented in Section 5.12 of the SSHP.

10.4 RESPIRATORY PROTECTION PLAN

The Respiratory Protection Plan for this project is presented in Section 6.7 of the SSHP.

10.5 HEALTH HAZARD CONTROL PROGRAM

The SSHP attached to this APP meets the requirements of the Health Hazard Control Program as outlined in EM 385-1-1, Paragraph 06.A.02.

10.6 LEAD ABATEMENT PLAN

This plan is not required for this project.

10.7 ASBESTOS HAZARD ABATEMENT PLAN

This plan is not required for this project.

10.8 ABRASIVE BLASTING

This plan is not required for this project.

10.9 CONFINED SPACE

This plan is not required for this project.

10.10 HAZARDOUS ENERGY CONTROL PLAN

The hazardous energy control plan for this project is presented in Section 5.13 of the SSHP.

10.11 CRITICAL LIFT PROCEDURES

This plan is not required for this project.

10.12 CONTINGENCY PLAN FOR SEVERE WEATHER

The severe weather plan for this project is presented in Section 15.9.4 of the SSHP.

10.13 ACCESS AND HAUL ROAD PLAN

This plan is not required for this project.

10.14 DEMOLITION PLAN

This plan is not required for this project.

10.15 EMERGENCY RESCUE FOR TUNNELING

This plan is not required for this project.

10.16 UNDERGROUND CONSTRUCTION FIRE PREVENTION/PROTECTION PLAN

This plan is not required for this project.

10.17 COMPRESSED AIR PLAN

This plan is not required for this project.

10.18 FORMWORK AND SHORING ERECTION AND REMOVAL PLANS

This plan is not required for this project.

10.19 LIFT SLAB PLANS

This plan is not required for this project.

10.20 SSHP

The SSHP for this project is contained in Attachment 1 of this APP.

10.21 BLASTING PLAN

This plan is not required for this project.

10.22 DIVING PLAN

This plan is not required for this project.

10.23 PREVENTION OF ALCOHOL AND DRUG ABUSE

10.23.1 Introduction

The Drug-Free Workplace Act of 1988 set as a goal the elimination of the effects of illegal drugs in the workplace. Because of the inherently hazardous nature of the work performed by ECC personnel, the importance of creating and maintaining a safe drug-free working environment is paramount. The performance of every employee must, at all times, support the company's mission to conduct site operations with a high level of productivity, reliability, judgment, and safety.

The management of ECC is thoroughly committed to providing a drug-free workplace for all employees. Drug and/or alcohol use and abuse are incompatible with ECC's high standards of performance, safety, and quality. As a term of employment, maintenance of these standards is expected of all employees, and all employees will refrain from the use, distribution, possession, manufacture, or dispensing of a controlled substance, and drug and/or alcohol abuse. Violation of this policy may result in administrative action to include the possible termination of employment.

10.23.2 Substance Use and Abuse Policy

Employee drug or substance use or abuse testing/screening conducted by ECC in support of this policy will be conducted at no expense to the employee, and, except for drug/substance use testing conducted for pre-employment, employees will receive reasonable compensation for the time required for participation in any drug or substance testing/screening. The drug or substance uses for which ECC may conduct testing includes, but are not limited to: amphetamines, barbiturates, cocaine metabolites, methadone, opiates, phencyclidine (PCP), and ethyl alcohol. As a matter of policy, ECC will strictly implement and enforce the policies listed below.

1. No employee will report for work, or will work, impaired by any authorized or controlled substance, except with management's prior approval. Such approval will be limited to lawful medications, based on an assessment of the employee's ability to perform their regular or other assigned duties safely and efficiently.
2. No employee will use any alcohol or controlled substance on site.
3. Applicants for employment are subject to substance abuse screening as part of their baseline or pre-assignment physical examinations. Refusal to submit to such screening will disqualify an applicant from employment.
4. All ECC employees are subject to substance abuse screening at any time as directed by the CESHM or on a random, nondiscriminatory basis. Refusal to submit to such screening will result in removal from the project site and/or termination of employment. Substance use or abuse screening may be conducted whenever there is reasonable evidence to suspect any employee has reported to work in an impaired condition or is working impaired, or when an employee is involved in either a job-related accident or job-related incident involving the apparent use or abuse of any substance listed in this section.

10.23.3 Prescription Medications

ECC project personnel may possess and use prescription medications and "over-the-counter" medications provided that all of the following apply:

1. The prescription medication has been prescribed by an authorized medical practitioner for the current use (within the past 12 months) of the employee, and the medication is in its original container with a valid pharmacy label that includes the employee's name and the physician's name.
2. The employee does not consume the prescribed, or over-the-counter, medication in quantities greater than, or more frequently than that prescribed.
3. Employees in possession of prescribed medications shall not allow any other person to consume any amount of their prescribed medication.
4. In the event that the prescribed medication could cause adverse side effects, or where the medication indicates warnings relevant to side effects affecting the operation of equipment or machinery, the employee shall inform the SM and/or SSHO prior to engaging in project operations while under the influence of the medication (i.e., having taken the medication within the past 12 hours).

While the on-site use of prescription and over-the-counter medications is authorized, under the requirements listed above, ECC reserves the right to have a licensed physician determine if the employee's use of the medication could adversely affect the individual or

could increase the potential for injury or illness to the employee or other site personnel. If consumption of the medication could lead to adverse safety or health effects, the PSHM may, on the advice of the licensed physician, limit or suspend the employee's work activities. Any employee who has been limited or suspended from work activities may seek from the prescribing physician a substitute medication that will not adversely affect the potential for injury or illness to the employee or other site personnel. If a suitable substitute can be prescribed, and is approved, the CESHM may lift the work activity suspension or limitation.

10.23.4 Suspicion Inspections and Testing

For the purposes of ensuring compliance with the prohibition against the unauthorized possession of controlled substances, employees will be subject to random and reasonable suspicion inspections and testing. An employee's company clothing, locker, closet, work area, desk files, company motor vehicle, and similar areas are subject to inspection. Similarly, an employee's privately owned vehicle, lunch box, and like containers are subject to such inspections when brought to any work site. At no time will an employee be physically touched during an inspection, and only outer clothing will be required to be removed for inspection or search. No person or property search (except for searches of ECC-owned, rented, or leased properties), urine drug test, or Breathalyzer test will be conducted without the employee's consent. Refusal to submit to a legal inspection, or request for testing, will result in employee removal from participation in site activities until further inspection or testing can determine the potential for prohibited drug or substance use or abuse.

10.24 FALL PROTECTION PLAN

The fall prevention plan for this project is presented in Section 10.10 of the SSHP.

10.25 STEEL ERECTION PLAN

This plan is not required for this project.

10.26 NIGHT OPERATIONS PLAN

This plan is not required for this project.

10.27 SITE SANITATION PLAN

The site sanitation plan for this project is presented in Section 12.0 of the SSHP.

10.28 FIRE PREVENTION PLAN

The fire prevention plan for this project is presented in the WP and also in Sections 15.9.1 and 15.9.2 of the SSHP.

ATTACHMENT 1
SITE SAFETY AND HEALTH PLAN

100-100000-100000

ATTORNEY

GENERAL COUNSEL



SITE SAFETY AND HEALTH PLAN SIGNATURE SHEET

Project: Installation of Fencing on the Western and Northern Boundary of Parcel 3

Site: Fort Wingate Depot Activity, Gallup, New Mexico

The Site Safety and Health Plan (SSHP) presented in this document has been developed for the U.S. Army Corps of Engineers (USACE), Fort Worth District as part of ECC's site-specific Work Plan (WP) developed in support of the Scope of Work for the above referenced project. The ECC personnel referenced below have reviewed and approved this SSHP for implementation once approval has been received from USACE. Procedures for the submission, approval, integration and implementation of changes to this SSHP are discussed within the body of the SSHP and will be followed whenever a change will significantly impact the safety of site personnel, the environment or off-site personnel.

Reviewed and Approved by: Michael Poe Date: 4-12-06

Project Manager

Reviewed and Approved by: Michael Poe Date: 4-12-06

Site Manager

Reviewed and Approved by: Wendy Reinhard Date: 04/13/06

Site Safety and Health Officer

Reviewed and Approved by: Michael P. McHenry Date: 2006.04.13 08:52:13 -04'00'

Program Health and Safety Manager

Reviewed and Approved by: Richard Gioscia Date: 2006.04.13 09:17:59 -06'00'

Program/Project Quality Control Manager

SECRET

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1.0 INTRODUCTION

This Site Safety and Health Plan (SSHP) has been prepared as an attachment to the Accident Prevention Plan (APP) for Installation of Fencing on the Western and Northern Boundary of Parcel 3 at Fort Wingate Depot Activity (FWDA), and has been developed to meet the U.S. Army requirements as outlined in the Section 01.A.09 of the U.S. Army Corps of Engineers (USACE) Engineering Manual (EM) 385-1-1, Safety Manual. EM 385-1-1 is the primary safety guidance document to which all site activities conducted by ECC at FWDA will adhere. ECC and all subcontractors will be responsible for complying with EM 385-1-1, followed by the APP and this SSHP, which are intended to supplement EM 385-1-1.

The APP and this SSHP have also been developed in accordance with (IAW) the U.S. Army Engineering and Support Center, Huntsville (CEHNC) Data Item Description (DID) MR-005-06.

The APP will act as ECC's environmental, safety and health (ES&H) document for this project, with this SSHP being used to contain site-specific data and procedures. Other ES&H documents referenced in this SSHP, such as Activity Hazard Analysis (AHA) forms, Standard Operating Procedures (SOPs), and ECC ES&H forms, are also included as attachments to the APP.

1.1 GENERAL

ECC corporate policy requires the use of all feasible hazard controls when there is a potential for personnel exposure to chemical, physical, or biological hazards. To implement this policy, ECC has developed and implements a comprehensive Corporate Environmental Safety and Health Program (CESHP). This program has been designed and developed by ECC's VP of Environmental Safety and Quality (VPESQ) with the support and consultation of ECC's senior Munitions and Explosives of Concern (MEC) and environmental management personnel. The ECC CESHP was developed to comply with the requirements of the Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) standards found in 29 Code of Federal Regulations (CFR) 1910.120 and 29 CFR 1926.65. The ECC CESHP not only meets the requisite OSHA requirements, but also meets the applicable requirements of the standards, regulations, and references listed below in Section 1.5.

1.2 SITE SAFETY AND HEALTH PLAN

1.2.1 Scope

ECC has developed this SSHP as an attachment to the APP installation of fencing on the western and northern boundary of Parcel 3 at Fort Wingate Depot Activity (FWDA). In addition to fence installation, the SOW also includes characterization and removal of two drums located in Parcel 3, upgrades to the FWDA communication system, and reactivation of a portion of an existing office building (Building 1).

The SSHP addresses the requirements of 29 CFR 1910.120(b)(4)(ii), 29 CFR 1926.65(b)(4)(ii), EM 385-1-1, Engineering Regulation (ER) 385-1-95, and any other applicable Federal, state, and local safety and health requirements. Additionally, this SSHP has been designed to meet the requirements in the U.S. Army Engineering and Support Center, Huntsville (CEHNC) Data Item Description (DID) MR-005-06. This DID outlines the requirements for an APP, and Section 2 of this DID requires the development

of a SSHP as an attachment to the APP. The level of detail required in the SSHP has been tailored to the type of work, complexity of operations to be accomplished, and the hazards anticipated. The SSHP addresses those elements, which are specific to the site and ECC's scope of work, and have the potential for negative effects on the safety and health of workers, the environment and the public.

1.2.2 Objective

The primary objective of this SSHP is to provide ECC with an effective tool for the anticipation, identification, evaluation, control, and/or elimination of recognized safety and health hazards anticipated for the operations conducted at FWDA. The secondary objective of this SSHP is to provide ECC with an effective communication medium for providing site personnel task-specific and site-specific hazard information, as well as hazard control information they will use to mitigate or eliminate the risks of exposure to site and task hazards. For those emergencies that may reasonably occur, contingency plans and emergency response procedures have been developed and are presented in this SSHP.

1.2.3 SSHP Approval and Compliance by Site Personnel

All ECC, subcontractor, and Government personnel involved in this project shall carefully read this document prior to participation in any on-site tasks that involve potential exposure to on-site safety or health hazards. Questions related to the information in this SSHP will be addressed to, and resolved by, the ECC Site Safety and Health Officer (SSHO), with consultation from the VPESQ if needed.

After reading this SSHP, site personnel will complete the ECC SSHP Review and Approval Form located in Attachment 4 of the APP, indicating their understanding of, and willingness to comply with, the requirements in this SSHP. All site personnel will exercise reasonable caution at all times and shall immediately report to the SSSH any site conditions which may pose a safety or health hazard to site personnel.

It is the responsibility of each manager, supervisor, individual employee and subcontractor to take notice of any unsafe situations and report them immediately so that proper action can be taken to eliminate them. Additionally, it is the responsibility of each employee to keep their personal safety and the safety of all site personnel uppermost in their mind at all times. Unsafe working habits, horseplay, etc., which could endanger the health and safety of others, will not be tolerated. Disciplinary action up to and including termination will result from such actions.

1.2.4 Changes to the Approved SSHP

The levels of personal protective equipment (PPE) and the safe work practices (SWPs) specified in this plan are based on the best available information, archival data, anticipated site conditions, and professional experience gained from operations ECC has performed previously at similar sites. It is understood that this SSHP is a living document, and the actual on-site implementation of site tasks may facilitate changes in PPE, monitoring, SWPs, or other elements of the SSHP.

As such, this SSHP includes provisions for changing the levels/types of PPE used and monitoring procedures. These pre-approved changes are based upon anticipated site conditions and will be used only if applicable action levels and conditions are met and

documented. Requests to downgrade or upgrade PPE or monitoring requirements will be made by the SSHO to the Project Health and Safety Manager (PHSM) and may be implemented once the ECC PHSM has provided written approval.

If a previously un-assessed task is identified, or a proposed change requires a written revision of the SSHP, the ECC Site Manager (SM) or Project Manager (PM) will submit a written request for change to the ECC PHSM, along with attached documentation. Approved changes to the SSHP and the modified pages of the SSHP will be forwarded to the SM and PM upon approval by the PHSM. Notification and update pages will also be sent to the FWDA BEC and USACE by the ECC PM. If a proposed change involves the addition of a previously un-assessed task or significantly impacts the safety of on-site personnel, off-site personnel, or the environment, a written request for approval will be submitted. Changes of this nature will not be allowed until written approval from FWDA BEC has been received and any necessary changes have been made to the APP or SSHP.

1.2.5 Regulations and References

The applicable regulations and references listed below will be used in conjunction with this SSHP to ensure the safety and health of on-site personnel and the local community.

- USACE EM 385-1-1 Safety Manual (most current version).
- Current versions of the OSHA General Industry (29 CFR 1910) and Construction Standards (29 CFR 1926).
- National Institute of Occupational Safety and Health (NIOSH) Occupational Safety and Health Guidance for Hazardous Waste Site Activities, U.S. Department of Health and Human Services, , October 1985.
- American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs[®]) and Biological Exposure Indices (BEIs[®]), 2005.
- NIOSH Pocket Guide to Chemical Hazards, No. 97-140, Current edition.
- The ECC CESHP (this document will be on site and available to site personnel during the project).
- USACE ER 385-1-92, Safety and Occupational Health Requirements for Hazardous, Toxic and Radioactive Waste (HTRW) Activities, July 2003.
- USACE ER 385-1-95, Safety and Health Requirements for Ordnance and Explosives (OE) Operations, 16 June 2003.
- USACE Engineering Pamphlet (EP) 385-1-95a, Basic Safety Concepts and Considerations for Munitions and Explosives of Concern (MEC) Response Action Operations, 27 August 2004.
- DDESB TP 18, Qualifications for Unexploded Ordnance (UXO) Technicians and Personnel, 20 December 2004.

- Department of Defense (DOD) 6055.9-STD, Ammunition and Explosive Safety Standard, Rev 5, dated 5 October 2004.

2.0 SITE DESCRIPTION AND CONTAMINATION CHARACTERIZATION

2.1 SITE DESCRIPTION

FWDA is situated in northwestern New Mexico, in McKinley County. As shown in Figure 1, the installation is located 8 miles east of Gallup, and approximately 130 miles west of Albuquerque on U.S. Route 66 (Figure 1, Work Plan Appendix B). As part of planned property transfer to the U.S. Department of Interior (DOI), the installation has been divided into parcels (see Figure 2, Work Plan Appendix B); the fences to be constructed under the current SOW are located on or near the western and northern boundaries of Parcel 3. A site map of Parcel 3 showing proposed fence alignments is shown in Figure 3 (Work Plan Appendix B). The western parcel boundary is also the installation boundary; the land to the west is mostly undeveloped tribal trust and allotment land administered by the Bureau of Indian Affairs (BIA), Navajo Nation, and individual Native American allottees.

2.1.1 Site History

FWDA is an inactive U.S. Army depot whose former mission was to store, ship, and receive material and to dispose of obsolete or deteriorated explosives and military munitions. Since 1975, the installation has been under the administrative command of the TEAD, in Tooele, Utah. The active mission of FWDA ceased and the installation closed in January 1993, as a result of the Defense Authorization Amendments and Base Realignment and Closure Act (BRAC) of 1988; the installation has been in caretaker status since 1993.

As described above, part of the FWDA mission was to demilitarize unserviceable, obsolete, and/or waste explosives, propellants, munitions and munitions components. Some of these demilitarization activities were accomplished by thermal treatment [open burning (OB) or open detonation (OD)] in the OB/OD Area. Related materials were also treated in the OB/OD Area, including objects that were potentially contaminated with explosives during storage and handling, such as shipping containers and dunnage.

OB was used to treat energetic wastes by self-sustained combustion. Typical materials treated by OB include bulk propellants and energetic materials that were not detonable and/or could be burned without causing an explosion. Dunnage was often added to aid burning.

OD was used to destroy detonable energetic materials and munitions. Disposal charges were used to initiate detonations. OD was conducted in detonation craters on the ground surface or under earthen cover to minimize fragmentation dispersal.

MEC are any of the following: military munitions that are unexploded ordnance (UXO), abandoned or discarded [e.g., waste military munitions (WMM)]; soil with a high enough concentration of explosives to present an explosive hazard; or facilities, equipment, or other materials contaminated with a high enough concentration of explosives such that it presents an explosive hazard.

As shown in Figure 3 (Work Plan Appendix B), in addition to the OB/OD Unit Hazardous Waste Management Unit (HWMU), Parcel 3 contains identified Solid Waste Management

Units (SWMUs) and Areas of Concern (AOCs). As a result of the nature of OD operations, the potential exists for MEC to be present in the OB/OD Area outside the identified HWMU.

In support of previous environmental sampling and assessment tasks required to complete the RCRA closure of the OB/OD Unit, and to support construction of existing security fences, a number of MEC activities and clearance efforts have been conducted within Parcel 3 and along the western boundary of Parcel 3. A summary of all MEC items encountered in the OB/OD Area to date is presented in Table 1. All of the MEC items, including UXO, encountered to date have been removed from Parcel 3 and the adjacent area outside the installation boundary.

The Army has implemented a policy restricting maintenance, characterization, or clearance of areas known or suspected of containing Improved Conventional Munitions (ICM) or submunitions (HQDA, 2004). The specific items found in Parcel 3 that fall under this policy are the Bomb, Live Unit (BLU)-3 and BLU-4 submunitions. A waiver to this policy to allow continued environmental sampling, security patrols, and maintenance of the security fences in the OB/OD Area was requested in December 2001 (PMC, 2001) and was granted in February 2002 (HQDA, 2002). The waiver was granted for activities that can be completed by either following strict UXO avoidance methodologies or in cleared areas. The waiver does not cover UXO clearance or environmental remediation activities.

In 2001, a UXO clearance to a depth of 1-foot was performed along the alignment of the existing western barbed wire fence (USA, 2002). One UXO item (M83 butterfly bomblet) was encountered and detonated in place.

2.1.2 Site Topography

Ground surface elevations in Parcel 3 range from approximately 6,600 feet above mean sea level (AMSL) to 8,260 feet AMSL. A significant portion of the proposed fence alignment is mountainous, rocky terrain. Ground surface elevations along the proposed fence alignment range from a high of approximately 7,550 feet AMSL at the southwestern corner of Parcel 3 to a low of approximately 7,100 feet in an arroyo along the proposed northern fence alignment.

2.1.3 Site Climate

Northwestern New Mexico is characterized by a semiarid continental climate. Most precipitation occurs from May through October as localized and brief summer storms. Spring and fall droughts characterize the area.

Mean annual rainfall for the area ranges between 10 and 16 inches, while the recorded average annual precipitation for FWDA is 11 inches. Depending on local elevations, mean annual rainfall fluctuates between 8 and 20 inches. Most of the precipitation occurs as rain or hail in summer thunderstorms, and the remainder results from light winter snow accumulations.

The average seasonal temperatures for the area vary with elevation and topographic features. During winter, daily temperatures fluctuate as much as 50 to 70 degrees Fahrenheit (°F) in a 24-hour period. In summer, daily high temperatures are between 85° F

and 95°F. Average temperatures in winter are about 27°F and in summer 70°F, while extreme temperatures are as low as -30°F in winter and as high as 100°F in summer. There are 100 to 150 frost-free days during the year from the middle of May to the middle of October.

The area has generally sunny weather, with the sun shining more than 3,000 hours annually. Average relative humidity varies from 50 to 15 percent, during the wet season (fall) and the dry season (spring), respectively. During spring, the area experiences strong winds from the west and southwest, with an average wind speed of 12 miles per hour (mph). Strong winds, high temperatures, and low relative humidities in the area contribute to high evaporation rates.

2.2 DESCRIPTION OF WORK TO BE PERFORMED

Descriptions of each major task within the SOW and the hazards associated with those tasks are presented in this section. The hazards listed for each task are discussed in greater detail in Section 3.0 of this SSHP. For each hazard listed site personnel will utilize the procedures, SWPs, and PPE described in this SSHP to control or eliminate the hazards. Additionally, a task-by-task breakdown of the task hazards and their control techniques is presented in the AHA forms presented in Attachment 2 of the APP. The detailed technical approach and operational sequence for these tasks is presented in the WP.

2.2.1 Chain Link Fence Construction

2.2.1.1 Task Description

This task involves the installation of approximately 12,930 linear feet (LF) of chain link fencing along the western boundary of Parcel 3. The following general activities will be performed:

- Site preparation activities, including: anomaly and archaeological/Traditional Cultural Properties (TCP) identification and avoidance; surveying; and vegetation removal;
- Establishment of site control and work zones;
- Construction of chain link fencing; and
- Installation of warning signs.

2.2.1.2 Task Hazards

The hazards associated with this task will include those listed below. Site personnel performing activities for these tasks will use the APP, SSHP, and information provided in the daily safety briefings to safeguard themselves from these hazards.

- Explosion/fire hazards from possible MEC items;
- Exposure to high noise sources;
- Punctures and lacerations to feet, legs, arms and hands from fencing materials;

- Physical strain and lifting hazards;
- Slip, trip and fall hazards from uneven surfaces, and entering/exiting heavy equipment;
- Use of heavy equipment;
- Thermal (heat or cold) stress and other inclement weather;
- Biological hazards; and
- Hazards from use of hand or power tools.

2.2.2 Barbed Wire Fence Construction

2.2.2.1 Task Description

This task involves the installation of approximately 3,000 LF of barbed wire fencing along the northern boundary of Parcel 3. The following general activities will be performed:

- Site preparation activities, including: anomaly and archaeological/TCP identification and avoidance; surveying; and vegetation removal;
- Establishment of site control and work zones;
- Construction of barbed wire fencing; and
- Installation of warning signs.

2.2.2.2 Task Hazards

The hazards associated with this task will include those listed below. Site personnel performing activities for these tasks will use the APP, SSHP, and information provided in the daily safety briefings to safeguard themselves from these hazards.

- Explosion/fire hazards from possible MEC items;
- Exposure to high noise sources;
- Punctures and lacerations to feet, legs, arms and hands from fencing materials;
- Physical strain and lifting hazards;
- Slip, trip and fall hazards from uneven surfaces, and entering/exiting heavy equipment;
- Use of heavy equipment;
- Thermal (heat or cold) stress and other inclement weather;
- Biological hazards; and
- Hazards from use of hand or power tools.

2.2.3 Removal of Existing Barbed Wire Fencing

2.2.3.1 Task Description

This task involves the removal of portions of the existing barbed wire fencing along the western boundary of Parcel 3.

2.2.3.2 Task Hazards

The hazards associated with this task will include those listed below. Site personnel performing activities for these tasks will use the APP, SSHP, and information provided in the daily safety briefings to safeguard themselves from these hazards.

- Explosion/fire hazards from possible MEC items;
- Punctures and lacerations to feet, legs, arms and hands from fencing materials;
- Physical strain and lifting hazards;
- Slip, trip and fall hazards from uneven surfaces;
- Thermal (heat or cold) stress and other inclement weather;
- Biological hazards; and
- Hazards from use of hand or power tools.

2.2.4 Drum Removal

2.2.4.1 Task Description

This task involves the removal of two steel drums located in an arroyo within Parcel 3. The following general activities will be performed:

- Site preparation activities, including: anomaly and archaeological/TCP identification and avoidance;
- Establishment of site control and work zones;
- Excavation and evaluation of drums, and any drum contents; and
- Waste packaging, transportation, and disposal.

2.2.4.2 Task Hazards

The hazards associated with this task will include those listed below. Site personnel performing activities for these tasks will use the APP, SSHP, and information provided in the daily safety briefings to safeguard themselves from these hazards.

- Explosion/fire hazards from possible MEC items;
- Exposure to possible hazardous substances;
- Punctures and lacerations to feet, legs, arms and hands from deteriorated drums;
- Physical strain and lifting hazards;

- Slip, trip and fall hazards from uneven surfaces;
- Thermal (heat or cold) stress and other inclement weather;
- Biological hazards; and
- Hazards from use of hand or power tools.

2.2.5 Reactivation of a Portion of Building 1

2.2.5.1 Task Description

This task involves activities to reactivate a portion of Building 1 for use as a project field office. These activities include:

- Cleaning and disinfection of the 1st floor and basement;
- Repairs/maintenance to building utilities;
- Upgrade communications system;
- Repairs/maintenance of weatherproofing;
- Installation of fire extinguishers and smoke detectors;
- Upgrade exterior lighting;
- Installation of air conditioning/heater units;
- Purchase and delivery of office furniture;
- Installation of carpeting;
- Relocation of existing project files from Building 34 to Building 1;
- Purchase and delivery of maps;
- Door lock replacement; and
- Removal of moldy wall paneling and painting of wall.

2.2.5.2 Task Hazards

The hazards associated with this task will include those listed below. Site personnel performing activities for these tasks will use the APP, SSHP, and information provided in the daily safety briefings to safeguard themselves from these hazards.

- Physical strain and lifting hazards;
- Slip, trip and fall hazards from uneven surfaces;
- Thermal (heat or cold) stress and other inclement weather;
- Electrical hazards;
- Biological hazards; and
- Hazards from use of hand or power tools.

2.3 CONTAMINATION CHARACTERIZATION

Information provided by FWDA and USACE has given ECC a means of compiling a summary of hazardous substances and other contaminants that may be encountered during site operations. This information has been augmented by ECC's professional knowledge of operations conducted at similar sites.

2.3.1 Hazardous Substance Contamination

Hazardous substances are those materials that can threaten human health and/or environmental well being if the substance has been improperly disposed of or uncontrollably released into the environment. This phrase is used to describe chemical contaminants to which site personnel may be exposed as a result of the release or burial of hazardous wastes capable of causing harm to site personnel if encountered during site operations.

Although there is one HWMU and several SWMUs and AOCs located within Parcel 3, no identified sites of this type are identified with the project area; therefore, personnel should not be at risk of exposure to contaminants in the soils, sediments, or ground water, and contaminants in these media will not be addressed by this SSHP. Additional information related to the risks of exposure to hazardous substances is presented in Section 3.0 of this SSHP; PPE and other control measures are discussed in Sections 6.0 and 10.0, respectively.

2.3.2 MEC Contamination

As described in Section 2.1.1, although MEC removal actions have been performed within Parcel 3 and adjacent off-site areas, the potential for encountering MEC items remains. Additional discussion related to MEC hazards and their assessment is presented in Section 3.2.

3.0 HAZARD/RISK ANALYSIS

To ensure the safety and health of site personnel and the public, and to comply with the hazard assessment requirements of the OSHA PPE standard (29 CFR 1910.132(d)), ECC has generated an AHA form for each site task with a potential for exposure to site hazards that will require the use of engineering controls, administrative controls, or PPE to minimize or reduce worker exposure. The AHA forms for this project are presented in Attachment 2 of the APP. These AHA forms will be used by the SSHO and the team leaders to brief site personnel on the type and degree of hazard to be expected during site operations and the means site personnel will use to safeguard themselves from the hazards.

While the hazard analyses and risk assessments presented in this SSHP have been made using the best available data, all site personnel must understand that the evaluation of site characteristics and hazards is an ongoing process that will continue throughout the duration of the project and in which site personnel play a major role. All site personnel shall be vigilant in recognizing workplace hazards and bringing them to the attention of the team leader, the SSHO, and/or the SM. 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 Work Plan, the SSHO will inform the ECC PHSM of the change. If needed, a new AHA form will be completed to outline the hazards, control methods and PPE for the task. Any additions to the approved SSHP will be reviewed and approved by the responsible ECC personnel and submitted to USACE for final approval. Once approved, the changes will be added to the appropriate site plans.

3.1 CHEMICAL HAZARDS

3.1.1 On-Site Chemical Contaminants

As discussed in Section 2.3.1, exposure to contaminants with a potential for causing an occupational exposure situation is not anticipated during performance of tasks under the current SOW.

3.1.2 Risk of Exposures Task Related Chemicals

Potential for exposure may occur during tasks that require the use of products that contain hazardous materials. The products that contain hazardous constituents include: gasoline, diesel fuel, two stroke engine oil/gasoline mixtures, and spray paints. During the use of products with hazardous materials, personnel exposures will be controlled and minimized based on the limited quantities that will be used at any one time and because the products will be used in well-ventilated conditions. Additionally, the safe work practices and PPE outlined in this SSHP will be used as necessary to further reduce or eliminate the potential for personnel exposure to these hazardous constituents. If site activities are modified, or evidence of environmental contamination is found, the potential for chemical exposure will be re-evaluated.

3.2 MEC HAZARDS

As noted in Section 2.3.2, there are MEC hazards associated with the activities to be performed under the SOW. The potential for significant risk is minimized by the extreme

diligence practiced by ECC's UXO personnel to ensure that anomalies and/or surface MEC items are properly located and marked for avoidance. While there is no "safe" procedure for dealing with explosives, merely procedures which are considered least dangerous, maximum safety during MEC operations will be achieved through adherence to applicable safety precautions, use of a systematically planned and executed work approach, and intensive supervision. The safety and health procedures that will be used for reducing the hazards associated with MEC during activities under the SOW are discussed in Section 10.16 of this SSHP.

3.3 PHYSICAL HAZARDS

Based on the nature of the planned site operations, the potential and risk for exposure to physical hazards is high for this project. Physical hazards that may be encountered during site operations include:

- Flammable/explosive materials to include gasoline and diesel fuel;
- Material lifting hazards such as back strain, pulled muscles and tendons, pinched/crushed fingers and toes;
- Hazards associated with the operation of hand and power tools, including cuts/lacerations, and flying objects and debris;
- Slip, trip and fall hazards associated with exposed tree/brush stumps, uneven terrain, rocks, vegetation growth;
- Inclement weather such as snow, hail, heavy rain, thunder/lightning storms, and tornados;
- Exposure to temperature extremes;
- Use of powered hand tools
- Sharp objects that may cause cut, scrape, puncture, splinter or laceration injuries;
- Excessive noise from the operation of heavy equipment; and
- Hazards associated with heavy equipment operation, including crush hazards from equipment backing or bucket movement.

For those physical hazards associated with operating equipment and tools, personnel will receive appropriate instruction and training on the equipment use, maintenance and hazard control as specified in Section 5.0. Additionally, site personnel will be instructed to remain alert to the presence of potential physical hazards and to immediately report the observance of any previously unidentified physical hazards to their Team Leader. The Team Leader will then notify the SSO. The ECC SSO 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 control them, shall be reviewed during the daily safety briefing. General procedures for reducing or eliminating the physical hazards are discussed in Section 10.0 of this SSHP.

3.4 INCLEMENT WEATHER

Inclement weather such as severe thunder/lightning storms and high winds can have a significant impact on personnel safety and the safe performance of site operations. Site personnel will be briefed each morning to inform them of any potential weather hazards

that may be present during the day and will remain alert to the onset of inclement weather. The hazards associated with inclement weather include:

- **Heavy Rain:** Heavy rain can create working and driving hazards of which site personnel should be aware. This includes the increase in slip and fall hazards due to slick walking surfaces, and reduction in visibility. Additionally, heavy rains can cause flash flooding in low-lying areas and creek and river areas. In the event that heavy rains occur while personnel are outside, the SSHO will advise the teams to halt operations and instruct personnel to seek shelter. The determination to re-start operations will be the responsibility of the SM, who will consult with the SSHO to ensure site conditions are safe for re-entry and continuation of operations.
- **Thunderstorms:** Thunderstorms, with their associated lightning, present a significant hazard to site personnel. A severe thunderstorm watch indicates that severe thunderstorms are possible in and close to the watch area. A severe thunderstorm warning indicates that a severe thunderstorm has been spotted and is going to move through the area soon. Work may continue at the work site during severe thunderstorm watches; however, site work shall cease and the work zone (WZ) will be evacuated during a thunderstorm or severe thunderstorm warning. Additionally, work will be halted by the SSHO if lightning is detected within ten miles of the team locations.
- **High Winds:** High winds can create conditions that threaten the safety and health of site personnel, and if coupled with low humidity, can create a static electricity hazard. High winds can cut visibility by creating dust clouds and can cause trees and tree limbs to fall. The SSHO will determine when wind levels present a hazard to site personnel and will call for the evacuation of the work areas if deemed necessary. The determination to restart operations will be the responsibility of the SM in consultation with the SSHO to ensure site conditions are safe for re-entry and continuation of operations.
- **Tornados:** Tornados with their associated high winds, rain, and potentially damaging hail can create serious threats to personnel on site. If a tornado watch is reported, conditions are favorable over a large area for severe thunderstorms and tornadoes to develop, and the SSHO will notify all personnel of the danger. In the event that a tornado watch is upgraded to a tornado warning, a tornado has been detected or seen, is on the ground, moving, and is expected to move through the effected area soon. If a tornado warning is sounded, the SSHO will instruct personnel to evacuate the site immediately and take cover. Environmental clues to look for include: dark, often greenish sky; large hail; a wall of clouds; and a loud roar, similar to a freight train.

3.5 HEAT STRESS

3.5.1 Introduction to Heat Stress and Strain

During activities conducted at FWDA, hot environmental conditions can create serious safety and health threats to site workers. Heat stress is one of the most common (and potentially serious) illnesses that can affect site personnel during spring, summer and fall weather conditions. Factors that may predispose a worker or increase susceptibility to heat stress include:

- Environmental factors such as air temperature,
- Humidity, and radiant heat;

- Use of PPE that interferes with the evaporation of perspiration;
- Lack of physical fitness and lack of acclimatization to hot environments;
- Degree of hydration before and during work in hot environments;
- Level of obesity;
- Current health status (i.e., having an infection, chronic disease, diarrhea, etc.); alcohol or drug use; and
- The worker's age and sex.

3.5.2 Heat stress

Heat stress is the net heat load to which a worker may be exposed from the combined contributions of metabolic cost of work, environmental factors (i.e., air temperature, humidity, air movement, and radiant heat exchange), and clothing requirements. A mild or moderate heat stress may cause discomfort and may adversely affect performance and safety, but is not acutely harmful to health. As the heat stress approaches human tolerance limits, the risk of personnel experiencing acute heat affects increases.

3.5.3 Heat strain

Heat strain is the overall physiological response resulting from heat stress. The physiological adjustments are dedicated to dissipating excess heat from the body. Acclimatization is the gradual physiological adaptation that improves an individual's ability to tolerate heat stress.

3.5.4 Heat Stress Ailments

The greatest cause of heat related ailments is inadequate employee acclimatization and lack of adequate hydration, both of which can easily occur during project tasks. This section presents information related to the most common heat stress ailments that could adversely affect site personnel. Additional information related to prevention and treatment of heat stress is contained in the ECC Heat Stress Prevention SOP presented in Attachment 3 of the APP.

3.5.5 Heat Stress and Strain Evaluation and Control

Control of heat stress is generally maintained through proper acclimatization, adequate hydration and by conducting personnel monitoring when conditions are such that monitoring is required. Detailed information related to acclimatization, hydration, and other forms of heat stress prevention is presented in ECC SOP-09 presented in Attachment 3 of the APP. Site personnel will read and consult this SOP for the steps needed to minimize heat stress. Additionally, the requirements for heat stress monitoring are discussed in Section 8.6 of this SSHP.

3.6 COLD STRESS

3.6.1 Introduction

Since site operations will extend into winter months, there will be a potential for site personnel to be exposed to cold stress. The effects experienced by site personnel when working in cold environments depend upon environmental and personal factors, such as air temperature, wind speed, time of exposure, protective clothing and equipment worn, type of work conducted, level of physical effort, and health status of the worker. In cold environments, overexposure can cause significant stress on the body that can lead to serious, and potentially permanent, injury. Presented below is information about the most common cold stress disorders, their signs, symptoms, and effects.

3.6.1.1 Immersion Foot

These two cold injuries occur as a result of exposure to cool or cold weather and persistent dampness or immersion in water. Immersion foot usually results from prolonged exposure when air temperatures are above freezing, whereas trench foot normally occurs from shorter exposure at temperatures near freezing. The symptoms for each disorder are similar and include tingling, itching, swelling, pain and/or numbness, lack of sweating, and blisters.

3.6.1.2 Frost Bite

Frostbite occurs when there is actual freezing of the water contained in the body tissues. This usually occurs when temperatures are below freezing, but excessive wind can result in frostbite even when ambient temperatures are above freezing. Frostbite can occur from several types of cold exposure, including exposure of bare skin to cold and wind; exposure to extremely cold ambient temperatures; skin contact with rapidly evaporative liquids (gasoline, alcohol, or cleaning solvents) at temperatures below 39.2°F; or skin contact with metallic objects whose temperatures are below freezing. The extremities are usually affected first since the body's initial response to cold stress involves decreasing the blood flow to the extremities, thereby reducing heat loss. The tissue damage caused by frostbite can be superficial, near the surface of the skin, or extend deep into body tissues that can cause severe tissue damage. During the initial stages of frostbite, the skin may have a prickly or tingling sensation and will later become numb with cold. The appearance of the affected skin may range from superficial redness of the skin to white, hard, frozen-looking tissues.

3.6.1.3 Hypothermia

Hypothermia results when the body loses heat faster than it can be produced. When this occurs, the blood vessels in the skin and extremities constrict, reducing the flow of warm blood to those areas that have a high surface area-to-volume relation. This reduction in blood flow reduces heat loss and usually affects the peripheral extremities first. Ears, fingers, and toes begin to experience chilling, pain, and then numbness due to loss of both blood flow and heat. Shivering begins as the body's core temperature begins to drop, and the body uses the shivering to compensate and create metabolic heat. Shivering is often the first sign of hypothermia. The pain and numbness in the extremities is an indication that the heat loss is increasing, but when shivering becomes severe and uncontrollable, the heat loss in the body core has become extreme. Further heat loss produces speech

difficulty, reduced mental alertness, forgetfulness, loss of manual dexterity, collapse, unconsciousness, and finally death.

3.6.2 Cold Stress Treatment and Prevention

The requirements for cold stress treatment and prevention, to include monitoring, work-rest cycles and additional controls are discussed in the ECC Cold Stress SOP provided in Attachment 3 of the APP. Depending on weather conditions and the need to perform operations in areas being sprayed with cool water, ECC personnel will read this SOP and will be given periodic briefs related to cold stress prevention as a part of the project training plan as discussed in Section 6.0 of this SSHP.

3.7 BIOLOGICAL HAZARDS

The FWDA location in the desert southwest presents several hazards associated with indigenous biological species. Site personnel will be briefed by the SSO as to the potential biological hazards that may be encountered. Employee awareness and the SWPs outlined in Section 10.0 of this SSHP and the Biological Hazards SOP in Attachment 3 of the APP will be used to reduce, or eliminate, the risks associated with these hazards.

3.7.1 Poison/Oak Ivy

Personnel entering densely vegetated areas may encounter poison oak and ivy. Both plant species can cause red irritability blisters that form within 48 hours of skin contact. Personnel should become familiar with the characteristics of these plants and avoid contact with them. Personnel should wash the areas coming in contact with the leaves or stems of these plants with soap and water as soon as possible after exposure.

3.7.2 Animal Hazards

Several poisonous invertebrates and reptiles are found within the FWDA. These include scorpions (which live under rocks and debris), fire ants (which live in large mounds of dirt or sand on the land surface), and rattle-snakes (which may be found in burrows, heavy brush, and under rocks, logs or debris). To avoid these animals, field personnel will be instructed to not pick up or roll boulders or logs with hands or feet. Personnel will also be instructed to stay away from large mounds of dirt or sand (potential fire ant hills). Similarly, reaching into burrows, heavy brush or other debris where these animals hide will not be permitted. If the investigation requires entering areas where these animals could live or be hiding, caution should be used to prevent bites or stings.

Mammals such as mountain lions, feral dogs, and other wildlife are also present and may pose a potential threat to personnel under certain conditions. Efforts should be made to avoid wildlife on the site to avoid aggressive acts by the animals.

3.7.3 Ticks

Ticks can transmit Rocky Mountain Spotted Fever and are prevalent in the spring and summer. Personnel should wear light colored clothing if they must enter densely vegetated areas. Personnel should periodically check for ticks during the workday, and complete a thorough check at the end of the day.

3.7.4 Hantavirus

Hantavirus is a disease of the respiratory system, which was first identified in the southwestern United States in 1993. A number of cases of the disease have been diagnosed in the area surrounding FWDA. The disease is a response to inhalation of rodent saliva, urine and feces in an aerosol form. Disease transmission may also occur when these dried materials are ingested, contacted with the eyes, or absorbed through cuts and breaks in the skin. The disease results in fever, muscle pain, coughing, and acute respiratory distress. Approximately 100 cases have been confirmed in 12 states since the disease was first identified in 1993. Of this number, at least 26 infected individuals died. This virus has been classified as a biosafety level four (the maximum level) agent for viral growth research.

Personnel may also come in contact with rodents and their excrement in buildings, toolboxes, and vehicles. Personnel will not attempt to pick up or capture rodents to reduce the risk of being bitten. Rodent nests and droppings in buildings should be disinfected with a commercial disinfectant containing hypochlorite, detergent, or ethyl alcohol. These areas should not be dry swept or vacuumed without prior disinfection. Personnel cleaning up these areas should wear Level C PPE.

3.8 ACTION LEVELS AND METHODS TO MITIGATE HAZARDS

3.8.1 Upgrades/Downgrades of PPE

The provisions for the upgrading and downgrading of PPE levels are based upon the potential for personnel exposure to chemical or physical hazards. For those chemical or physical hazards for which real-time monitoring are available, the monitoring limits that will drive the upgrading and downgrading of PPE are presented in Table 8-1. For those physical hazards for which upgrading and downgrading of PPE are based on the potential for physical contact, the upgrading and downgrading requirements are spelled out in Section 6.0 of this SSHP and the AHA forms in Attachment 2 of the APP.

3.8.2 Work Stoppage and/or Emergency Evacuation

All ECC personnel are empowered with the ability to call a halt to site operations for a known or perceived ES&H threat. In the event that this occurs, the emergency evacuation procedures outlined in Section 15.0 of this SSHP will be utilized. These evacuation procedures will be also be used if site personnel must be evacuated due to an emergency conditions such as winds exceeding 40 miles per hour, rain which obscures visibility (as decided upon by the SSHO), the threat of a tornado, or unsafe winter weather conditions.

4.0 STAFF ORGANIZATION, QUALIFICATIONS, AND RESPONSIBILITIES

4.1 GENERAL STAFF INFORMATION

All personnel who may be exposed to on-site safety or health hazards are subject to and will comply with this SSHP. At no time will site personnel conduct tasks or operations in a manner that conflicts with the safety, health, or environmental precautions expressed in this SSHP. ECC staffs all projects with highly skilled and trained personnel who are intimately familiar with the anticipated hazards and the measures needed to protect resources from those hazards. Ensuring site safety is a joint effort promoted by all site personnel. However, the personnel listed in this section have been given key safety-related responsibilities and are involved with the on-site safety and health chain of command. The project safety and health organizational chart is presented in Figure 2-1 of the APP.

4.2 PROJECT MANAGER

The PM for this project will be Michael Poe who is responsible for the successful performance of the project. To achieve success, this project must be completed in a safe and healthful manner. Therefore, as related to safety and health, the PM will:

- Manage and provide the funding, man power, and equipment resources needed to safely conduct site operations.
- Review this SSHP and have a thorough understanding of its requirements.
- Furnish copies of the Work Plan, APP, and SSHP to site personnel for their review.
- Coordinate with the PHSM to ensure that all anticipated project-specific safety and health issues have been addressed in this SSHP.
- Coordinate the assignment of subcontractors and ensure that subcontractor personnel and equipment meet the requirements of the APP and SSHP.
- Provide consultation and support to the ECC SM regarding safety and health issues.
- Coordinate with the PHSM to ensure site compliance with the SSHP and the ECC CESHP.

4.3 PROJECT ENVIRONMENTAL SAFETY AND HEALTH MANAGER

The ECC PHSM is Mike McSherry who is a board Certified Industrial Hygienist and a board Certified Safety Professional (CSP) with over 25-years of industrial hygiene, safety, and hazardous waste experience. Mr. McSherry has completed the OSHA HAZWOPER site worker and supervisor training requirements in accordance with (IAW) 29 CFR 1910.120, and will provide occupational safety and health technical support to the Site Safety and Health Officer (SSHO) and other project personnel. As the PHSM, he will:

- Report directly to the ECC VP of Environmental Safety and Quality regarding safety and health issues.
- Develop, approve, and sign this SSHP.

- Coordinate with the ECC SSHO for field implementation of this SSHP.
- Communicate and consult with the PM, SM, and SSHO.
- Evaluate and authorize any changes to this SSHP.
- Conduct, or assist in the presentation of, site, task and hazard-specific training.
- Conduct periodic site safety and health audits.

4.4 SITE MANAGER

Mr. Michael Poe will be the SM for this project. Mr. Poe will be responsible for the on-site management including management of subcontractors. The SM will:

- Manage the on-site project resources needed to safely perform site operations.
- Understand the Work Plan, APP, and SSHP, and any other relevant documents.
- Assure that project personnel and subcontractors review the Work Plan.
- Ensure the safety and health issues have been addressed in the SOW.
- Consult and coordinate with the PM for the implementation of site tasks and coordinate with subcontractors regarding schedule and contract requirements.
- Schedule and present the operational portion of the daily safety briefing.
- Enforce compliance with the Work Plan, APP, and SSHP.
- Ensure that all work is conducted safely and IAW this SSHP
- Investigate injuries, illnesses, accidents, incidents, and near misses.
- Ensure field implementation of the ECC CESHP.

4.5 SITE SAFETY AND HEALTH OFFICER

Mr. Al Kimbol will be the SSHO for this project. The SSHO will be responsible for the on-site implementation of the safety and health requirements presented in this SSHP. The SSHO will have completed the OSHA 40-hour HAZWOPER site worker and refresher training, and the 8-hour Supervisor/Manager training requirements IAW 29 CFR 1910.120. He will also have completed the OSHA 10-Hour Construction Safety training or equivalent within the past three years. To ensure on-site safety and health, the SSHO will:

- Ensure that all work is conducted safely and IAW this SSHP
- Conduct daily safety briefings.
- Conduct and document site training related to site-specific hazards.
- Evaluate PPE requirements and ensure that applicable PPE is issued to and used by all employees.
- Implement and enforce the ECC Alcohol/Drug Abuse Policy.
- Investigate injuries, illnesses, accidents, incidents, and near misses.
- Conduct visitor orientation, daily safety inspections, and weekly safety audits.
- Ensure field implementation of the ECC CESHP.

4.6 UXO SAFETY OFFICER

During the conduct of operations involving MEC, ECC will field a UXO Safety Officer (UXOSO) to provide oversight. The UXOSO will be responsible for the on-site implementation of the Work Plan and the safety and health requirements presented in this SSHP. The UXOSO will have completed the OSHA 40-hour HAZWOPER site worker and refresher training, and the 8-hour Supervisor/Manager training requirements IAW 29 CFR 1910.120 and will meet the personnel requirements of DDESB TP-18, *Minimum Qualifications for Unexploded Ordnance (UXO) Technicians and Personnel*. To ensure on-site safety and health during MEC operations, the UXOSO will implement the responsibilities outlined of the SM above and will :

- Review the SOW to ensure the MEC, safety, and health issues have been adequately addressed and controlled.
- Act as the lead technical consultant for all on-site MEC-related safety matters.
- Assist in the conduct of site training and briefings as they relate to MEC and other safety issues.
- Ensure, and when necessary, enforce compliance with the Work Plan, APP, and SSHP.

4.7 GENERAL SITE PERSONNEL

Even though specific ECC personnel have been given distinct responsibilities for site safety, ensuring the safe and healthful conduct of site operations is the responsibility of all personnel assigned to the site. Therefore, all project personnel involved in site activities will:

- Comply with the safety and health provisions of this SSHP and all other required safety and health guidelines.
- Take all necessary precautions to protect themselves and fellow site personnel.
- Remain alert to the presence of potentially harmful conditions/situations and immediately inform the SSHO of the hazard.
- Perform only those tasks that they can do safely and for which they have received appropriate training.
- Notify the SSHO of any special medical conditions (i.e., allergies, contact lenses, diabetes) or medications, which could affect their ability to safely perform site operations.
- Prevent the spillage and splashing of environmentally hazardous materials.
- Practice good housekeeping by keeping the work area neat, clean, and orderly.
- Immediately report all incidents, no matter how minor, to the SSHO.
- Maintain equipment in working order and report defects to the SSHO.
- Properly inspect and use the PPE required by the SSHP or the SSHO.
- Report to the SM and/or the SSHO any injuries requiring first aid procedures or higher for treatment, and any exposures to chemical, physical or biological hazards.

5.0 TRAINING

5.1 GENERAL INFORMATION

All personnel assigned to, or regularly entering the project site, shall receive the training required in this section prior to participation in assigned site activities that pose a potential for exposure to safety or health hazards. Site personnel shall also receive the training outlined in this section as applicable to their assigned duties. Documentation of relevant training will be maintained at the ECC corporate office and the ECC FWDA field office.

5.2 MEC TRAINING REQUIREMENTS

ECC personnel involved in MEC investigation, handling, transportation, or disposal operations shall meet one of the prerequisites listed below:

- Graduate of the Naval Explosive Ordnance School, Indian Head, Maryland or Eglin AFB, FL.
- Graduate of the U.S. Army Bomb Disposal School, Aberdeen Proving Grounds, Maryland
- Graduate of the EOD Assistant's Course, Redstone Arsenal, Alabama, with a minimum of five years of military EOD and/or commercial MEC experience
- Graduate of the EOD Assistant's Course, Eglin Air Force Base, Florida, with a minimum of five years of military EOD and/or commercial MEC experience.

5.3 CFR 1910.120 TRAINING REQUIREMENT

5.3.1 40-Hour General Site Worker Training

All ECC and subcontractor personnel with the potential for exposure to hazardous substances or other safety and health hazards during the course of this project must obtain 40-hours of off-site HAZWOPER training. This training must be completed, and documentation presented, before personnel are to participate in site activities involving exposure to site hazards.

5.3.2 24-Hour Occasional Site Worker Training

This type of training will not be applicable to personnel participating in field activities associated with the SOW for this project.

5.3.3 Three-Day On-Site Training

All ECC on-site and subcontractor personnel shall be given a minimum of three days of actual on-site field experience/training under the direct supervision of a trained, experienced supervisor. This training will be used to familiarize site personnel with the site-specific organization, PPE, and emergency response procedures. The three-day on-site training is site-specific and shall be documented using the Three-day On-site Training Form (located in Attachment 4 of the APP). The SSHO will generate and maintain this form and will ensure that all personnel receive this training and sign the form.

5.3.4 8-Hour Annual Refresher Training

All ECC and subcontractor personnel, to include management/supervisory personnel, shall receive a minimum of eight-hours of refresher training annually. This training will cover relevant topics from the 40-hour HAZWOPER and the eight-hour management/supervisor courses, as well as critiques of any incidents that have occurred in the past year and any other related topics.

5.3.5 Supervisor and Management Training

Managers and other personnel who are directly responsible for the performance of hazardous waste operations, or who directly supervise on-site personnel, shall have eight additional hours of specialized supervisory training as specified in 29 CFR 1910.120(e).

5.4 SITE-SPECIFIC AND HAZARD INFORMATION TRAINING

5.4.1 Site-Specific Information Training

Site-specific information training shall be used to provide site personnel with important information related to site operations. This training shall apply to the three-day on-site training requirements outlined in Section 5.3.3, and cover site-specific training topics listed below.

- Site history and background.
- Site organization and chain of command.
- General site hazards and control measures, and the task-specific AHAs.
- Proper use, maintenance and cleaning of required PPE.
- Emergency response procedures, assignments, and contacts.
- Facility-specific requirements.

Additionally, all site related personnel will sign a Safety Indoctrination Form acknowledging that they have received safety indoctrination training and a SSHP Review Form acknowledging that they have read and understood the SSHP.

5.4.2 Hazard-Specific Information Training

Hazard-specific information training shall be presented utilizing the ECC Hazard Information Program that meets the requirements specified in 29 CFR 1910.120 (i). This training shall be presented to all personnel involved in site operations and shall be used to inform personnel as to the degree, nature, and level of exposure likely to occur as a result of participation in site activities. This training, as a minimum, will cover the following topics.

- A complete description of physical and toxicological properties of any hazardous materials expected to be found on-site.

- A complete description of the physical hazards associated with site operations, including those hazards listed for the site tasks as associated with this SSHP.
- A description of the biological hazards which may be encountered on site, to include identification and protective methods, and what to do if exposure occurs.
- The SWPs and AHAs or other hazard control techniques that will be used to minimize exposure.

5.5 VISITOR TRAINING

Site visitors are defined as persons who: (1) are not employed at the project site; (2) do not routinely enter restricted work areas; and (3) spend short periods at the site (i.e., 1 to 2 days per visit). Site visitors may include client personnel, ECC personnel, commercial vendors, auditors or inspectors from Federal, state, or local regulatory agencies, or political representatives. It is the responsibility of all site personnel to maintain, whenever possible, a watch for visitors approaching the site and to immediately notify the SM or SSHO of the presence of the visitor. Visitors shall be required to comply with the general requirements listed in Section 5.4.1 and shall meet the appropriate requirements as specified below depending upon the part of the site they will be visiting.

5.5.1 General Requirements for All Site Visitors

Regardless of the purpose of the site visit or the control zones to be entered, the following requirements shall apply to all site visitors prior to their entry into the site.

- The ECC SM and SSHO shall be notified of the nature/duration of the visit.
- Visitors shall sign the Visitor Log and shall record their names, date of visit, and the name of the company or agency represented.
- Site visitors shall be escorted by an ECC representative while in the area.
- Visitors shall comply with the safety/health requirements described below.

5.5.2 Visitors Remaining Outside the EZ

Visitors wishing to observe site activities from outside the Exclusion Zone (EZ) shall receive general hazard information training, which incorporates the following topics.

- Location and description of potential hazards and risks.
- A short briefing about the chemical hazards found on-site.
- Areas of the site that are closed to visitors.
- The site evacuation plan and emergency procedures.
- Other topics as deemed appropriate.

5.5.3 Visitors Entering the EZ

Any visitors requesting entry into the EZ shall be subject to the same site-specific and hazard information training as specified in Section 5.4.2 of this SSHP. This training shall be conducted prior to the visitor entering the EZ. Visitors requesting entry to an EZ shall

also be required to present documentation of OSHA HAZWOPER training and medical surveillance, consistent with the requirements for the general site employees. Visitors must be escorted by ECC personnel while in the EZ, and no more than two visitors will be permitted in the EZ at any given time. All MEC-related operations shall cease whenever visitors enter the EZ.

5.6 MEC RECOGNITION TRAINING

All non-UXO-qualified personnel who will be involved in on-site operations will be given MEC Recognition Training. This training will be used to familiarize non-UXO-qualified personnel with the appearance and components associated with MEC that may be found on site. This training will include ECC's "No Touch" policy, which states that non-UXO-qualified personnel will not touch any MEC-related items unless they have been inspected by UXO-qualified personnel and deemed to be explosive-free.

5.7 MEC REFRESHER TRAINING

All UXO-qualified site personnel shall receive site-specific MEC training that covers the ordnance items that are known, or expected, to be on site. The topics to be covered in the MEC refresher training shall include: type of MEC, hazards, and handling and disposal procedures.

5.8 FIRST AID AND CARDIOPULMONARY RESUSCITATION TRAINING

At least two full-time ECC site employees shall be trained and certified in first aid and cardiopulmonary resuscitation (CPR). Whenever possible, the SSHO will be one of the two site personnel so trained. The training shall be equivalent to that provided by the American Red Cross. Once trained, these employees will be tasked with the responsibility of initial first aid response to injured employees whenever other medical support personnel are not immediately available on site.

5.9 BLOODBORNE PATHOGEN TRAINING

The ECC first aid-trained personnel will primarily be responsible for rendering aid in the event of an injury or accident. The first aid/CPR trained personnel who have a potential for occupational exposure to blood or other potentially infectious body fluids shall receive training as outlined in the 29 CFR 1910.1030(g)(2) and the ECC Bloodborne Pathogens (BBP) Exposure Control Plan. Whenever feasible, all on-site ECC personnel will receive the same level of BBP training as specified above.

5.10 PPE TRAINING

A detailed discussion related to the training required prior to personnel using PPE is presented in Section 6.0 of this SSHP. It is essential that all site personnel fully understand the need for the PPE, as well as the limitations and proper care of the PPE.

5.11 HAZARD COMMUNICATION TRAINING

In order to comply with the requirements of the OSHA Hazard Communication (HAZCOM) Standard, 29 CFR 1910.1200, HAZCOM training shall be provided for all site personnel who will use products containing hazardous substances. This training shall be provided upon initial assignment to the site and prior to use of the product. Supplemental HAZCOM training shall be scheduled and presented whenever a new hazardous substance is introduced into the work area or an employee changes job location where new products are encountered.

5.12 FIRE EXTINGUISHER TRAINING

All ECC site personnel will be trained in the general principles of fire extinguisher selection and use, and the hazards associated with incipient-stage fire fighting (i.e., fighting a fire that has just begun). This training will be provided initially and annually thereafter.

5.13 CONTROL OF HAZARDOUS ENERGY TRAINING (LOCKOUT/TAGOUT)

All site personnel involved in the use of lockout/tagout (LO/TO) devices for the control of hazardous energy will receive on-site training in the proper implementation of the LO/TO SOP. All training shall comply with 29 CFR 1910.147. LO/TO training requirements are presented in the ECC LO/TO SOP presented in Attachment 3 of the APP.

5.14 DAILY SAFETY MEETINGS

5.14.1 Daily Task and Safety Briefing

Prior to commencing operations each day, all ECC, contractor, and subcontractor personnel who will conduct operations within the EZ will be given a Daily Task and Safety briefing by the SM and SSHO. This briefing shall identify the anticipated site activities and the potential hazards that could be encountered and review the following: weather conditions and weather-related hazards; use of safety equipment; emergency notification, evacuation and medical procedures; accident prevention; relevant Work Plan/APP/SSHP topics, lessons learned, and near misses. Documentation related to the Daily Task and Safety Briefing topics and attendance shall be maintained on-site.

5.14.2 Daily Safety Observer Report

On a daily basis, one ECC employee will be assigned to present the Daily Safety Observer report for the next day. This person will observe activities that day and note potential issues of particular concern and prior to the Daily Safety Briefing, and will use the ECC Daily Safety Observer Report to document and present the issues relevant to the day's activities.

5.14.3 Weekly Safety Briefing

Once per week, (usually Monday) a weekly safety briefing will be presented in conjunction with the daily safety briefing. This briefing will consist of information about site hazards or general safety/health issues relevant to the site personnel, and will be presented by the SSHO or a speaker selected by the SSHO. All site personnel will attend the training, and the SSHO shall document this training on the ECC Documentation of Training Form.

5.15 ADDITIONALLY REQUIRED OSHA TRAINING

Additional OSHA-required training as deemed necessary by the PHSM or SSHO shall be provided as needed. Such training may include training related to specific chemical contaminants (such as lead, etc.) or task-specific hazards such as heavy equipment, hand-tool operation, specialized PPE, etc.

5.16 DOCUMENTATION OF OSHA TRAINING

All on-site and management/supervisory personnel shall present documentation or certification of training completion prior to participating in site activities. Without appropriate documentation, personnel shall be prohibited from entering hazardous areas or engaging in hazardous site activities.

6.0 PERSONAL PROTECTIVE EQUIPMENT

6.1 USE OF ENGINEERING CONTROLS

According to OSHA 1910.120(g), 1910.132, and 1910.134, whenever occupational exposures to chemical or physical hazards exist at levels in excess of established action levels; the primary objective will be to apply accepted engineering controls. However, when feasible engineering controls are not available, a reasonable combination of administrative controls (i.e., written SWPs) and PPE will be used.

For site operations during this project, the feasible engineering controls to be used include machinery guards. Machinery guards are installed on equipment or tools by the manufacturer. Guards of this nature will be removed only for the purposes of conducting equipment maintenance and will be replaced prior to operation of the equipment or machinery.

6.2 GENERAL REQUIREMENTS

All personnel performing operations on site shall be required to use the appropriate level of PPE, as specified below and in the AHA forms in Attachment 2 of the APP. This SSHP makes provisions for use of Level C, Modified Level C, Modified Level D, and Level D PPE, according to the hazards associated with the SOW tasks. The PPE levels presented in this Section will be reassessed and the ECC PHSM contacted if any of the following events occur.

1. Appearance of previously unidentified chemicals or conditions.
2. Changes in ambient weather conditions which impact the use of assigned PPE.
3. Introduction of new task or expansion of a previously assigned/evaluated task.

6.3 SPECIAL CONSIDERATIONS

Personnel using/dispensing products that contain chemicals with a skin contact hazard will wear chemical-resistant gloves as defined in the AHA forms.

6.4 HAZARD-SPECIFIC AND TASK-SPECIFIC PPE SELECTION

Table 6-1 presents a listing of the primary tasks, and when applicable the sub-tasks, that are anticipated for this project. Next to each planned task/sub-task is listed the initial level of PPE that will be worn during task performance. Revisions to this table will only be made upon approval of the ECC PHSM.

TABLE 6-1: TASK-SPECIFIC PPE ASSIGNMENTS

Task to be performed	Level of PPE
Mobilization and site set-up/demobilization and site closure	D
Chain Link Fence Construction	D
Barbed Wire Fence Construction	D
Removal of Existing Barbed Wire Fencing	D
Drum Removal	D/Mod D/C
Reactivation of a Portion of Building 1	D/Mod D/Mod C

6.5 PPE ASSOCIATED WITH VARIOUS PPE LEVELS

6.5.1 Level D PPE

The Level D PPE to be used will consist of the following:

1. Work clothes or coveralls (cotton);
2. Leather work gloves (to be used whenever hands require protection from cuts and abrasions);
3. Hard hat (Required when working around heavy equipment or and anywhere an overhead hazard exists);
4. Safety-toed work boots;
5. Safety glasses (to be used whenever an eye impact hazard exists); and
6. Ear plugs or muffs (as required for working in areas of high noise)

6.5.2 Modified Level D PPE

The following PPE will be worn for those tasks requiring Modified Level D PPE:

1. Same as Level "D", but with the following additions
2. Tyvek™ suit, chemical over gloves and boots as deemed necessary by the SSHO

6.5.3 Modified Level C PPE

Modified Level C will include the same Mod D PPE, with the inclusion of either a fit-testable high efficiency particulate air (HEPA) dust mask or a half-face respirator with a P100 filter.

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6.5.4 Level C PPE

Level C PPE will consist of the following:

1. Same PPE as specified for Level D
2. Chemical protective suit (see task-specific AHA for details)
3. Nitrile over and non-latex inner glove liners
4. Chemical resistant boots
5. Full face respirator (see task-specific AHA for details)

6.6 PPE TRAINING

As specified by 29 CFR 1910.132, all site personnel who are required to use PPE shall be given training in the use, care, and limitations of the PPE they are to use. Prior to PPE use, the affected personnel shall demonstrate an understanding of the training and their ability to properly use the assigned PPE. Upon completion of this training, affected personnel will be retrained if the level or type of PPE being used changes. PPE training shall address the following topics:

1. PPE selection decisions and when and what PPE is needed;
2. How to properly don, doff, adjust, and wear PPE;
3. The limitations of specific pieces/types of PPE; and
4. The proper care, maintenance, limitations, and disposal of PPE.

6.7 RESPIRATORY PROTECTION PLAN

The following respiratory requirements have been designed to comply with applicable OSHA regulations found in 29 CFR 1910.134 and the ECC Respiratory Protection Program Changes require approval from the PSHM.

6.7.1 Respirator Selection

The PSHM has used available site archival and characterization data, to select the respiratory protective equipment for each task. Respirators and their components will not be altered or combined in a manner that is not approved.

6.7.2 Selection Criteria

The selection of the proper type of respiratory is based upon the following:

1. The type of contaminant(s) expected or known to present a potential for exposure.
2. The physical properties, toxicological effects, and anticipated exposure concentrations.
3. The nature of the operation where exposure may occur.
4. The location of the work area in relation to the nearest area having respirable air.

5. The period of time for which respiratory protection is needed.
6. The characteristics and limitations of the respirator.

6.7.3 Task-Specific Respiratory Assignment

Any modifications to the type of respiratory protection specified by this section will be made in writing, approved by the PSHM and amended to this SSHP. Respiratory protection will only be issued to those personnel who have been medically cleared to wear respiratory protection and who have a current fit test for the type of respirator being used.

6.7.3.1 Drum Removal

If initial inspections of the two drums indicates that chemicals that could present an inhalation exposure may be encountered, a full-face air purifying respirator (APR) with multi-contaminant/P-100 filter cartridges will be used as specified in the AHA forms (Attachment 2 of the APP).

6.7.3.2 Reactivation of a Portion of Building 1

P-100 and HEPA filters have been selected for use where the potential exists for personnel exposure to respirable dusts, molds and hantavirus, as specified in the AHA forms (Attachment 2 of the APP). The AHA for architectural work discusses the procedures for decontaminating the building for Hantavirus.

6.7.4 Respirator Training Requirements

All employees required to use respiratory protective equipment, will receive general and job/contaminant specific respirator training prior to using it. This training will be conducted initially and whenever fit testing is conducted. This training will be provided, or arranged for, by the SSHO or PSHM and documented using the ECC Documentation of Training Form. The following topics will be addressed during the respirator training session:

1. Regulations concerning respirator use.
2. Why respiratory protection is needed and the effects of the respiratory hazards to which a person may be exposed.
3. Why particular respiratory protective equipment has been selected for a specific respiratory hazard.
4. The operation, capabilities and limitations of the respiratory protective equipment to be used, including methods to detect contaminant break-through.
5. The proper procedures for inspecting, donning, negative and positive pressure fit testing, wearing, maintaining and storing respiratory protective equipment.
6. How to recognize and cope with an emergency situation.
7. Use of special respiratory protective equipment such as eye glass inserts for full face respirators, voice amplifiers, supplied air systems, self-contained breathing apparatus' or cooling devices (vortex tube systems).

6.8 PPE INSPECTION, MAINTENANCE AND STORAGE

Site personnel using PPE will keep their PPE in clean, good working condition. ECC shall provide cleansing wipes, wash sprays and clothes, towelettes, or equivalent cleaning supplies to allow personnel to surface clean PPE. Additionally, ECC will establish and maintain a PPE storage area where field personnel may store their PPE during non-use. 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. PPE that can be made effective through replacement of specific parts (i.e., replacement of scratched lenses on safety glasses) will be maintained IAW manufacturer instructions, or replaced as needed. PPE that cannot be restored to operational condition will be discarded and replaced as needed.

6.9 EMERGENCY RESPONSE EQUIPMENT

For this project, no additional or special levels of PPE are being specified for emergency situations. For all site operations, approved first aid and emergency response supplies will be available on-site. Each field team will have and maintain first aid supplies consisting of:

- A 16-Unit (or 25-person) first aid kit with at least two BBP protection kits;
- Portable eye wash bottles for use during transportation to the 15-minute eye wash station;
- Burn kit with bandages;
- Trauma bandages;
- A fire blanket; and
- Fire extinguisher

Additional first aid and emergency response supplies will be maintained on site as required by Section 14.0 of this SSHP. With the exception of fire extinguishers that require a monthly inspection, all emergency response and first aid equipment will be inspected initially and then weekly thereafter to ensure adequate supplies and proper operational condition. Any operational team that functions in remote areas away from other team personnel or the trailer will have a fire extinguisher in the site vehicle and additional fire extinguishers will be available at fuel storage areas. Additional information related to fire extinguisher types and sizes and spill response equipment that must be available is presented in Section 14.0 of this SSHP. An emergency eye wash station that complies with ANSI Z-358.1 will be available in the office/equipment storage area. No safety showers will be required because there is no potential for personnel being drenched with hazardous substances that can pose a threat to the skin.

7.0 MEDICAL SURVEILLANCE

7.1 PURPOSE AND SCOPE

As part of its CESHP, ECC has established a comprehensive Medical Surveillance Program (MSP) designed to assist in the prevention, diagnosis, and treatment of occupational illnesses and injuries sustained during operations on hazardous waste sites. The medical surveillance requirements of this section shall apply to all site personnel with exposure potential to significant safety and health hazards.

7.2 GENERAL REQUIREMENTS

Medical examinations of personnel as required by the MSP shall be conducted by, or under the supervision of, a licensed physician, who is board-certified in occupational medicine or has had extensive experience in the recognition, evaluation, and treatment of occupational diseases.

7.3 PHYSICIANS STATEMENT

Upon completion of a health assessment, the physician shall provide the results of the examination to the employee, and a written physician's statement shall be provided to ECC. The physician's statement shall, as a minimum, include the following: 1) the employee's name and social security number; 2) a statement that the employee is qualified to participate HTRW-related site activities; 3) the physician's recommended limitations upon the employee's assigned work, if any; and 4) any supplemental or follow-up examinations or tests which the physician believes are required to complete the assessment.

7.4 MEDICAL SURVEILLANCE EXAMINATIONS

7.4.1 Pre-Assignment Health Assessment

The pre-assignment health assessment shall be conducted prior to personnel participation in site activities involving potential exposure to chemical or physical hazards. The pre-assignment health assessment shall have been conducted within the past 12 months and will meet the requirements of the ECC Medical Surveillance Program presented in the ECC CESHP.

7.4.2 Supplemental Examination

Any site worker who has been injured, received a health impairment, developed signs or symptoms from possible overexposure, or received an overexposure without the use of respiratory protection, shall undergo a supplemental examination. The physician will determine the contents of this examination and shall certify the employee's fitness to return to work prior to reassignment. The physician shall specify in writing any work restrictions required.

7.4.3 Follow-up Health Assessments

The physician will notify ECC, and the employee, if a work-related condition is detected during an examination that requires additional testing or assessment. Upon conclusion of the follow-up health assessment, a statement regarding the employee's fitness for work will be provided.

7.4.4 Task-specific Medical Examinations

No site or task-specific medical examinations or tests are anticipated for the sites tasks associated with this contract. In the event that the PSHM identifies any specific contaminants that require biological assessment and monitoring, this section will be modified and the modified section submitted to USACE for approval.

7.5 EMERGENCY AND NON-EMERGENCY MEDICAL TREATMENT

Prompt and effective non-emergency and emergency medical treatment will be provided for site personnel who require medical attention resulting from injuries or illnesses occurring during site operations. The treatment requirements of this section are not designed to provide for the diagnosis or treatment of non-occupational injuries or illnesses, unless immediate medical attention is needed to prevent loss of life, relieve suffering, or preclude permanent injury which would result if treatment were delayed. Route maps and instructions to the facilities identified in this section are included in Section 15.15 of this SSHP.

7.5.1 Treatment of Minor Injuries

For minor injuries, the two on-site ECC personnel with first aid/CPR training will provide the initial first aid response. If additional/advanced medical treatment is required, the SSHO will determine if the injured person should be transported using a site vehicle or if an ambulance is required. If the SSHO determines that a site vehicle may be used, a first aid-trained attendant will accompany the driver and injured person for the trip to the hospital designated for non-critical injuries. Primary treatment for illnesses or injuries which could occur on site will be provided by Rehoboth McKinley Christian Health Care Services, located at 1901 Redrock Drive in Gallup, New Mexico.

7.5.2 Treatment of Serious Injuries

If ambulance service is required, the FWDA BEC and/or the FWDA Caretakers are to be contacted via radio and they will summon emergency medical service (EMS). For injuries requiring ambulance transportation, an on-board Emergency Medical Technician (EMT) will provide care as required by the nature of the injury.

In the event that the SSHO requests EMS, the ECC first aid personnel will provide initial support in an effort to stabilize the injured person while the ambulance service is summoned. Once on site, the EMT personnel will not only provide emergency medical services, but will also determine which hospital the injured party will be transported, as well

as the mode of transportation. EMT personnel may elect to use ground transportation or summon helicopter air ambulance service for transporting the injured person to a trauma center. Rehoboth McKinley Christian Health Care Services, located at 1901 Redrock Drive in Gallup, New Mexico, will be the first choice for serious injuries, unless decided upon differently by the medical response personnel. Additional information related to emergency response is contained in Section 15.0 of this SSHP.

8.0 EXPOSURE MONITORING/AIR SAMPLING PROGRAM

8.1 GENERAL

On-site monitoring will be conducted during specified site activities to evaluate potential hazards that may be encountered. The on-site monitoring will assist in determining the effectiveness of control measures, the need for upgrading or downgrading PPE requirements, and the effectiveness of SWPs. Direct-reading, real-time instruments will be used whenever possible, or required, to detect and qualify site hazards. If a reading is achieved which exceeds the action levels specified in Table 8-1, the SSHO shall take the steps outlined in this section, or other referenced sections, to correct the situation or minimize the exposure.

TABLE 8-1: SITE MONITORING SCHEDULE AND ACTION LEVELS

Hazard	Equipment	Monitoring Frequency/Location	
Heat Stress	Wet-Bulb Globe Temperature Monitor	Daily when ambient temperatures are expected to exceed 78.8°F for acclimatized workers, 72.5°F for unacclimatized workers, and 70.0°F for workers using impermeable or semi-impermeable clothing	
		Action Level	Action to be Taken
		Above ACGIH criteria as outlined in the Threshold Limit Value Booklet	Institute physiological monitoring and appropriate controls as outlined in the Threshold Limit Value Booklet
Hazard	Equipment	Monitoring Frequency/Location	
Cold Stress	Digital Thermometer	Every four hours once ambient temperature becomes less than 60.8 °F	
		Action Level	Action to be Taken
		Above ACGIH guidelines as presented in Table 35-2 of SOP-35.	See Section 5.2 of SOP-35 in to determine appropriate controls.
Hazard	Equipment	Monitoring Frequency/Location	
Noise	Sound Level Meter	Conducted during initial operation of high noise equipment, and periodically thereafter, according to the recommendations of the ECC PSHM	
		Action Level	Action to be Taken
		Whenever noise levels in the hearing zone exceed 85 dBA.	Conduct noise dosimetry as outlined below. Issue hearing protection devices to affected personnel.
	Equipment	Monitoring Frequency/Location	
Noise	Noise Dosimeter	Whenever noise levels in the hearing zone exceed 85 dBA	
		Action Level	Action to be Taken
		Noise readings greater than 80 dBA 8-hour time-weighted average.	Report dosimeter readings to the PSHM to ensure hearing protection devices are adequate for the level of noise experienced.

8.2 PERSONAL MONITORING REQUIREMENTS

8.2.1 Real-Time Direct-Reading Monitoring

The guidelines presented in Table 8-1 represent the initial real-time, direct-reading monitoring requirements to be employed during project tasks. Monitoring frequency may be escalated or reduced by the ECC PSHM based upon the results of previous monitoring or the detection of factors that indicate a potential for exposure. The monitoring equipment

1. The purpose of this document is to provide a comprehensive overview of the current state of the project and to identify the key areas that require attention. The information presented here is intended for the use of senior management and is subject to change without notice.

2. The project has made significant progress since the last report, with several key milestones being achieved. However, there are still a number of challenges that need to be addressed in order to ensure the successful completion of the project.

3. The following table provides a summary of the project's performance over the last quarter. It shows that while overall progress has been made, there are still some areas where performance is below expectations.

4. In order to address these challenges, it is recommended that the following actions be taken: (a) Review the project schedule and adjust it as necessary to ensure that all milestones are met. (b) Increase communication and reporting to senior management to ensure that they are kept up to date on the project's progress.

5. The project team is committed to working hard to overcome these challenges and to ensuring that the project is completed on time and within budget. We will continue to provide regular updates to senior management on the project's progress.

Very truly yours,
[Signature]

[Name]
[Title]

[Address]
[City, State, Zip]

[Phone Number]
[Fax Number]

[Email Address]

to be used during this project will include:

1. Sound level meter - Used as a screening device to measure sound power emitted by a source.
2. Noise dosimeter - Used to calculate the 8-hour time-weighted average (TWA) exposure.
3. Digital ambient air thermometer - Used to assess cold stress effects IAW Section 9.0 of this SSHP.
4. Wet Bulb-Globe Temperature Monitor – Used to assess heat stress effects IAW the ACGIH TLVs.

8.3 MONITORING SCHEDULE AND FREQUENCY

Exposure monitoring will focus on the potential for exposure to physical and chemical hazards during site operations. Table 8-1 identifies the type of monitoring equipment to be used, the frequency at which the monitoring will be conducted, monitoring method to be employed, action level, and the action to be taken if the action level is exceeded.

8.4 TEMPERATURE EXTREME MONITORING

Heat and cold stress monitoring will be conducted IAW the guidelines presented in the respective SOPs in Attachment 3 of the APP. This monitoring will be conducted by, or at the direction of, the SSHO and will be used to minimize physiological effects in the event that temperature extremes are experienced during site operations.

8.5 NOISE MONITORING PROCEDURES

High noise levels are anticipated during the operation of heavy equipment. The noise levels will be monitored to determine if hearing protection devices will be required and to ensure that the level of hearing protection being used is adequate. At the start of potential high noise operations, sound level readings will be taken in the hearing zone of the affected personnel. Noise dosimetry will be conducted for any operation where sound level readings indicate a potential for exposures above 85 decibels as recorded in the A-weighted sound level (dBA). Table 8-1 will be consulted to determine the type, amount and frequency of noise monitoring.

8.6 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.

9.0 HEAT AND COLD STRESS

ECC's procedures for the evaluation and control of heat and cold stress are presented in ECC heat and cold stress prevention SOPs (SOP-09 and SOP-35, respectively) in Attachment 3 of the APP. If weather conditions exceed the temperatures outlined in Table 8-1 of this SSHP, the SSHO will implement the monitoring and personnel controls outlined in the specified SOPs.

10.0 STANDARD OPERATING SAFETY PROCEDURES, ENGINEERING CONTROLS, AND WORK PRACTICES

10.1 GENERAL

This section outlines the engineering controls, SWPs, and Standing Site Orders which will be followed by all site personnel to eliminate, or reduce, the risk of exposure to recognized site hazards. These control measures are presented as a working guide for site personnel and are not intended to cover all ECC, OSHA, or USACE compliance issues. For reference, a copy of the ECC CESHP will be available on-site, as will the ECC task-specific SOPs. Since the SOPs are generic in nature and are intended to compliment this SSHP, many of the SOPs may contain information that may be superfluous to this project. Prior to, and during site operations, the SSHO and PM will carefully read the SOPs and determine which SOP provisions apply to this project. As a rule, all site personnel will comply with the following guidelines:

1. The applicable regulatory requirements of 29 CFR 1910 and 29 CFR 1926 shall be followed during all site activities.
2. All site personnel shall immediately report to the SSHO any conditions that do not comply with, or are not addressed by this SSHP.
3. Site personnel shall immediately report to the SSHO and SM any deviations from the plans or equipment that has been approved to ensure an evaluation of the hazards is conducted.
4. Site personnel will wear the PPE as specified in Section 6.0 and the AHA forms presented in Attachment 2 of the APP.
5. Any bites or stings received from wildlife will be reported to the SSHO, who will then determine the appropriate course of action to be taken to treat the bite.
6. Personnel in vegetated or wooded areas will wear long-sleeve shirts with the sleeves rolled down to reduce contact with, and injury from, hazardous or poisonous plants.
7. Site personnel shall inform the SSHO of any known medical conditions that may cause, or result in, an adverse health condition. This includes hypersensitive allergic reactions to stinging and biting insects or contact with poisonous plants; diabetes; high blood pressure; skin or eye sensitivity to sunlight and UV radiation; chronic illness; and acute illnesses, such as a cold, the flu, or stomach/intestinal disorders. Persons with known hypersensitive allergic reactions to stinging/biting insects or toxic plants shall carry appropriate emergency medical antidotes on their person at all times when on site.
8. Site personnel shall not participate in horseplay or other prohibited acts that could cause harm or injury to site personnel, property, or the environment.

10.2 ENGINEERING CONTROLS

When personnel exposure to site hazards is unavoidable, OSHA regulations specify that engineering controls to be used whenever feasible to remove the potential for personnel exposure. During project activities, the feasible engineering controls listed below will be used.

1. All guards located on heavy equipment will be maintained in place unless removal is needed for maintenance. Removal of guards for maintenance will require assessment by the SSHO for potential application of LO/TO procedures.
2. All powered hand tools will be operated with the manufacturer's guards in place.
3. In the event that dust needs to be removed from any work area, either a HEPA filtered vacuum will be used to prevent potentially contaminated dust from entering the air, or the dust will be wetted and wiped clean. At no time will personnel dry sweep potentially hazardous dusts.

10.3 SITE RULES / PROHIBITIONS

10.3.1 Buddy System Procedures

All work conducted within a work zone shall be performed using the buddy system, and at no time will personnel work alone.

10.3.2 Eating, Drinking and Smoking Restrictions

Eating and smoking during on-site operations will be conducted only in designated areas, at designated break times, and only after personnel have washed their face and hands using available towelettes or other sanitary means. At no time will personnel smoke while conducting any operations within the EZ.

10.3.3 Standing Site Rules

To maintain safety and health awareness, a list of standing site rules has been developed which outlines the practices that must be followed at all times. These standing orders will be enforced by the SSHO, and personnel violating these orders may be subject to disciplinary action. The general standing orders for the site are listed in Tables 10-1 and 10-2.

TABLE 10-1: GENERAL SITE RULES AND PROHIBITIONS

1. Running and horseplay are prohibited in all areas of the site.
2. Ignition of flammable materials in any work area is prohibited, unless approved by the SSHO.
3. Buddy system procedures will be enforced during all site operations.
4. The number of personnel in any work area will be the minimum number necessary to perform work tasks in a safe and efficient manner.
5. Site personnel will check in with the SSHO prior to leaving the site and again upon returning to the site.
6. Site visitors are to be escorted by UXO-qualified ECC personnel at all times.
7. Site personnel will perform only those tasks they are qualified to perform.
8. Site personnel will remain aware of site conditions at all times and will alert the SSHO to any changes that could pose a hazard to site personnel, the environment, or the public.
9. Vehicle operators must have a valid state driver's license.
10. Alcoholic beverages and non-prescription drugs are not allowed at FWDA.
11. All site personnel are cautioned not to walk, kneel or sit on any surface with potential leaks, spills of contamination.
12. All personnel will immediately report to the SSHO and SM any injury, illness or exposure associated with the performance of work.
13. Remember, "When in doubt, don't." Ask questions first.

TABLE 10-2: WORK ZONE RULES AND PROHIBITIONS

1. No matches, lighters, or spark sources are allowed in any designated WZ.
2. No personnel will enter a WZ without authorization from the UXOSO or SSHO.
3. No eating, drinking, or other hand to mouth/face activity will be permitted in a WZ unless proper hygiene has been performed, and then only in designated areas of the WZ.
4. Drinking of fluids in the WZ will only be allowed after hands and face have been washed or wiped with a disposable towelette.
5. Always have your buddy with you in this zone, and follow the buddy system procedures.
6. No personnel will be allowed in the WZ without appropriate training, medical surveillance and PPE as specified by the SSHP.
7. Remain alert to site conditions and report any changes or unusual occurrences to the SSHO.
8. Verbal communication shall be immediately available at all times between the WZ and off-site emergency resources.
9. Remember: Site Safety and Health Are Everyone's Responsibility. Do your part.

10.4 MATERIAL HANDLING PROCEDURES

Site personnel will exercise care in lifting and handling heavy or bulky items. Materials being lifted either mechanically or manually will not be moved, or suspended, over personnel unless positive precautions have been made to protect the personnel from falling objects. Whenever heavy or bulky material is to be moved manually, the size, shape, and weight of the object and the distance and path of movement must be considered to prevent joint and back injuries. The following hierarchy shall be followed in selecting a means for material handling:

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1. Movement of the material by mechanical device (i.e., lift truck, crane, etc.)
2. Movement by manual means using mechanical aid (i.e., dolly or cart)
3. Movement manually with protective equipment (i.e., lifting belt or lifting monitor)

The lifting fundamentals and requirements are presented in ECC SOP-37 (Material Handling) in Attachment 3 of the APP. The lifting procedures in this SOP will be followed whenever personnel are required to lift objects. The personal lifting limitation of 50 pounds will be followed at all times.

10.5 DRUM/CONTAINER HANDLING PROCEDURES AND PRECAUTIONS

All drums used on site will meet Department of Transportation (DOT) requirements for the type of waste to be stored in the drums. Drums for project wastes will be located IAW the requirements in the Work Plan and all site personnel involved with the handling of waste drums will be trained in the procedures to be used for the handling and movement of the drums. Movement of full or partially full drums will be conducted through the use of a drum dolly or some other mechanical means such as a drum grapple. Additional requirements for handling drums are presented in the drum handling SOP-46 in Attachment 3 of the APP.

10.6 HOT WORK AND FIRE PROTECTION/PREVENTION

10.6.1 Hot Work Practices

There is a potential that hot work may be needed during equipment repair and maintenance activities. ECC personnel will follow the precautions and SWPs outlined in SOP-27, ECC's Welding, Cutting and Hot Work SOP, in Attachment 3 of the APP.

10.6.2 Causes of Fires and Explosions

Although fires and explosions may arise spontaneously, they are more commonly the result of carelessness during the conduct of site activities. Potential causes of explosions/fires include:

- Ignition of explosive/flammable gases or vapors by external ignition sources.
- Agitation of shock or friction-sensitive compounds.
- Sudden release of materials under pressure.
- Combustion of grass or brush due to contact with the hot exhaust system when site vehicles are parked in dry brushy/grassy areas.
- Brush and/or wildfires caused by lightning and/or off-site unknown sources.

10.6.3 Fire Prevention

Explosions and fires not only pose the obvious hazards of intense heat, open flames, smoke inhalation, and flying objects, but may also cause the release of toxic chemicals into the environment. Site personnel involved with potentially flammable material or operations shall follow the guidelines listed in ECC SOP-28 in Attachment 3 of the APP to prevent fires and explosions.

10.6.4 Fire Protection

To ensure adequate fire protection, the SSHO will inspect the site to ensure that all flammable and combustible materials are being safely stored in appropriately configured storage areas and containers. The SSHO will also ensure that no flammable or combustible materials are stored near any sources of ignition and that sources of ignition are removed a safe distance from storage areas. Portable fire extinguishers shall be located on site IAW the requirements in Section 14.0 of this SSHP. Additional information on fire protection can be found in Section 15.9 of this SSHP.

10.7 ELECTRICAL SAFETY PROCEDURES

For this project, no electrical wiring installation is anticipated. However, the use of electrical tools and apparatus will be conducted IAW OSHA Standard 29 CFR 1910.137(2) and SOP-29 (Electrical Safety) in Attachment 3 of the APP. These requirements include, but are not limited to:

- All electrical equipment will be of a type listed by Underwriters Laboratories (UL) or Factory Mutual Engineering Corp. (FM) for the specific application.
- Flexible cord passing through work areas will be covered or elevated to protect it from damage by foot traffic, vehicles, sharp corners, or pinching.
- Patched, oil-soaked, worn, or frayed electric cords or cables will not be used.
- Extension cords or cables will not be fastened with staples, hung from nails, or suspended by wire.
- Portable and semi-portable electrical tools and equipment will be grounded by a multi-conductor cord having an identified grounding conductor and a multi-contact polarized plug-in receptacle.
- Semi-portable equipment, floodlights, and work lights will be grounded, and the protective ground will maintained during moving unless supply circuits are de-energized.
- Tools protected by an approved system of double insulation, or its equivalent, need not be grounded.
- UL listed ground fault circuit interrupters (GFCIs), calibrated to trip within the threshold values of 5 milliamperes (ma) \pm 1 ma, are required on all circuits used for portable electric tools.
- Flexible cord sets will be UL listed, contain the number of conductors required for the service plus an equipment ground wire and will be classified as hard usage or extra hard usage (identified by "outdoor" or "WA" printed on the jacket).

10.8 MACHINERY GUARDING

In order to protect site personnel from unguarded moving machinery and equipment surfaces, the requirements found in Subpart O of 29 CFR 1910, Section 16B of USACE EM 385-1-1, and the general provisions listed below will be followed:

- All reciprocating, rotating or moving parts of machinery or equipment shall be guarded IAW manufacturer's specifications if they create a hazard through contact with personnel.
- All hot surfaces of equipment shall be guarded or insulated to prevent injury and fire.
- No guard, safety appliance, or device shall be removed from machinery or equipment or made ineffective except when making immediate repairs, lubrication, or adjustments, and then only after the power has been shut off.
- All guards or safety appliances removed for repair, lubrication, or adjustments will be replaced immediately upon completion of said activity and before the power is restored.

10.9 CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)

There is a potential that some operations on equipment and facilities will require the control of energized systems. Energized systems are defined as those systems that contain residual or stored energy, or are connected to an energy source. Site operations involving the construction, installation, set up, adjustment, modification, inspection, maintenance or servicing of machines or equipment may require the use of LO/TO procedures to ensure the protection of those personnel conducting the operations. These activities may include the lubrication, cleaning or unjamming of machines or equipment, and making adjustments where site personnel are exposed to the unexpected energizing or startup of the equipment or the release of hazardous energy. This also includes working under raised dump beds and the bucket arms of front-end loaders, skid steers or any other piece of equipment where an arm, bucket or other assembly is hydraulically raised. Equipment of this nature on which maintenance must be performed in this configuration will have the raised or suspended item blocked and braced with appropriate timber members or other means to ensure the system does not de-energize and endanger the maintenance personnel. During the initial startup of site operations, the PSHM and SSHO will determine what potential site operations may require the use of LO/TO procedures to control energized systems. The SSHO will then have the responsibility to apply the ECC LO/TO SOP-12 presented in Attachment 3 of the APP.

10.10 FALL PROTECTION

Standard guardrail, catch platforms, temporary floors, safety nets, personal fall protection devices, or the equivalent, shall be used to protect site personnel in the following situations:

- on access ways (excluding ladders) or work platforms from which they may fall 6 ft or more,

- on access ways or work platforms over water, machinery, or dangerous operations,
- on runways from which they may fall 1.2 m (4 ft) or more.

Platforms, except scaffolds, 4 ft to 6 ft in height, having a minimum horizontal dimension in either direction of less than 45 inches shall have standard railing installed on all open sides and ends of the platform or the workers shall use personal fall protection.

Personal fall protection devices will be required for this project anytime personnel are working from a work platform that is not protected by standard guardrails, and are exposed to falls from a height of six feet or more. Personal fall arrest systems, when stopping a fall, shall:

- Limit maximum arresting force on an employee to 820 kg (1,800 lb) when used with a body harness;
- Be rigged such that an employee can neither free fall more than 1.8 m (6 ft) nor contact any lower level or other physical hazard;
- Bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 1 m (3.5 ft); and
- Have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of 1.8 m (6 ft) or the free fall distance permitted by the system, whichever is less.
- Positioning device systems shall:
 - Be rigged such that an employee cannot free fall more than 0.6 m (2 ft);
 - Be secured to an anchorage capable of supporting at least twice the potential impact load of an employee's fall or 1360 kg (3,000 lb), whichever is greater.

Additionally the following requirements for body belts shall be met:

- Harnesses shall have two lanyards when necessary to insure that a person is tied-off with at least one lanyard at all times, or where the lanyard is the primary support for operations such as rock-scaling and high-wall concrete finishing.
- The manufacturer's recommendations shall be followed in the fitting, adjustment, use, inspection, testing, and care of personal fall protection equipment: before an employee uses personal fall protection equipment, he/she shall receive instruction in these recommendations and the potential fall hazards of the activity.
- Personal fall protection equipment shall be inspected before use each day to determine that it is in safe working condition: defective equipment shall be immediately replaced.
- Personal fall protection equipment shall be used only safeguarding employees: and any such equipment subjected to impact loading shall be immediately removed from service, and shall not be used again for employee safeguarding.

10.11 HAZARD COMMUNICATION

In order to comply with the requirements of the OSHA HAZCOM Standard, 29 CFR 1910.1200 and the requirements of EM 385-1-1, Section 01.B.04, the SSHO will ensure

personnel receive HAZCOM training at the time of initial site assignment or when they begin working with hazardous substances. ECC subcontractors will also comply with the requirements presented above and will supply the ECC SSHO with copies of the MSDSs for any materials brought on-site by the subcontractor which contain hazardous substances.

10.12 ILLUMINATION

In order to control the potential for injury or illness involved with situations where site personnel have limited visibility, ECC personnel, as a general rule, will conduct on-site operations during the time period from 30 minutes after sunrise to 30 minutes before sunset. All office and storage facilities will be supplied with adequate artificial or ambient light so as to ensure the safe performance of operations within the facility.

10.13 POWER AND HAND-TOOL OPERATION

To control the hazards associated with power tool operation, personnel will follow the requirements outlined in 29 CFR 1910, Subpart P, 29 CFR 1926, Subpart I, and the SWPs listed in the ECC Power and Hand Tool SOP-25 presented in Attachment 3 of the APP.

10.14 BIOLOGICAL HAZARDS

This project is scheduled to start in late spring and extend into the summer months. Therefore, site personnel will experience potential exposure to biological hazards such as: stinging insects like bees, wasps and hornets; biting arthropods such as spiders, ticks and chiggers; and snakes. Site personnel will read the ECC Biological Hazards SOP-06 in Attachment 3 of the APP to determine the hazards associated with biological hazards and the controls to be used. The SSHO will be responsible for providing briefings and selecting from the Biological Hazards SOP-06 and identifying the requisite controls for any biological hazards identified. Employee awareness and the SWPs outlined in the Biological Hazards SOP-06 should reduce the risk associated with these hazards.

10.15 USE OF PRODUCTS CONTAINING HAZARDOUS MATERIALS

Because of the nature of products used on site and the manner in which they will be used, it is not anticipated that there will be a potential for airborne exposure to the hazardous materials used on site. However, some products used have the potential for skin contact hazards. To help ensure personnel safety from hazardous materials, ECC personnel will follow the SWPs listed below:

- To determine the chemical properties of the hazardous materials and the protective measures to be used, all site personnel who use shall personally review the MSDS for each product used.
- All products with airborne exposure hazards (i.e., gasoline and other fuels, spray paints, etc.) will be used outdoors or in well-ventilated areas, and personnel will stand upwind of the dispensing point when dispensing the product.

- When using or dispensing a product with a skin contact hazard, personnel will utilize protective gloves, as identified in Section 6.0 of this SSHP
- Only those personnel, who have received appropriate HAZCOM training, as outlined in Section 5.10 of this SSHP, shall use a product containing hazardous materials.
- Personnel shall immediately wash any affected skin that accidentally comes in contact with a hazardous material identified as being a skin contact hazard.

10.16 MEC HAZARDS

10.16.1 General MEC Site SWPs

For all site activities potentially involving MEC, the procedures and practices listed below shall be strictly enforced.

- All MEC will be independently identified by two UXO-qualified technicians.
- Only the minimum number of personnel required to perform a given MEC-related activity will be involved in the operation.
- Movement and handling of MEC will be not be permitted at any time.
- Only ECC UXO-qualified personnel will be involved in the investigation, identification, and marking of known or potential MEC items and explosive materials.
- No smoking, or possession or use of open flame or spark sources will be allowed in the EZ, unless approved by the SSHO or team leader, and then only in designated areas.

10.16.2 MEC SWPs for Non-UXO-Qualified Personnel

Non-UXO-qualified personnel on site shall follow the SWPs listed below when on site:

- Non-UXO-qualified personnel shall receive site-specific MEC recognition training prior to participation in site activities.
- Non-UXO-qualified personnel shall be escorted on site by UXO-qualified personnel in all areas within the EZ.
- Non-UXO-qualified personnel shall not touch or disturb any object that could potentially be MEC-related and shall immediately notify the nearest UXO-qualified person of the presence of the object.

11.0 SITE CONTROL MEASURES

11.1 CENTER OF OPERATIONS

ECC intends to use a mobile office trailer. In the event of a site accident involving the total evacuation of site personnel, the on-site office trailer location will act as the primary staging area for accountability, with the office at the main gate serving as a secondary assembly area for the final. The mobile office trailer location and SZ will be located so as to minimize the potential for contaminants to migrate into these locations.

11.2 SECURITY PROCEDURES

11.2.1 Project Site Access and Security

Project site access and security will be via existing access roads and fences/gates, and augmented as needed with the use of signs and barricades.

For site operations ECC will establish work zones as described below. These work zones will ensure that personnel are properly attired in PPE to mitigate the hazards associated with the site and that only those personnel with the experience and training are permitted in the areas where exposures to site hazards could exist.

11.2.2 Work Zones

To reduce the migration of contaminants from those sites where hazardous substances have been identified, ECC will utilize the work zones outlined below. For sites where no contaminants are present and only Level D PPE is used, ECC will establish only the EZ and the SZ.

11.2.2.1 Exclusion Zone

The EZ is a work area where the greatest hazard potential for exposure to safety and health hazards may be, or is known to exist. Personnel entering the EZ must be logged in/out using the ECC Exclusion Zone Entry/Exit Log and will wear the prescribed levels of PPE. EZ entry and exit control points will be established to regulate the flow of personnel and equipment into and out of the EZ. This will ensure that personnel and equipment are protected and that contamination located inside the EZ is properly contained. The entry/exit control points will be established up wind from the EZ to prevent airborne contaminants from migrating into "clean" areas. The site's prevailing wind direction will be used to select the entry/exit control points, but alternate entry/exit points need to be available in the event that the wind direction changes or an emergency arises which precludes the use of the primary entry/exit point. No tobacco product use, eating, drinking application of cosmetics or other hand to face activities are allowed in this area unless strictly specified in the SSHP.

It may become necessary, during hot weather conditions, to modify the restrictions on drinking in the EZ. This may be accomplished by establishing a break area inside the EZ, upwind from the work site, which is accessed through a scaled down version of the personal decontamination station. Personnel would be allowed to enter this area to drink cool fluids and rest. This modification may be implemented only if the potential for

contamination is low, if proper procedures are established, and if approved by the ECC PHSM.

11.2.2.2 Contamination Reduction Zone

The contamination reduction zone (CRZ) is the transition zone between the EZ and the SZ and serves as a buffer to reduce the probability of clean areas becoming contaminated or affected by hazards in the EZ. It provides additional assurance that the transfer of contamination on personnel, equipment, or in the air is limited through the use of a combination of decontamination, segregation of site operations, dilution ventilation, and distance between the exclusion and support zones. The CRZ is the location of the personnel decontamination station (PDS), the equipment decontamination station (EDS) and the emergency PDS (EPDS). These stations will be used to prevent the spread of contamination into clean areas through the application of site-specific decontamination procedures. No tobacco product use, eating, drinking, application of cosmetics, or other hand to face activities are allowed in the CRZ or any of the decontamination stations, unless specified in the SSHP.

11.2.2.3 Support Zone

The SZ is the area outside the CRZ and is the location of the administrative and other support functions required to keep the operations in the EZ and CRZ functioning smoothly. The SZ includes facilities such as the change area, lunch and break areas, office trailer, and supply storage areas. Personnel in the SZ can wear normal work clothes since this area is designated as the clean area and contaminated equipment and clothing must be left in the CRZ or EZ. The SZ is designated as the tobacco product use, eating, and drinking area. The location of the support facilities inside the SZ should be selected through careful consideration of the following:

- Site layout, including topography, open spaces and available access roads;
- Location of utilities, such as power, telephones and water;
- Line-of-sight to all activities in the EZ;
- Wind direction (the SZ should be located up-wind from the PDS); and
- Distance from the EZ (i.e. not more than 100 meters to the SZ if possible)

11.3 EQUIPMENT STORAGE AND SECURITY

During non-working periods, all project equipment used on-site, to include hand tools, will be stored, in designated storage facilities located at the site.

11.4 SITE MAPS

Prior to initiation of site activities, a site map will be available which will detail the following information: site size and shape; restricted areas; designated assembly points; the site access routes; staging areas; and any other information deemed necessary by the SM or

SSHO. The site map will be used by the SSHO during site safety training and the daily safety briefings.

11.5 SITE COMMUNICATIONS

Effective on-site and off-site communication is an integral part of site control and will be established prior to initiation of site activities. On-site communication will be used to coordinate site operations; maintain site control; pass along safety information, coordinate work/rest periods, etc.; and alert site personnel to emergency situations. Means of communicating with off-site resources will be available at all times to ensure effective communication with off-site management personnel and emergency response services. All site personnel will be familiar with the different methods of both on-site and off-site communication. The methods ECC will use for on- and off-site communication will include:

1. On-site communications consisting of portable radios, as well as air horns, bullhorns, sirens or hand signals as needed for communications.
2. Off-site communications will be accomplished using the office hard line phone or cellular telephones. Each team will have two means of communication for summoning off-site support.

11.6 BUDDY SYSTEM

An important element in controlling personnel exposure to site hazards is the implementation of buddy system procedures. These procedures ensure that no site personnel are allowed to work without another qualified worker present to provide assistance. At all times buddies should:

1. Observe their buddy for signs of exposure to site hazards or stresses;
2. Observe the site area in which they are working for hazards;
3. Remain within verbal or visual contact with their buddy at all times; and
4. Notify the team leader and/or field office if emergency assistance is needed.

12.0 PERSONAL HYGIENE AND DECONTAMINATION

To control and minimize contamination, personnel shall refer to SOP 31, Contamination Control, in Attachment 3 to the APP. In addition, personal hygiene and sanitation facilities will be established on site IAW 29 CFR 1910.120(n) and USACE EM 385-1-1.

12.1 WATER SUPPLY

An adequate supply of potable (drinkable) water shall be provided on site at all times and will be supplied as per the following provisions:

- Containers will be clearly marked, be capable of being tightly closed, equipped with a tap, maintained in a sanitary manner, and cleaned at least weekly.
- Separate sanitary containers will be provided for the storage of the unused cups and for the disposal of the used cups where single service cups are provided.
- Water or other supplied beverages shall not be dipped from the container by any means, and use of a common cup shall not be allowed.
- Use of non-potable water is not anticipated; however, if containers of such water are used, they will be conspicuously labeled "Caution: water unfit for drinking, washing, or cooking."

12.2 TOILET FACILITIES

Under field conditions where a project site is not provided with a sanitary sewer system, temporary toilet facilities shall be located at the site. Chemical toilets will be used by ECC to fulfill this requirement. Each temporary toilet shall be naturally lighted, have ventilation, be lockable from the inside, and be serviced weekly. The minimum requirements for toilet facilities can be found in the OSHA Standard 29 CFR 1910.120(n). Antibacterial hand cleaning solution or antibacterial wipes will be available outside all portable toilets.

12.3 WASHING FACILITIES

Hand and face washing facilities will be utilized by all personnel exiting the WZ and prior to any eating, drinking, tobacco use, or other hand-to-face activities. Due to the remoteness of the site and the lack of immediately available water resources, hand wipes and rinse water will be provided for on-site hand and face washing. Where possible, ECC will acquire a portable, refillable hand washing station for placement inside the Support Zone.

12.4 PERSONNEL DECONTAMINATION

12.4.1 General Requirements

A PDS will be established at any site where greater than Level D PPE is used. The type of decontamination facilities will be established based upon the level of PPE used at a given

site for a given operation as outlined in the AHA (see Attachment 2 to the APP) for each site.

12.4.2 Level D, Modified Level D Decontamination

No hazardous chemical decontamination procedures will be required for Level D and Modified Level D PPE. All PPE will be maintained and cleaned following the requirements of Section 6.0.

12.4.3 Level C, Modified Level C Decontamination

The decontamination procedures outlined in ECC SOP-31, in Attachment 3 of the APP, will be utilized for Level C and Modified Level C PPE, unless the asbestos hazard evaluation determines that decontamination must be performed IAW the more stringent 29 CFR 1926.1101 (j)(2) for Class II asbestos work operations.

To minimize the potential for site personnel carrying contamination into clean areas, a PDS will be established in the CRZ to facilitate decontamination and removal of protective clothing when personnel are using Level C PPE. The PDS will be established prior to any site activities involving the potential for personnel exposure to ACM. However, if additional Level C tasks are identified the PDS will be geographically located to minimize exposure of unprotected personnel and equipment (i.e., the PDS will be stationed down wind of the SZ). During the set up of the PDS, signs will be set up at each station to remind personnel of the proper activity to be conducted at the particular station. Waste materials and solutions accumulated as a result of decontamination operations will be properly containerized and disposed of IAW the waste disposal procedures presented in the Work Plan.

12.4.4 Emergency Personnel Decontamination Station

When personnel are required to use Level C PPE, an EPDS area will be set-up immediately adjacent to the PDS to facilitate the decontamination of incapacitated personnel. The EPDS will make available all the necessary resources for rendering first aid and decontamination. The EPDS will allow for rapid and safe decontamination, PPE removal, and transportation of an injured worker across the hot line. The EPDS will include the following stations and supplies:

<p>Station A (in the EZ) Area with blunt-nosed scissors, and decontamination and first aid supplies</p>	<p>H O T L I N E</p>	<p>Station C - Opposite Station A (in the CRZ) Area with first aid kit, eye wash kit, burn blanket, BBP kit, and fire extinguisher</p>
<p>Station B (in the EZ) Stretcher for EZ side of the Hot Line</p>		<p>Station D - Opposite Station B (in the CRZ) Stretcher for the PDS side of the Hot Line</p>

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12.5 SITE HOUSEKEEPING

All work areas will be maintained in a clean/neat fashion, free of loose debris and scrap. Any materials/equipment not being used will be removed and stored or disposed of accordingly. All work areas shall be supplied with a trash receptacle that includes a lid. The contents of all trash receptacles will either be removed from the site daily or emptied daily into an on-site central storage container that will be tightly closed each night prior to departure from the site.

13.0 EQUIPMENT DECONTAMINATION

Equipment used in the field, to include PPE, shall be cleaned and inspected at the end of each workday to ensure that the equipment is maintained in safe operating condition. Any equipment found to be defective would be brought to the attention of the SM or SSHO. Tools and equipment used in the EZ will be kept free of accumulations of soil and other debris and will be cleaned prior to their removal from the EZ. Hand equipment will be decontaminated using an equipment decontamination station set up next to the PDS and EPDS. Any wash and rinse solutions and debris associated with the equipment decontamination will be containerized and disposed of using the waste disposal procedures outlined in the Work Plan. Prior to the start of operations where equipment could become contaminated, the SSHO will ensure that equipment decontamination stations are established and ready to use.

14.0 EMERGENCY EQUIPMENT AND FIRST AID

For this project, no additional or special levels of PPE are being specified for emergency situations. For all site operations, approved first aid and emergency response supplies will be available on-site. Each field team that functions away from the field office and lay down area will have and maintain first aid supplies consisting of:

- A 16-Unit or 25-person first aid kit with added BBP kits capable of protecting two first aid providers;
- Portable eye wash bottles;
- Burn kit with bandages;
- Trauma bandages;
- A fire blanket; and
- 20 lb Fire extinguisher

Additional first aid and emergency response supplies will be maintained on site as required in Table 14-1 of this SSHP. With the exception of fire extinguishers that require a monthly physical inspection, all emergency response and first aid equipment will be inspected initially and then weekly thereafter to ensure proper operational condition. Each team will have a fire extinguisher in the site vehicle and additional fire extinguishers will be used for any temporary fuel storage areas established. An emergency eye wash station that complies with ANSI Z-358.1 will be available in the office/equipment storage area. No safety showers will be required since there is no potential for personnel being drenched with hazardous substances that can pose a threat to the skin.

TABLE 14-1: EMERGENCY EQUIPMENT REQUIREMENTS

Emergency Equipment	No. Per Location	Area Where Item(s) Will Be Stored	Operation Requiring Specified Equipment
First Aid/Burn Kit/Burn Blanket/CPR Mask	1 ea.	Each team within the WZ	All operations
Portable Eye Wash Kit	1 ea.	Each team within the WZ	Operations involving hazardous materials that could splash
15- Minute Eye Wash	1 ea.	Field equipment trailer or field office	All operations
Biohazard Kit	2 ea.	Each team within the WZ and in the SSHO vehicle	All operations
Large Medical Kit with Trauma Supplies	1 ea.	1 in SSHO vehicle	All operations
Portable Stretcher	1 ea.	1 in SSHO vehicle	All operations
Air Horn	1 ea.	Each team within the WZ	All operations
Spill Containment/Cleanup Supplies	Varies	Field equipment trailer	Operations involving hazardous materials
Fire Extinguisher	1 ea. (20 lb)	Each team, vehicle, and flammable storage area	All operations
Cellular Phone	1 ea.	SSHO	All operations

Date	Particulars	Amount
1998-09-01	Balance b/f	1000.00
1998-09-05	Bank of India	2500.00
1998-09-10	Bank of India	1500.00
1998-09-15	Bank of India	3000.00
1998-09-20	Bank of India	4000.00
1998-09-25	Bank of India	5000.00
1998-10-01	Bank of India	6000.00
1998-10-05	Bank of India	7000.00
1998-10-10	Bank of India	8000.00
1998-10-15	Bank of India	9000.00
1998-10-20	Bank of India	10000.00
1998-10-25	Bank of India	11000.00
1998-11-01	Bank of India	12000.00
1998-11-05	Bank of India	13000.00
1998-11-10	Bank of India	14000.00
1998-11-15	Bank of India	15000.00
1998-11-20	Bank of India	16000.00
1998-11-25	Bank of India	17000.00
1998-12-01	Bank of India	18000.00
1998-12-05	Bank of India	19000.00
1998-12-10	Bank of India	20000.00
1998-12-15	Bank of India	21000.00
1998-12-20	Bank of India	22000.00
1998-12-25	Bank of India	23000.00
1999-01-01	Bank of India	24000.00
1999-01-05	Bank of India	25000.00
1999-01-10	Bank of India	26000.00
1999-01-15	Bank of India	27000.00
1999-01-20	Bank of India	28000.00
1999-01-25	Bank of India	29000.00
1999-02-01	Bank of India	30000.00
1999-02-05	Bank of India	31000.00
1999-02-10	Bank of India	32000.00
1999-02-15	Bank of India	33000.00
1999-02-20	Bank of India	34000.00
1999-02-25	Bank of India	35000.00
1999-03-01	Bank of India	36000.00
1999-03-05	Bank of India	37000.00
1999-03-10	Bank of India	38000.00
1999-03-15	Bank of India	39000.00
1999-03-20	Bank of India	40000.00
1999-03-25	Bank of India	41000.00
1999-04-01	Bank of India	42000.00
1999-04-05	Bank of India	43000.00
1999-04-10	Bank of India	44000.00
1999-04-15	Bank of India	45000.00
1999-04-20	Bank of India	46000.00
1999-04-25	Bank of India	47000.00
1999-05-01	Bank of India	48000.00
1999-05-05	Bank of India	49000.00
1999-05-10	Bank of India	50000.00
1999-05-15	Bank of India	51000.00
1999-05-20	Bank of India	52000.00
1999-05-25	Bank of India	53000.00
1999-06-01	Bank of India	54000.00
1999-06-05	Bank of India	55000.00
1999-06-10	Bank of India	56000.00
1999-06-15	Bank of India	57000.00
1999-06-20	Bank of India	58000.00
1999-06-25	Bank of India	59000.00
1999-07-01	Bank of India	60000.00
1999-07-05	Bank of India	61000.00
1999-07-10	Bank of India	62000.00
1999-07-15	Bank of India	63000.00
1999-07-20	Bank of India	64000.00
1999-07-25	Bank of India	65000.00
1999-08-01	Bank of India	66000.00
1999-08-05	Bank of India	67000.00
1999-08-10	Bank of India	68000.00
1999-08-15	Bank of India	69000.00
1999-08-20	Bank of India	70000.00
1999-08-25	Bank of India	71000.00
1999-09-01	Bank of India	72000.00
1999-09-05	Bank of India	73000.00
1999-09-10	Bank of India	74000.00
1999-09-15	Bank of India	75000.00
1999-09-20	Bank of India	76000.00
1999-09-25	Bank of India	77000.00
1999-10-01	Bank of India	78000.00
1999-10-05	Bank of India	79000.00
1999-10-10	Bank of India	80000.00
1999-10-15	Bank of India	81000.00
1999-10-20	Bank of India	82000.00
1999-10-25	Bank of India	83000.00
1999-11-01	Bank of India	84000.00
1999-11-05	Bank of India	85000.00
1999-11-10	Bank of India	86000.00
1999-11-15	Bank of India	87000.00
1999-11-20	Bank of India	88000.00
1999-11-25	Bank of India	89000.00
1999-12-01	Bank of India	90000.00
1999-12-05	Bank of India	91000.00
1999-12-10	Bank of India	92000.00
1999-12-15	Bank of India	93000.00
1999-12-20	Bank of India	94000.00
1999-12-25	Bank of India	95000.00
1999-12-31	Bank of India	96000.00

15.0 EMERGENCY RESPONSE AND CONTINGENCY PROCEDURES

15.1 INTRODUCTION

Thorough pre-planning, proper design, and implementation of the required emergency response contingencies can dramatically reduce the frequency and severity of emergencies. If an emergency does occur, quick, decisive action will be required since even short delays can create or escalate life-threatening situations. To ensure rapid, effective response to a site emergency, the procedures and contingency plans outlined in this section shall be implemented prior to and during the conduct of any site activities involving exposure to safety and health hazards.

15.2 PRE-EMERGENCY PLANNING

Prior to the conduct of site operations, ECC site personnel will have contacted and met with appropriate local authorities to inform them of the site activities to be performed under this SSHP and the potential hazards that these activities pose to site personnel, the environment, and the public. The SM and SSHO will confirm information from the local authorities related to the type of emergency services available, including any contact phone numbers or procedures needed to summon the services. The SSHO will be responsible for ensuring that the telephone numbers and procedures for contacting local emergency services are posted as requirement in this Section.

15.3 IDENTIFICATION OF POTENTIAL EMERGENCIES

During the development of this SSHP, great attention was given to identifying potential safety and health hazards associated with the planned site activities. These hazards were then assessed to determine nature and type of emergency they could cause. Contingency plans for responding to the potential emergencies have been developed and are included in this section. The potential emergencies that may result during the conduct of site activities are as follows:

- Personal injury associated with the operation of hand and power tools, including cuts/lacerations, and flying objects and debris;
- Personal injury associated with sharp objects that may cause cut, scrape, puncture, splinter or laceration injuries;
- Injury or illness associated with site activities and on-site chemical, physical or biological hazards;
- Fire; and/or
- Inclement weather.

15.4 IDENTIFICATION/COORDINATION OF EMERGENCY SERVICES

Prior to the initiation of site activities, the SSHO will contact local emergency services to verify the availability of requisite services and to confirm the means used to summon the services. It will be the responsibility of the SM to ensure that off-site communications are available at all times. Site operations shall not be conducted unless means of off-site

communications are established. The telephone numbers for all emergency services and contacts are presented in this plan and will be posted in the office/break area and in all site vehicles. All site personnel shall be aware of the procedures for notifying emergency services.

15.5 INITIAL INCIDENT REPORTING PROCEDURES

Once an emergency has occurred, team members will sound the air horn alarm and the respective team leader will establish radio contact with the SSHO and the SM. This will initiate site evacuation and mobilization of ECC first aid/CPR response personnel. Once informed of the emergency, the PM will ensure notification to the FWDA BEC, and the SM will summon emergency responders as necessary. The SSHO will ensure that all teams are cognizant of the situation and are involved in the proper response procedures.

15.6 PERSONNEL ROLES, AUTHORITY AND COMMUNICATIONS

15.6.1 Site Manager

Upon notification of an emergency situation, the SM will assume the role of the On-Site Incident Commander. As the On-Site Incident Commander, the SM will have overall responsibility for coordinating the efforts of the ECC on-site response actions, as well as the off-site emergency response agencies. Additionally, the SM shall ensure that required off-site emergency services have been summoned and will also be responsible for notifying and coordinating all relevant Federal, state and local regulatory and response agencies. The On-Site Incident Commander will be assisted by the SSHO.

15.6.2 SSHO

During an emergency situation, the SSHO will have specific duties that are assigned by virtue of the need to maintain separation of safety and health from operations. However, as deemed appropriate, the SSHO will provide assistance to the SM during response actions. In the event that the SM is incapacitated, the SSHO will assume the duties of the SM.

15.6.3 On-site Emergency Response Personnel

During site activities ECC personnel will act, to the greatest extent possible, in the role of on-site emergency response personnel. The ECC SM will designate the personnel assigned to emergency response tasks prior to initiation of site activities involving the potential for an on-site emergency. ECC on-site emergency response personnel will receive training in the response actions that they will be authorized to, and may be directed to, perform during a site emergency.

15.6.4 Off-site Emergency Response Services

The primary means of obtaining off-site emergency services will be through the phone notification of the emergency services and contacts listed in Table 15-1. It must be noted that all contact with off-site emergency services will be coordinated through the SM.

Table 15-1: Emergency Telephone Numbers

SERVICE / CONTACT	AGENCY / POSITION	TELEPHONE NUMBER
General Emergency Contacts	FWDA Caretakers/FWDA BRAC Environmental Coordinator USACE POC: Madeline Morgan	Via radio communication Or Phone (505) 488-5411 (817) 886-1316 (office) (817) 233-2700 (cell)
Land or Air Ambulance	Med Star	911
Emergency Hospital Care	Rehoboth McKinley Christian Medical Center	(505) 863-7000 (General) (505) 863-7141 (Em. Room)
Minor Injuries	Rehoboth McKinley Christian Medical Center	(505) 863-7000 (General) (505) 863-7141 (Em. Room)
Police	McKinley County Sheriff's Office	911 (505) 722-7205
Police	New Mexico State Police	911 (505) 863-9353
Fire	Fort Wingate Fire Department	911 (505) 488-5261
Mark Patterson	FWDA BRAC Environmental Coordinator	(505) 488-5411
Steven Smith	USACE Project Manager	(817) 886-1879
Harmon Slappy	USACE Military Munitions Safety Specialist	(817) 886-1885
David Holladay	USACE Military Munitions Safety Specialist	(505) 342-3463
Martin Eastridge	Missile Defense Agency (MDA) Caretaker	(505) 649-0352
Michael Poe	ECC Project Manager	Office (281) 994-4164 Cellular (281) 723-2673
Michael Poe	ECC Site Manager	Office (281) 994-4164 Cellular (281) 723-2673
AL Kimbol	ECC SSHO and UXOSO	Office (303) 298-7606 Cellular (803) 707-3344
Mike McSherry	ECC PSHM	Office (973) 338-7011 Cellular (215) 776-0108

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15.7 COMMUNICATIONS

Emergency communications will be available and maintained during all on-site operations. As previously discussed, radio and cellular phone communications will be used between the field teams and the field office. The field office will have radio and cellular phone communication to the FWDA caretakers and FWDA BEC, as well as the ECC FWDA project office. In the event of an emergency, the FWDA caretakers will be contacted to summon off-site emergency services.

15.8 POSTED INSTRUCTIONS AND EMERGENCY CONTACTS

Evacuation routes, assembly points, emergency and site control procedures, hospital routes, and emergency numbers will be discussed each day at the daily safety briefing to ensure all site personnel are familiar with this information. A hospital route map and the list of emergency contacts presented in Table 15-1 will be posted in all ECC office and storage areas and maintained in all site vehicles. All site personnel will be familiar with the location of these lists and maps, and will be aware of the location of the closest telephone and/or radio communications.

15.9 EMERGENCY RECOGNITION AND PREVENTION

15.9.1 Incipient Stage Fires

"Incipient stage fire" means a fire which is in the initial or beginning stage and which can be controlled or extinguished by portable fire extinguishers, Class II standpipe or small hose systems without the need for protective clothing or breathing apparatus.

In the event of a small fire, site personnel will take the following actions:

1. The ECC Team Leader will immediately notify the UXOSO/SSHO.
2. The FWDA BEC will be immediately notified of the occurrence of the fire by ECC PM/UXOSO/SSHO.
3. All unnecessary personnel shall be evacuated to an upwind location. The escape route will be discussed as part of the daily safety briefing.
4. Under the initial direction of the ECC Team Leader, as directed by the SM, ECC personnel, who have been trained in the use of portable extinguishers, will extinguish the fire from an upwind location.
5. The UXOSO shall summon the local fire department and any other emergency response services (police, ambulance, hospital, etc.) as needed for the treatment of injuries or exposures.
6. ECC personnel will not attempt to extinguish a fire, even a small one, if explosives are involved, and all site personnel will evacuate the site if explosives are involved.
7. After the fire is extinguished, an investigation will be initiated to determine the cause of the fire and to identify any operational changes that may be required to prevent future fires.

15.9.2 Large Fires

In the event that a large fire occurs, or if a small fire cannot be extinguished and develops into a large fire, the following actions shall be taken:

1. The ECC Team Leader will immediately notify the SM and SSHO.
2. The FWDA BEC will be immediately notified of the occurrence of the fire by ECC PM/UXOSO/SSHO.
3. All personnel shall be evacuated to an upwind assembly point. The escape route will be discussed as part of the daily safety briefing.
4. The UXOSO shall summon the local fire department and any other emergency response services (police, ambulance, hospital, etc.) as needed for the treatment of injuries or exposures.
5. To the extent that it can be safely accomplished, the SM will direct site personnel to move vital equipment/supplies from the fire's path.
6. At no time shall attempts be made to extinguish a fire involving explosives and all personnel will evacuate the site if the fire involves explosives or becomes widespread.
7. After the fire is extinguished, an investigation will be initiated to determine the cause of the fire and to identify any operational changes that may be required to prevent future fires.
8. Resumption of activities after a large fire would require approval from the FWDA BEC.

15.9.3 Explosion

In the event of an unintentional explosion, all personnel shall evacuate and help secure the site and the SM and SSHO will immediately be notified of the situation. The SM shall request the required support equipment and personnel. If personnel injuries have occurred, the SM shall direct and coordinate the treatment of the affected personnel. After an explosion, it is essential that the site be evacuated and that no one is allowed to re-enter the area, except to possibly save a life, for at least 30 minutes after the explosion. The SM, in conjunction with the SSHO will determine what actions will be taken to resolve the situation, and once resolved, the SM and SSHO will initiate an investigation to determine the cause of the explosion. Any changes to the ECC APP or SSHP will be made and approved prior to the resumption of site activities.

15.9.4 Inclement Weather

In the event of inclement weather, such as heavy precipitation, electrical storms, high winds, snowstorms, dense fog, or extremely cold weather, it may be necessary to cease site operations and evacuate the site. The SSHO shall be responsible for obtaining the local weather on a daily basis and advising the SM of the forecast. If necessary, the weather service will be contacted on a more frequent basis. Anticipated weather conditions for each day will be discussed during the pre-work health and safety briefing

each morning. If the SSHO receives subsequent reports of changing weather conditions he will notify the SM and any team leaders via radio. Otherwise, all field personnel will be charged with the responsibility to keep watch for unexpected weather changes and to notify their team leader immediately. If inclement weather occurs, the procedures outlined below will be followed until the inclement weather passes.

- **Heavy Precipitation:** In the event that heavy precipitation is imminent, or occurs suddenly, site operations may have to be halted if in the heavy precipitation will, in the opinion of the SSHO, cause unsafe conditions. If so determined, equipment will be secured, and site personnel will retreat to shelter. The determination to re-start operations will be the responsibility of the SM, who will consult with the SSHO to ensure site conditions are safe for re-entry and continuation of operations.
- **Thunderstorms:** Thunderstorms, with their associated lightning, present a significant hazard to site personnel. A severe thunderstorm watch announcement on the radio or television indicates that a severe thunderstorm is possible. A severe thunderstorm warning signifies that a severe thunderstorm has been sighted, or detected by radar, and may be approaching. Work may continue at the work site during severe thunderstorm watches; however, site work shall cease and the EZ will be evacuated during a thunderstorm or severe thunderstorm warning that is reported in the site area.
- **High Winds:** High winds can create conditions that threaten the safety and health of site personnel. If the SSHO determines that the wind levels on site present a hazard to site personnel, site operations will be halted and site personnel will assemble in the field office area. If wind levels are high enough, the SSHO may even require the evacuation of the entire site until such time as conditions improve. The determination to restart operations will be the responsibility of the SM in consultation with the SSHO to ensure site conditions are safe for re-entry and continuation of operations.

15.10 CRITERIA AND PROCEDURES FOR SITE EVACUATION

15.10.1 Emergency Alerting Procedures

It is the responsibility of the SM to ensure that off-site communications are available at all times for respective operations. Site operations shall not be conducted unless means of off-site communications are established. The telephone numbers for all emergency services and contacts are listed in Table 15-1. These phone numbers shall be posted in the office/break area, and all site personnel shall be aware of the procedures for obtaining off-site emergency services.

15.10.2 Employee Alarm System

To alert on-site team members, each ECC Team Leader and the SSHO will have an air horn (or as an alternative an automobile horn) that will be sounded to inform personnel in the immediate area of the occurrence of an emergency. The effectiveness of the air horn and automobile horn will be tested during initial site activities to ensure that all site personnel can clearly perceive the alarm above operational noise levels. If operational

noise levels prevent site personnel from detecting the air horn alarm, other means of notification will be implemented.

To alert WZ personnel of the occurrence of an emergency, one long blast on the air horn will be the signal to evacuate the site immediately. The initial assembly point for each WZ will be located in a safe area as identified during the daily safety briefing each morning. Once WZ personnel are assembled, the UXOSO will conduct a head count of all team personnel. Once accounted for, WZ personnel await instructions from the UXOSO, which may include: further evacuation from the site, emergency response instructions; or any other instructions deemed necessary.

15.10.3 Evacuation Routes and Assembly Points

Prior to the initiation of site operations, the SSHO, will identify the evacuation routes and assembly points for the various areas on the site. These routes and assembly points will be identified on the site map and will be communicated each morning to site personnel during the daily safety briefing (Figure 15-1).

15.11 SITE SECURITY AND CONTROL DURING EMERGENCIES

During an emergency, site security and control will be paramount to controlling the possible negative effects of the emergency. Upon notification of an emergency, each team leader will initially be responsible for locating, assembling, counting and controlling their team personnel. If the team leader is unable to perform this role, the duty will be passed to another team member. Once the team has evacuated the site to the given assembly point, each team leader will maintain control over their team's personnel until the SM or SSHO takes control of the personnel and verbally informs the team leader that the control has been transferred. This level of personnel control is needed to ensure no personnel are forgotten and that no personnel attempt any response action on their own without the knowledge of the SM or SSHO.

ECC personnel as directed to do so by the On-Site Incident Commander will initially conduct site access control and security. If ECC personnel are needed for other response actions, the On-Site Incident Commander will request assistance from the local Police Department.

15.12 DECONTAMINATION AND TREATMENT OF INJURED PERSONNEL

15.12.1 General

In the event that personnel are injured and require evacuation from the EZ but also require decontamination of PPE prior to removal from the EZ, the EPDS will be used. The EPDS will be set-up so as to allow for the rapid decontamination of an injured worker, removal of PPE, and safe transport of the injured worker across the Hot Line. Suits, gloves, boots, etc. which are removed during emergency decontamination will be collected and containerized once the emergency situation is resolved.

The goal of the EPDS is to remove as much of the person's PPE without causing additional injury and without delaying treatment of critical injuries. If needed, the blunt-nosed scissors required at the EPDS will be used to cut off the person's PPE in order to facilitate PPE

Evacuation Route Map Fort Wingate Depot Activity Gallup, New Mexico

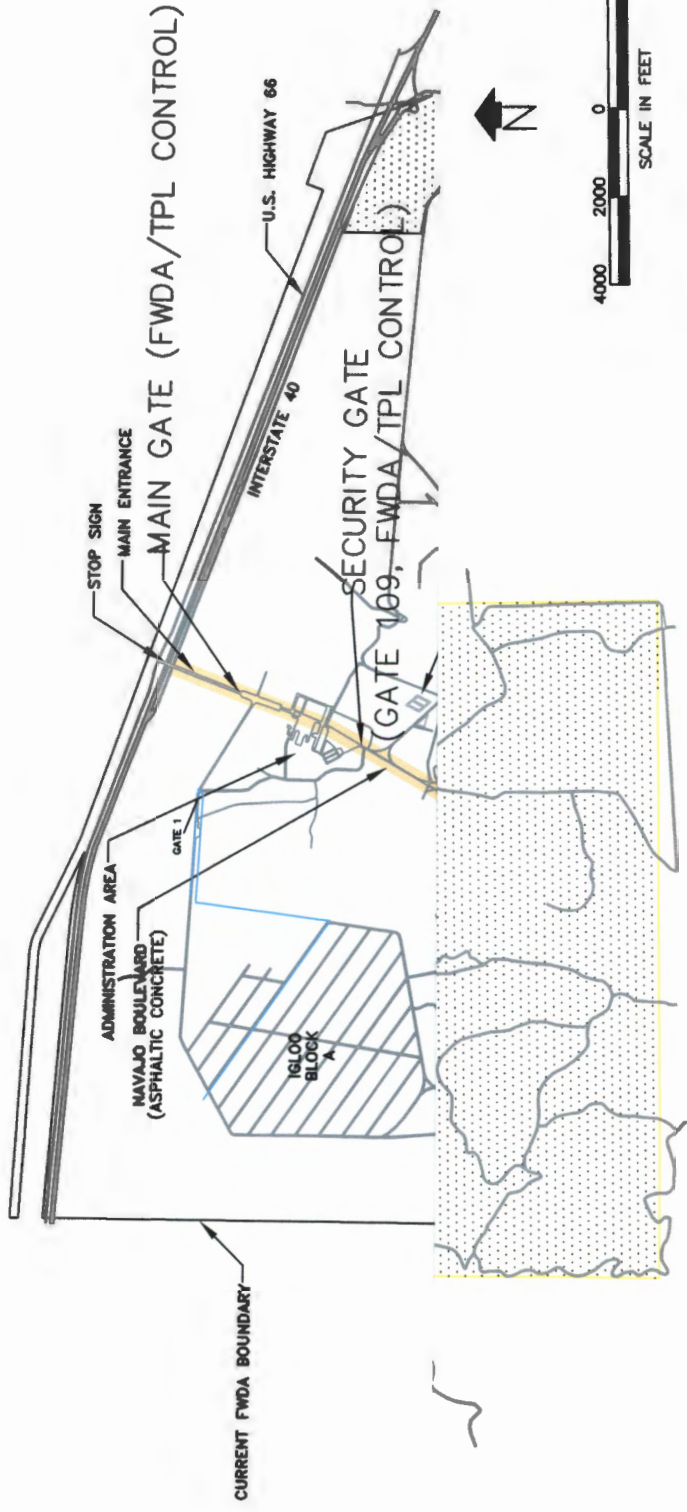


FIGURE 15-1

EVACUATION ROUTE
SITE SAFETY AND HEALTH PLAN
PARCEL 3 FENCE INSTALLATION
FORT WINGATE DEPOT ACTIVITY

ENVIRONMENTAL CHEMICAL CORPORATION
16225 PARK TEN PLACE DR., STE 500
HOUSTON, TEXAS 77084
(281) 994-4168



DRAWN BY:
TERRANEAR PMC, LLC

APPROVED BY:
MB

DATE:
3/31/06



Water level
Water table
Water table elevation



removal. If PPE cannot be removed, the injured person will be wrapped in a tarp/blanket prior to being placed in the ambulance.

15.12.2 Assessing the Emergency

A key element to the successful treatment of an injured worker is the effective assessment of the emergency prior to the initiation of action. If on-site ECC or off-site emergency personnel are to enter the site in response to the emergency, the On-Site Incident Commander shall assess the incident to identify and record vital information about the site and situation. This data will be passed on to response personnel and will include, to the extent possible, the items listed below.

- What happened (i.e., type of incident; cause of incident; the time the incident occurred; extent of chemical release; including route of migration; and extent of damage to structures, equipment, and terrain).
- Where on the project site the incident has occurred.
- Personnel/casualties involved, such as number, location, and condition of victims, treatment that may be required and missing personnel.
- What could happen from this point (i.e., potential for fire or explosion, coupled with release of hazardous materials; location of all personnel in relation to hazardous areas; and potential for emergency affecting the general public or the environment).
- Steps needed to resolve the situation such as equipment and personnel needed for rescue and hazard mitigation; number of uninjured personnel available for response; resources available on site; resources available from off-site response groups and agencies; time needed for off site response resources to reach the site; and hazards involved in rescue and response.

15.12.3 Rescue and Response Actions

At no time will site personnel attempt an emergency response or rescue until the situation has been assessed and the appropriate response outlined by the SM or SSO. Ensuring that the incident has been properly assessed and that the appropriate actions have been selected will ensure that further injuries do not occur due to poor response planning. Based on the information collected during the emergency assessment, the SM or SSO will select the relevant response and rescue actions that will be taken. The rescue actions that may be needed are listed below, with some actions possibly being performed concurrently and some of the actions not being required as determined by the scope of the incident. In the event that the care required is beyond the scope of the professional rescuer training given to the on-site first aid response personnel, medical attention and transportation will be summoned the first aid personnel will provide those services for which they have been trained.

- Personnel evacuation to a safe location upwind of the incident.
- Enforce the buddy system and allow no one to enter the site unattended.

- Survey casualties to locate all victims, assess their condition to the greatest extent possible, and determine as best as possible the resources needed for casualty stabilization and transportation.
- Assess existing and potential hazards and decide whether and how to respond.
- Request aid by contacting the required off-site personnel or facilities, such as ambulance, fire department, police, etc.
- Allocate personnel and equipment to rescue and initiate incident response operations.
- Control the situation and use measures to prevent the situation from migrating further.
- Assign PPE IAW the nature and type of emergency.
- Extricate victims and assist them from the area if it is safe to do so and if no further injury to the victim will be sustained by the action.
- Decontaminate personnel, if necessary, by removing outer clothing only if it can be done without causing further danger or damage to the affected personnel.
- Stabilize injured personnel to the greatest extent possible and administer any first aid procedures that may be required before the victims can be moved.
- Transport the affected personnel via the predetermined mode as determined by their injury.
- Record to whom the incident occurred, the time it occurred, and the destination and condition of the casualty at the time of transport.
- Record disposition, condition, and location of all personnel affected by the emergency.

15.12.4 Treatment of Injured/Ill Personnel

In the event of an emergency involving personal injury or illness, immediate, appropriate response will be the key to preventing further injury/illness and providing comfort to the affected party. If any site personnel are injured, or if they are overcome by illness, the applicable procedures listed below will be followed.

- Upon notification of the occurrence and the nature of the injury/illness, the SM and the SSHO will respond to the location where the injury/illness has occurred.
- The severity of the injury/illness will be assessed, the required first aid support will be provided, and the SM or SSHO will initiate the procedures needed to ensure rapid, efficient transportation of the affected person to appropriate medical support, if required.
- If immediate transportation to a medical facility is required, the SM shall immediately summon emergency services. If deemed necessary by the emergency service operator, an air ambulance may be summoned to transport the affected party.
- If additional medical attention is required, but Advanced Life Support (ALS) is not required, the SSHO, or a designated person, may transport the affected person to the designated medical facility. However, in this situation, ambulance service

with basic life support may be requested and used if the injuries are such that additional medical attention would be needed during the transportation phase.

15.13 POST-EMERGENCY FOLLOW-UP

Before normal site activities can resume, the site personnel must be prepared and equipped to handle another emergency. Post-emergency follow-up is contingent on the assumption that USACE and all other U.S. and local regulatory agencies have been notified of the emergency when it occurred. The following activities must be conducted prior to restarting site activities:

1. Notify the USACE POC of intentions to restarting site work activities and that all safety equipment and supplies have been restocked and that site personnel are prepared to handle another emergency.
2. Notify other appropriate governmental agencies as required (i.e., OSHA must be notified if there have been any fatalities or three or more personnel hospitalized).
3. Restock and clean all equipment and supplies utilized or damaged in the emergency. Items to be cleaned will be only those durable items that can be safely cleaned and reused. Any durable items that have come in contact with blood or body fluids will be cleaned and disinfected IAW the ECC Bloodborne Pathogen (BBP) Control SOP-05 found in Attachment 3 of the APP. Non-durable items will be discarded accordingly with any items that have contacted blood or body fluids being discarded in appropriate bio-hazard waste containers as outlined in the BBP Control SOP.
4. The ECC PHSM in conjunction with the SM and SSHO shall conduct an accident investigation to determine the cause of the emergency and what preventative measures shall be taken to ensure the emergency does not occur again.
5. The ECC PHSM, in conjunction with the SM and SSHO shall conduct an emergency response critique to assess the effectiveness of the emergency response procedures and to identify any areas requiring improvement.
6. Complete the ECC and U.S. Army required accident forms.
7. Review and revise, as needed, the site operational and emergency response procedures, and, if necessary, update the SSHP to reflect the new procedures.

15.14 DOCUMENTATION

Documentation related to the emergency shall be recorded in an accurate, authentic and complete fashion. Documentation shall be recorded as soon as possible after the emergency to ensure it is recorded while the events are vivid in the minds of the personnel involved. The information recorded will include:

1. A listing of the personnel involved, including personnel on site, site personnel who responded, personnel in charge, and off-site groups or agencies that responded
2. A chronological record of events
3. A listing of the actions taken to minimize the effects of or mitigate the emergency
4. The results from any air monitoring conducted during the emergency, and if applicable, results of environmental samples

5. An assessment of the potential exposures received by site personnel and the surrounding public
6. A recording of the injuries or illnesses which occurred as a result of the emergency.

15.15 ROUTE MAPS TO MEDICAL TREATMENT FACILITIES

15.15.1 General Instructions

During the daily safety briefing, the SSHO will review the instructions for obtaining medical attention and transporting site personnel to the designated medical facilities. All site vehicles shall be provided with copies of the site map generated by the SSHO and the directions provided in this Section along with the hospital route map (Figure 15-2). Not all on-site injuries will require EMS and ambulance transportation to the hospital. If the SSHO determines that an injured party can be transported to medical attention using a site vehicle, the directions presented below and the Hospital Route Map will be used to transport the injured party to Rehoboth McKinley Christian Medical Center in Gallup, NM. Prior to the initiation of site activities, and periodically thereafter, the hospital route will be driven by the SSHO to ensure that the route to the hospital is free of unanticipated delays.

15.15.2 Directions to the Designated Medical Facility

- Depart FWDA through the main entrance (north);
- Turn left (west) on U.S. Highway 66;
- Continue westbound on U.S. Highway 66 for approximately 7.5 miles to intersection with Boardman Avenue;
- Turn left (south) on Boardman Ave;
- Continue on Boardman Avenue for approximately 2.6 miles to intersection with College Drive;
- Turn right (north) on College Drive;
- Continue on College Drive for approximately 0.3 miles to Hospital Drive
- Turn right on Hospital Drive;
- Continue on Hospital Drive for approximately 0.1 miles to Redrock Drive;
- Turn right on Redrock Drive and proceed to Emergency Entrance on left (east) side of street.

15.16 COMMUNITY ALERT PROGRAM

It is not anticipated that any on-site operations will result in a potential emergency that would require ECC to implement a community alert program. However, in the event that an unplanned on-site event affects the local community, the SM will notify the FWDA BEC of the potential hazard. The FWDA BEC will then contact local law enforcement for assistance.

Figure 15-2 Hospital Route From Ft. Wingate Activity Depot

Starting from: **A** Fort Wingate, NM

Arriving at: **B** 516 Nizhoni Blvd, Gallup, NM 87301-5748

Distance: 18.2 miles Approximate Travel Time: 26 mins

Your Directions

1. Starting in **FORT WINGATE, NM** on **CIRCLE MOON** - go **0.1** mi
2. Turn **R** on **MAIN ST** - go **0.2** mi
3. Turn **R** on **NM-400** - go **3.0** mi
4. Turn **L** on **ROUTE 66** - go **0.1** mi
5. Turn **L** onto **I-40 WEST** - go **12.3** mi
6. Take exit **#20** toward **ZUNI/SHIPROCK** - go **0.3** mi
7. Turn **L** on **US-491 SOUTH** - go **0.1** mi
8. **US-491 SOUTH** becomes **MUNOZ DR[NM-602]** - go **1.6** mi
9. Turn **L** on **NIZHONI BLVD** - go **0.6** mi
10. Arrive at **516 NIZHONI BLVD, GALLUP**, on the **R**

When using any driving directions or map, it's a good idea to do a reality check and make sure the road still exists, watch out for construction, and follow all traffic safety precautions. This is only to be used as an aid in planning.



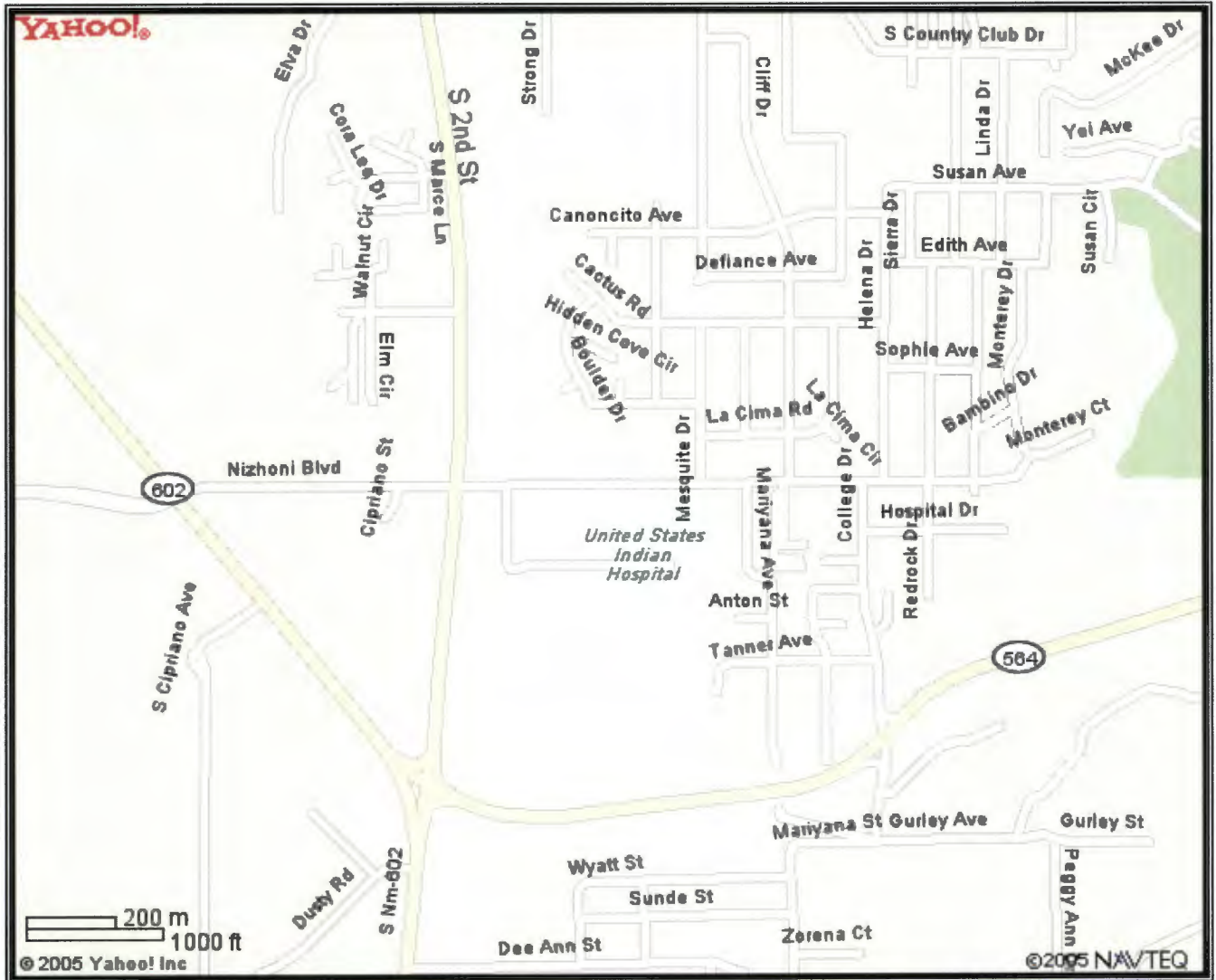
1917

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Figure 15-2 continued





15.17 SPILL CONTAINMENT

15.17.1 Spill Response Supplies

A portable spill response kit containing oil/solvent absorbent pillows/pads, non-sparking shovel, PPE and disposal supplies shall be maintained in a readily accessible location where environmentally harmful materials are stored on site. Upon notification of a spill, the SSHO, or a party designated by the SSHO, will transport this kit to the spill site for use by ECC personnel in the cleanup of the spilled materials.

15.17.2 Spill Response

15.17.2.1 Small Spills

During site operations at each site, small containers (5 gallons or less) of gasoline or diesel fuel will be used and stored on site and fuel trucks or larger tanks in trucks will be used for servicing heavy equipment. If material from these containers is spilled, ECC personnel will follow these steps and those outlined in the Pollution Prevention Plan presented in the Work Plan:

1. The immediate area will be evacuated, ignition sources will be extinguished, and the SM/UXOSO will be notified of the spill.
2. The SM in conjunction with the UXOSO/SSHO, will evaluate the situation to ensure it is safe for personnel to begin cleanup operations.
3. The SSHO will assign the level of protection to be worn by the spill response personnel.
4. All required supplies will be assembled and positioned such that they are readily available to the spill response personnel.
5. Spill response personnel will take measures to stop the spill and will, if applicable, use an absorbent or adsorbent to collect the spilled material.
6. Using non-sparking tools, ECC personnel will collect the contaminated soil, place it in a plastic bag, and place the bag in an approved container.
7. The SM/UXOSO will notify the USACE and the FWDA BEC that the spill occurred and will brief the USACE PM as to the cleanup actions that were taken by ECC personnel.
8. The SM/UXOSO will notify the ECC PM who will contact the USACE PM who will provide guidance on disposal of the contaminants and other actions that must be taken.

15.17.2.2 Large Spills or Spills from Trucking Operations

As outlined in the ECC Pollution Prevention Plan, in the event that an accident occurs where a large spill occurs or a truck is involved in an accident where fuel or its load are spilled, the clean-up of the spill will be the responsibility of the trucking contractors emergency response and clean-up subcontractor. Upon notification of the spill, the SM will immediately ensure the notification of the State and Local Police departments and will ensure that the trucking contractor has notified and mobilized the emergency response

personnel needed to address the spill. ECC personnel will provide whatever assistance is required by the State Highway Patrol or local law enforcement personnel to control traffic or personnel to minimize exposure to the spilled material. Further step-by-step details of the reporting and response operations are presented in the Work Plan.

16.0 LOGS, REPORTS, AND RECORDKEEPING

All Safety Logs, Accident Reports, Training Logs, Visitor Logs, Inspection Reports, and EH&S Forms can be found in Attachment 4 of the APP.

16.1 SAFETY LOG

The SSHO shall maintain a Safety Log and shall be responsible for ensuring that all safety- and health-related activities and events are recorded in the log each day. At a minimum, the Safety Log should include: a reference to the conduct of the daily safety briefing; details of any accidents, injuries, illnesses, or near misses; details related to the conduct and outcome of internal and external audits; the reason for, and duration of, safety-related “stop work” orders; and any other issues pertaining to site or personnel safety or health.

16.2 INJURY/ILLNESS/ACCIDENT REPORTS

In the event that a reportable accident/incident or high incident potential (HIPO) occurs at the job site, the ECC Incident and Investigation Report form found on the ECC intranet site, the Econet shall be completed the same day that the accident/incident/HIPO occurs. Initial notification for any accident will be made to the on-site USACE representative. The PSM., the VPESQ, the PM and the ECC President Will all be notified electronically of the incident. In addition, if USACE Form 3394 must be completed, the SSHO will complete this form as well as the Contractor Accident Notification form and forward it to the USACE S&HO, the PSHM and the ECC PM for review prior to dissemination to USACE. Training Log

The SSHO is responsible for ensuring that all safety- and health-related training conducted is documented in the Training Log and/or on the appropriate training forms. This log will include the initial site-specific training conducted prior to the start of site activities, the Daily/Weekly Safety Briefings, hazard-specific training, MEC refresher and recognition training, emergency response exercises, etc. The SSHO shall maintain this log and any associated training forms on site.

16.3 VISITOR LOG

The SSHO shall be responsible for maintaining the visitor log, which will be used to record the entry and exit of all visitors, including ECC; contractor visitors; or Federal, state, or local officials who visit the site. This log shall utilize the ECC Site Visitors Log. All information required by the form will be completed by the site visitor and the SSHO. No visitors will be allowed to enter the project site or WZs without completing the required information.

In the event that a safety or life-threatening hazard exists, the OB/OD Area may be evacuated. The evacuation route is provided in Appendix D. The signals for commencement of evacuation are described below:

A steady continuous alarm with an air horn, siren, or vehicle horn will indicate that the site is being evacuated. In addition, personnel may be contacted via two-way radio or mobile phone, and instructed to evacuate the area. The Remediation Supervisor will account for the presence or absence of all personnel when assembled at a safe waiting area. Personnel working in the OB/OD Area will assemble at the location shown on the evacuation route map (Appendix D) when instructed to evacuate.

ATTACHMENT 2
ACTIVITY HAZARD ANALYSIS FORMS

100-100000-100000

100-100000-100000

ATTACHMENT 2

ACTIVITY REPORT FOR 100-100000-100000

100-100000-100000

100-100000-100000



ECC Activity Hazard Analysis

Project/Location: : Ft Wingate Army Depot	Activity/Phase of Work: Architectural and finishing	Estimated Start Date: April 10, 2006	
Analysis Performed by: ECC ESQ Group		Date: 1/16/06	Analysis Approved by: John Sullivan
Analysis Performed by: ECC ESQ Group		Date: 3/28/06	
PRINCIPAL STEPS Window and door installation	POTENTIAL SAFETY / HEALTH HAZARDS Falls from ladders and platforms	RECOMMENDED CONTROLS Consider People, Equipment, Materials and Environment	
		<ul style="list-style-type: none"> • Use proper ladder for the job. For electrical work, use only non-conductive ladders. • Place ladder on firm even footing. • Secure strait and extension ladders. • Don't overextend, keep belt buckle between side rails. • Inspect ladder before use. Do not use defective, or broken ladders. • Wear body harness attached to anchorage point in basket when using aerial lifts. If you use a scissor lift that does not have a designated anchor point, notify SHS who will contact manufacturer for recommendation. 	
	Lacerations on sharp sheet metal edges, sharp hand tools, power saws	<ul style="list-style-type: none"> • Wear leather or Kevlar work gloves. • Inspect power tools for damage or defects before and after each use. • Ensure all guards are in place. • Use tools only as designed. 	
	Struck by pneumatic hoses, high pressure air, flying debris, nails using pneumatic tools	<ul style="list-style-type: none"> • Wear ANSI-Approved safety glasses with side shields. • Make sure the pressure of the compressor has been completely relieved through the line to the tool before changing to another, except where a quick connection is being used. • Make sure any tool has completely stopped before changing or disconnecting. • Never point the blow gun toward your eyes or any other part of your body. • Never exceed recommended pressure for the tool being used or the job being done. • Ensure the compressor air receiver has a safety relief valve and test safety relief valves daily. • Open the tank valve after every use. 	
		<ul style="list-style-type: none"> • Never operate the compressor without the belt guard in place. • Always be sure the nail guns and staplers are flat against the surface being worked and know what is on the other side, so you won't cause damage or injury with the high pressure of the gun. • Always read the owner's manual completely and read all safety oriented labels on the unit before using. 	



ECC Activity Hazard Analysis

Project/Location: : Ft Wingate Army Depot	Activity/Phase of Work: Architectural and finishing	Estimated Start Date: April 10, 2006	
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Analysis Performed by: ECC ESQ Group		Date: 1/16/06	Date: 3/28/06
PRINCIPAL STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS	
	Electric shock using electric power tools	<ul style="list-style-type: none"> • Consider People, Equipment, Materials and Environment • Ensure electrical power tools are connected to ground fault interruptors • Ensure that tools with grounded casings have grounding plug in place, or use double insulated tools. • Do not use electrical power tools in wet environments. • Use only heavy duty extension cords and inspect daily to ensure insulation and plug connections are intact. 	
Building Disinfection	Exposure to Hanta Virus through inhalation of contaminated dust, direct contact with broken skin or conjunctivae, ingestion of contaminated food or water and being bitten by carrier (rodents, chipmunks, fleas and other ectoparasites	<ul style="list-style-type: none"> • Have a baseline serum sample drawn prior to entering the work area and store serum at -20 Celsius. • If possible, attend an awareness seminar of the symptoms of MCV. • Wear modified Level C protection (coveralls, rubber gloves, rubber safety boots, goggles with side shields, taped wrists and ankles and a full-face respirator fitted with HEPA filters). • Prior to entering, air building out for at least 30 minutes • Prior to working, spray the indoor work area with an EPA and DoD approved insecticide (e.g., RAID) to prevent fleas and other ectoparasites from transmitting the plague. • Spray the indoor work area with a household disinfectant, i.e., dilute hypochlorite solutions (10% solution), ethyl alcohol, or other liquid disinfectants. • Do not vacuum or sweep dry surfaces before mopping. • Do not disturb the area either mechanically or manually when dry. • Avoid contact with dead animals. • After use, decontaminate equipment with a solution of three (3) tablespoons of bleach to one (1) gallon of water. • Wash and disinfect respirators prior to removal or donning. • Disinfect and wash gloves prior to removal. • Don't eat, drink or smoke in potentially contaminated areas. • Wash hands diligently. • Dispose of materials in bags as an infectious waste, including respirator filters from clean-up operations and other PPE items that cannot be decontaminated, 	



ECC Activity Hazard Analysis

Project/Location : Ft Wingate Army Depot	Activity/Phase of Work: Architectural and finishing	Estimated Start Date: April 10, 2006	
Analysis Performed by: ECC ESQ Group	Date: 1/16/06	Analysis Approved by: John Sullivan	Date: 3/28/06
PRINCIPAL STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS	
Decontamination	Exposure to Hanta Virus while doffing PPE	<ul style="list-style-type: none"> • Consider People, Equipment, Materials and Environment • Remove tape from wrists and ankles and place in a plastic bag filled with disinfectant solution. • Decontaminate (in disinfectant solution) and remove rubber boots (place boots in plastic bag for storage). • Remove coveralls, place them in bag filled with disinfectant solution to completely wet coveralls, and seal the bag for laundry service. • Wash rubber gloves with disinfectant solution (DO NOT REMOVE GLOVES). • Remove respirator and place tape over filter cartridge air entrance. • Remove filter cartridges for disposal and place them in a plastic bag filled with disinfectant solution. • Decontaminate respirator in disinfectant solution, place respirator in plastic bag for storage. • Remove and decontaminate goggles, place in plastic bag for storage. • Decontaminate and remove gloves; store in plastic bag for reuse or dispose of in plastic bag filled with disinfectant. 	
Drywall installation	Struck by pneumatic hoses, high pressure air, flying debris, nails using pneumatic tools	<ul style="list-style-type: none"> • Wear ANSI-Approved safety glasses with side shields. • Make sure the pressure of the compressor has been completely relieved through the line to the tool before changing to another, except where a quick connection is being used. • Make sure any tool has completely stopped before changing or disconnecting. • Never point the blow gun toward your eyes or any other part of your body. • Never exceed recommended pressure for the tool being used or the job being done. • Ensure the compressor air receiver has a safety relief valve and test safety relief valves daily. • Open the tank valve after every use. • Never operate the compressor without the belt guard in place. Always be sure the nail guns and staplers are flat against the surface being worked and know what is on the other side, so you won't cause damage or injury with the high pressure of the gun. • Nail Gun. Always be sure the gun is flat against the surface being nailed and know what is on the other side, so you won't cause damage or injury with the high pressure of the gun. • Always read the owner's manual completely and read all safety oriented labels on the unit before using. 	
	Exposure to gypsum dust	<ul style="list-style-type: none"> • Wear dust mask during dry sanding. Vacuum surfaces often. 	



ECC Activity Hazard Analysis

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Analysis Performed by: ECC ESQ Group	Date: 1/16/06	Analysis Approved by: John Sullivan	Date: 3/28/06
PRINCIPAL STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS	
Vinyl covering and carpet installation	Lacerations from cutting tools	<ul style="list-style-type: none"> • Consider People, Equipment, Materials and Environment • Wear leather gloves or Kevlar gloves using hand tools. • Keep cutting tools in front of you to avoid incidental contact. • Retract, cover or close any blades immediately after use and place in tool box, tool belt or other safe location to prevent incidental contact. 	
	Knee and leg injury	<ul style="list-style-type: none"> • Wear knee pads • Use power stretcher for stretching carpet. Use of the knee kicker should be prohibited for stretching the carpet where strong kicks are required. Limit its use to engaging the carpet edges onto the tack strips or to installing carpet in very small areas such as closets, where hard kicks are not needed. • Use proper ladder for the job. Use only non-conductive ladders. • Place ladder on firm even footing. • Secure strait and extension ladders. • Don't overextend, keep belt buckle between side rails. • Inspect ladder before use. Do not use defective, or broken ladders. • Platforms and scaffolds over 6 ft. must be fully decked, with guardrails around all working levels. • Scaffolding should be erected and inspected by a Competent Person. • Wear body harness attached to anchorage point in basket when using aerial lifts. If you use a scissor lift that does not have a designated anchor point, notify SHS who will contact manufacturer for recommendation. 	
Drop ceiling installation	Falls from ladders	<ul style="list-style-type: none"> • Ensure in-ceiling electrical wiring is de-energized and locked out, or protected from contact with materials and tools. • Ensure electrical power tools are connected to ground fault circuit interruptors • Ensure that tools with grounded casings have grounding plug in place, or use double insulated tools. • Do not use electrical power tools in wet environments. • Use only heavy duty extension cords and inspect daily to ensure insulation and plug connections are intact. 	
	Electric shock using electric power tools, contact with building wiring		



ECC Activity Hazard Analysis

Project/Location: : Ft Wingate Army Depot	Activity/Phase of Work: Architectural and finishing	Estimated Start Date: April 10, 2006	
Analysis Performed by: ECC ESQ Group	Date: 1/16/06	Analysis Approved by: John Sullivan	Date: 3/28/06
PRINCIPAL \$TEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS	
Painting	Falls from ladders, scaffolds	<p style="text-align: center;">Consider People, Equipment, Materials and Environment</p> <ul style="list-style-type: none"> Use proper ladder for the job. Use only non-conductive ladders. Place ladder on firm even footing. Secure strait and extension ladders. Don't overextend, keep belt buckle between side rails. Inspect ladder before use. Do not use defective, or broken ladders. Platforms and scaffolds over 6 ft. must be fully decked, with guardrails around all working levels. Scaffolding should be erected and inspected by a Competent Person. Wear body harness attached to anchorage point in basket when using aerial lifts. If you use a scissor lift that does not have a designated anchor point, notify SHS who will contact manufacturer for recommendation. Provide mechanical ventilation indoors. Wear NIOSH Approved respiratory protection when spraying oil-based paints, or when using in confined or enclosed spaces. Respirator users must be medically qualified, trained and fit-tested. Inspect respirators daily, conduct a fit check prior to exposure. Change cartridges in accordance with cartridge change out schedule developed by a Competent Person for the task. Wear nitrile gloves. If spraying, wear Tyvek coveralls with shoe covers and hoods in addition to nitrile gloves 	



ECC Activity Hazard Analysis

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PRINCIPAL STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS	
Struck by pressurized hoses during spraying operations		<ul style="list-style-type: none"> • Consider People, Equipment, Materials and Environment • Wear ANSI-Approved safety glasses with side shields. • Make sure the pressure of the compressor has been completely relieved through the line to the tool before changing to another, except where a quick connection is being used. • Make sure any tool has completely stopped before changing or disconnecting. • Never point the spray gun toward your eyes or any other part of your body. • Never exceed recommended pressure for the spray gun being used or the job being done. • Ensure the compressor air receiver has a safety relief valve and test safety relief valves daily. • Open the tank valve after every use. • Never operate the compressor without the belt guard in place. • Always read the owner's manual completely and read all safety oriented labels on the unit before using. 	
COMPETENT PERSONS (as required): Michael Poe – Scaffolding, respiratory protection selection and change out schedule			
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS	
Hand and Portable power tools, welding/brazing equipment	Receipt by Equipment Supervisor Daily by users	Training in use of power tools by Supervisor and review of operating manual. Powder-operated tool users certified by vendor.	
Aerial lift and elevated work platforms	Receipt by Equipment Supervisor Daily by users	Training in fall protection and use of platforms.	



ECC Activity Hazard Analysis

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Analysis Performed by: ECC ESQ Group		RECOMMENDED CONTROLS (Consider People, Equipment, Materials, and Environment)			
PRINCIPAL STEPS Temporary structures Setting of temporary facilities <ul style="list-style-type: none"> • Spotting of office trailer • Leveling and anchoring of trailer • Connection to electrical service 	POTENTIAL SAFETY / HEALTH HAZARDS Struck by or caught between vehicle, loads while off-loading equipment, trailers, materials Struck-by moving trailer/truck Struck by hand tools, e.g. hammering in anchors and ground rods Cuts on trailer anchoring straps Contact with live electrical parts	<ul style="list-style-type: none"> • Ensure spotter for delivery truck stays in line-of-sight of driver at all times. • Use a spotter to coordinate activities of driver and person setting cribbing or jackstands. • Keep hands out of pinch points. • Wear leather gloves, safety-glasses, hard hats, safety-toe footwear. Keep hands out of pinch points. • Wear leather gloves • Utility connections will be made by a licensed electrician. Arc and current protection will be used by the electrician for any work within 4 ft of live conductors (flame-resistant clothing, V-rated tools and gloves, eye protection for <240V). • System will be tested by electrician to assure proper grounding and polarity before turnover. • Ground personnel will maintain as safe distance. • Operator will wear seat belt during off-loading. • Avoid tracks, tires on one side going off edge of trailer. Keep ground engaging tools low. • Inspect rigging before use. • Rig load with weight centered. • Stay out from under suspended load. • Use tag line to position load, keep hands and feet away from pinch-points when setting tank. • Wear leather gloves, safety-glasses, hard hats, safety-toe footwear. Keep hands out of pinch points. • Use post driver, not sledge hammer for placing fence posts. • Use two people to carry heavy loads of fencing/posts. Do not lift an carry more than comfortable weight for individual, 50 lbs. max. 			
Off-loading heavy equipment	Struck-by equipment Equipment tip-over	<ul style="list-style-type: none"> • Avoid tracks, tires on one side going off edge of trailer. Keep ground engaging tools low. 			
Setting temporary fuel tank	Struck-by tank, caught between tank and other object	<ul style="list-style-type: none"> • Inspect rigging before use. • Rig load with weight centered. • Stay out from under suspended load. • Use tag line to position load, keep hands and feet away from pinch-points when setting tank. 			
Installation of temporary fencing	Struck-by hand tools (hammer setting silt fence posts) Sprains/strains	<ul style="list-style-type: none"> • Wear leather gloves, safety-glasses, hard hats, safety-toe footwear. Keep hands out of pinch points. • Use post driver, not sledge hammer for placing fence posts. • Use two people to carry heavy loads of fencing/posts. Do not lift an carry more than comfortable weight for individual, 50 lbs. max. 			



ECC Activity Hazard Analysis

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PRINCIPAL STEPS		RECOMMENDED CONTROLS (Consider People, Equipment, Materials, and Environment)	
Installation of soil and erosion controls	Struck-by heavy equipment	<ul style="list-style-type: none"> • See Below under Grading and Drainage • Wear leather gloves, safety-glasses, hard hats, safety-toe footwear. Keep hands out of pinch points. 	
Fencing	Contact with underground utility	<ul style="list-style-type: none"> • Perform utility locate prior to intrusive work. Use non-aggressive excavation (hand digging, air knife, vacuum) within 4 ft. buffer zone around utilities. 	
Grading and drainage	Struck by heavy equipment and other vehicles operating at the site	<ul style="list-style-type: none"> • Inspect vehicles and equipment upon first arrival on site and daily before operations. • Ensure all equipment and vehicles have functional brakes, lights, horns, backup alarms, tire pressure. • Only qualified operators will be permitted to operate heavy construction equipment. Supervisor will observe operation to establish competency. • Site vehicles will only be driven by licensed drivers. • Establish control zones around heavy equipment work area. • Route traffic away from work area. • Ensure vehicles have back-up alarms. • Make eye contact with operators before approaching equipment. • Do not approach equipment from blind spots. • Use spotters for backing equipment in congested areas. • Park vehicle with blade/bucket on ground, transmission in neutral, parking brake engaged. Rubber tire vehicles should use wheel chocks when parked on incline. • Speed limits <ul style="list-style-type: none"> o 25 mph on main roads o 15 mph on work sites where pedestrian traffic may occur 	
	Struck against other vehicles and objects	<ul style="list-style-type: none"> • Obey speed limits • Perform a 360 degree walkaround around the equipment or vehicle before moving. • Park away from obstructions, such as monitoring wells. • Use spotters for backing equipment in congested areas, flaggers for pulling out into public roadways. • Wear seatbelts at all times. All riders must have a seat and seatbelt 	



ECC Activity Hazard Analysis

Project/Location: : Ft Wingate Army Depot	Activity/Phase of Work: Architectural and finishing	Estimated Start Date: April 10, 2006	
Analysis Performed by: ECC ESQ Group	Date: 1/16/06	Analysis Approved by: John Sullivan	Date: 3/28/06
POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS (Consider People, Equipment, Materials, and Environment)		
Caught in or between	<ul style="list-style-type: none"> Ensure that all guards are in place during inspections Barricade rotating superstructures of cranes and excavators Stay out of area between machine and other object Block parts during maintenance with blocks, cribbing, or supplied ram and steering blocks 		
Tipover	<ul style="list-style-type: none"> Ensure all construction equipment has Rollover Protection Structure (ROPS) and inspect ROPS daily. Operate equipment up and down slopes whenever possible, with load on the uphill side. Operate across slopes within manufacturers recommendations Don't turn or speed on slopes Keep loads as low as possible. Ground tools going down slope as much as possible Park dump trucks on firm, level ground for dumping. Observe load from safe area behind to ensure even flow. 		
Electrocution	<ul style="list-style-type: none"> Maintain equipment and loads at least 10 feet from energized overhead powerlines less than 50k V. Increase buffer zone for voltages >50k in accordance with Table 11-1 of EM 385-1-1, 2003. Use non-conductive tag lines. 		
Struck by quick-change buckets becoming detached from equipment.	<ul style="list-style-type: none"> Verify complete and proper engagement of locking device prior to equipment use (visual inspection). 		
Excessive noise exposure	<ul style="list-style-type: none"> Vehicles and equipment will have mufflers. Monitor noise in work area with sound level meter. Have workers wear hearing protection when noise levels exceed 85 dBA. Use quieter equipment, if possible. 		
Slips, falls	<ul style="list-style-type: none"> Use three points of contact during access and egress of cabs. Keep steps clean and free of mud, snow and ice. 		
Spills	<ul style="list-style-type: none"> Inspect hydraulic hoses and fittings daily. Use only fuel filling nozzles with automatic shutoffs and do not use latch open dogs on nozzle handle. 		



ECC Activity Hazard Analysis

Project/Location: : Ft Wingate Army Depot	Activity/Phase of Work: Architectural and finishing	Estimated Start Date: April 10, 2006	Date: 3/28/06
Analysis Performed by: ECC ESQ Group		Analysis Approved by: John Sullivan	
PRINCIPAL STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS (Consider People, Equipment, Materials, and Environment)	
Roads, pavements, sidewalks, parking lots	Fires Struck-By Trucks, Roller Caught-Between Trucks and Paving Machine (paver) Toes Crushed by Equipment	<ul style="list-style-type: none"> • Shut down engine during fueling. No smoking or open flames in fuel storage and dispensing areas. • All mobile construction equipment provided with fire extinguisher with at least a 3A:40B:C rating (Ansul Sentry AA05VB or equivalent). <ul style="list-style-type: none"> • Spotters must be present on either side of truck/paver interface and be totally visible to driver. • Drivers and spotters will review hand signals prior to beginning work. • Drivers will take direction only from ONE designated spotter/signaler. • No personnel will walk in front of paver during operation. • Personnel will never walk between truck and paver hopper. • Personnel will avoid standing adjacent to trucks with raised dump beds. • Spotter(s) will indicate to truck driver when proper position is achieved. • Trucks will be situated on level and stable surface before raising dump body. • Spotter will notify the truck driver if an obstruction occurs and the flow of material is impeded. • If the load fails to exit the bed properly or becomes stuck, the bed will be immediately lowered and the problem rectified. • Trucks will not move away from the paver until dump body is in the full down position. • All site personnel will wear ANSI Type 2 high-visibility safety vests. • Appropriate lighting will be used during night operations. • All trucks will be equipped with functional backup alarms. • All personnel will be made aware of, and physically shown the paver's screed spreading augers and associated hazards. • Screed operators will not wear loose clothing that can get caught in screed augers or conveyor system. • Paving machine engine will be shut down when cleaning asphaltic material from the hopper. • The operator will wear an approved seatbelt at all times. • Personnel will wear protective toe work boots (min height 6 inches), meeting ANSI Z41. 	



ECC Activity Hazard Analysis

Project/Location: : Ft Wingate Army Depot	Activity/Phase of Work: Architectural and finishing	Estimated Start Date: April 10, 2006	
Analysis Performed by: ECC ESQ Group	Date: 1/16/06	Analysis Approved by: John Sullivan	Date: 3/28/06
POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS (Consider People, Equipment, Materials, and Environment)		
<p>Thermal Burns From High-Temperature Bituminous Concrete/Asphalt</p> <p>Exposure to Asphalt Fumes (CAS 8052-42-4) Inhalation Dermal Exposure</p> <p>Noise</p> <p>Fires</p>	<ul style="list-style-type: none"> • All personnel will be made aware of the high temperatures of the materials. • Personnel will utilize hand tools, not hands or feet, to remove "caked-on" asphalt from shovels and rakes. • Chemical-Resistant gloves will be worn when handling applicator parts that have asphalt on them. • No one other than the operator will ride on the machine. • If at all possible, paving machinery with engineering controls to eliminate asphalt emissions should be used. • The application temperature of the materials should be as low as permitted by construction specifications. • Personnel exposure to asphalt fumes and visible emissions should be kept as low as possible since it can cause irritation to mucous membranes including upper respiratory tract and conjunctiva. Chronic effects have not been definitively evaluated. • Looser fitting absorbent clothing should be worn to minimize the synergistic effects of asphalt materials and perspiration in causing dermatitis. • Exposure to direct sunlight should be limited through clothing, hats, canopies, etc. to prevent the potential effects of dermal photosensitization to asphalt materials. • In unique situations such as non open-air environments (indoors, tunnels, etc.), exposure potentials to asphalt emissions should be evaluated by an industrial hygienist to determine if respiratory protection is required. • All equipment will have operable noise limiting devices as originally equipped by original manufacturer. • If necessary, hearing protection devices (muffs or plugs) will be provided with a noise reduction rating capable of maintaining ALL personnel exposure to levels less than 85 dBA. • A minimum of one 10-lb Type ABC fire extinguisher will be readily available at all times. 		



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Analysis Performed by: ECC ESQ Group	Date: 1/16/06	Analysis Approved by: John Sullivan	Date: 3/28/06
PRINCIPAL STEPS Civil utilities Water, sewer lines, electrical service	POTENTIAL SAFETY / HEALTH HAZARDS Excavation Collapse: Caught-In	RECOMMENDED CONTROLS (Consider People, Equipment, Materials, and Environment) <ul style="list-style-type: none"> • The provisions of ECC SOP HS-018 will be followed. • Obtain Excavation Permit as required by client, State, or municipality prior to any excavation activities. NO ENTRY is permitted into excavations/trenches without approval from the Competent Person. • If a person must enter an excavation, protective systems will be in place in excavations greater than five feet in depth, or if deemed necessary by a Competent Person. A Competent Person shall be present during all excavation/trenching/shoring activities. • The Competent Person will perform daily excavation inspections and document such on the Daily Excavation Inspection Checklist. • The Competent Person will perform a soils analysis and document such on the Soils Analysis Checklist. • Excavated spoils will be staged a minimum of two feet back from the edge of the excavation. • Personnel will keep back a minimum of two feet from the edge of all excavations – the excavation area will be constantly observed for cracks, fissures, or subsidence, and the minimum approach distance increased accordingly. • Trench boxes will not be moved while personnel are in the excavation. • The space between the trench box and the excavation walls must be backfilled as needed to prevent lateral movement. • In a vertically-walled trench, the trench box must extend at least 6 inches above the face of the excavation. 	
Open Excavations: Persons Falling Into Vehicles Falling Into Equipment Falling Into	Falls While Entering/Exiting Excavation	<ul style="list-style-type: none"> • The number of personnel on the ground in the vicinity of excavation/trenching activities shall be limited to those necessary for the job. Workers shall maintain eye contact with equipment operators. • The following excavation perimeter protection is required: <ul style="list-style-type: none"> • All excavations will be backfilled at the end of the workday, if possible, otherwise, street plates or other suitable barriers must be used to prevent unauthorized entry. • Any excavation four feet and deeper will be provided with ladders, ramps or other means of egress in such a way as to require no more than 25 feet of lateral travel. The means will also be used for ingress. 	



ECC Activity Hazard Analysis

Project/Location: : Ft Wingate Army Depot	Activity/Phase of Work: Architectural and finishing	Estimated Start Date: April 10, 2006	
Analysis Performed by: ECC ESQ Group		Date: 1/16/06	Analysis Approved by: John Sullivan
PRINCIPAL STEPS	POTENTIAL SAFETY / HEALTH HAZARDS Contact with Overhead Utility Lines - Electrocutations, Fires	RECOMMENDED CONTROLS (Consider People, Equipment, Materials, and Environment)	
		<ul style="list-style-type: none"> • Before work begins, survey the site for overhead power lines. LOOK UP! Never allow equipment or personnel to get closer than 10 feet to an overhead power line. This minimum distance must be increased as the voltage increases. Refer to the US Army Corps of Engineers Safety and Health Requirements Manual EM 385-1-1, Section 11.E for specifications. To determine line voltages, the appropriate utility company must be contacted. • If work must be conducted closer to utilities than guidelines allow, or for placement of insulation, the utility company must be contacted. • An observer/spotter shall be designated to observe clearance of the equipment and give timely warning for all operations where it is difficult for the operator to maintain the desired clearance by visual means. This shall be the ONLY job the observer is performing when an observer is required. • Keep all personnel well away from the equipment whenever it is close to power lines. • Perform utility locate prior to intrusive work. Use non-aggressive excavation (hand digging, air knife, vacuum) within 4 ft. buffer zone around utilities. • See AHA for Electrical Work • See AHA for Plumbing • See AHA for Plumbing 	
COMPETENT PERSONS (as required): Michael Poe			
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS	
Paving Machine Rubber Tired or Steel Drum Roller/Compactor Backhoe/excavator Dump trucks	Initial by Operator, SHS and Gov't Representative. Daily by operators	Operator qualifications verified by Supervisors.	

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that this is essential for the proper management of the organization's finances and for ensuring compliance with applicable laws and regulations.

2. The second part of the document outlines the specific procedures that should be followed when recording transactions. This includes the requirement that all transactions be supported by appropriate documentation, such as invoices, receipts, and contracts. It also discusses the importance of ensuring that all records are properly filed and maintained in a secure and accessible manner.

3. The third part of the document discusses the role of the accounting department in the overall management of the organization's finances. It highlights the importance of the accounting department in providing accurate and timely financial information to management, and in ensuring that the organization's financial statements are prepared in accordance with applicable accounting standards.

4. The fourth part of the document discusses the importance of internal controls in the management of the organization's finances. It emphasizes that internal controls are essential for preventing and detecting errors and fraud, and for ensuring that the organization's assets are protected. It also discusses the importance of regularly reviewing and updating internal controls to ensure that they remain effective.

5. The fifth part of the document discusses the importance of transparency and accountability in the management of the organization's finances. It emphasizes that management should be open and honest about the organization's financial performance, and should be willing to accept responsibility for any errors or omissions. It also discusses the importance of providing regular financial reports to the board of directors and to other stakeholders.



ECC Activity Hazard Analysis

Project/Location : Ft Wingate Army Depot	Activity/Phase of Work: Electrical	Estimated Start Date: April 10, 2006	
Analysis Performed by: ECC ESQ Group		Date: 1/16/06	Analysis Approved by: John Sullivan
Analysis Performed by: ECC ESQ Group		Date: 3/28/06	
PRINCIPAL STEPS	POTENTIAL SAFETY /	RECOMMENDED CONTROLS	
Installation of equipment and wiring, Lighting, System testing	Falls from ladders and platforms	<p style="text-align: center;">Consider People, Equipment, Materials and Environment</p> <ul style="list-style-type: none"> • Use proper ladder for the job. For electrical work, use only non-conductive ladders. • Place ladder on firm even footing. • Secure strait and extension ladders. • Don't overextend, keep belt buckle between side rails. • Inspect ladder before use. Do not use defective, or broken ladders. • Wear body harness attached to anchorage point in basket when using aerial lifts. If you use a scissor lift that does not have a designated anchor point, notify SHS who will contact manufacturer for recommendation. 	
	Electrocution, electric shock, burns	<ul style="list-style-type: none"> • Ensure systems are de-energized before installation work. Keep ladders and tools away from live electrical equipment. • If the system is connected to supply, shut down, lockout, test with electrical test equipment. Follow lockout/tagout procedure. • If adjustments or tests must be made in panel boxes with any live current, contact SHS. This AHA will be revised to incorporate NFPA 70E requirements, including V-rated gloves and personal protective equipment for current and arc flash protection. 	
Lifting & Setting Precast Concrete Structures Excavator used to lift and set manholes	Struck by/Against	<ul style="list-style-type: none"> • Eye contact with operators shall be made before approaching equipment • Operators of all heavy equipment will be aware of their surroundings at all times. • Spotters will be utilized during all hoisting operations. • Spotters and other personnel will avoid equipment swing areas and blind sides. • All personnel will understand and review hand signals. • ANSI Class II Hi Visibility traffic vests will be worn at all times. • All vehicles & heavy equipment will be equipped with backup alarms. • All swing-capable equipment will have proper warning signs. • Machine swing radius's will be properly demarcated during all hoisting operations. • Personnel will be qualified riggers when setting up a load for a lift. • Tag lines will be utilized during all hoisting operations. 	



ECC Activity Hazard Analysis

Project/Location : Ft Wingate Army Depot	Activity/Phase of Work: Electrical	Estimated Start Date: April 10, 2006	
Analysis Performed by: ECC ESQ Group		Date: 1/16/06	Analysis Approved by: John Sullivan Date: 3/28/06
PRINCIPAL STEPS	POTENTIAL SAFETY /	RECOMMENDED CONTROLS	
	Overhead Hazards	<ul style="list-style-type: none"> • Consider People, Equipment, Materials and Environment • Where applicable overhead wires will be appropriately marked. • All personnel will be made aware of the low hanging electrical lines at the site entrance. • ANSI Standard Z89.1 approved Hard Hats will be worn. • All heavy equipment will be provided with guards, canopies or grills to protect the operator from flying objects. • Loads will not be swung over personnel. No person shall stand under any lifted loads. • All ground personnel will stay clear of all suspended loads. • All equipment will stay a minimum of ten feet from power lines. This distance will increase as the voltage of the power lines increase. 	
	Rollover/Tipping	<ul style="list-style-type: none"> • A Critical Lift plan will be completed prior to the first concrete structure lift. The lift plan will be consulted prior to each lift to ensure that it is consistent and meets all hoisting/lifting requirements. • Excavator will have a posted load chart and all requirements will be followed. • Ground personnel will maintain a safe distance from all dumping/off loading trucks and from all heavy equipment operations. • Operators will wear seat belts while operating heavy equipment. 	
	Back Injuries	<ul style="list-style-type: none"> • Ensure level ground when lifting manually. • Watch conduit for twisting & turning while lifting. • Utilization of mechanical devices will be the 1st option considered on all appropriate lifting tasks. • Team lifting will be used in lieu of mechanical devices, if necessary. • Site personnel will be instructed on proper lifting techniques. • No person should lift more than 50 lbs. Alone. • If manual lifting is required, have proper footing prior to lifting. • Use proper bending and lifting procedures. 	



ECC Activity Hazard Analysis

Project/Location: : Ft Wingate Army Depot	Activity/Phase of Work: Electrical	Estimated Start Date: April 10, 2006	
Analysis Performed by: ECC ESQ Group		Date: 1/16/06	Analysis Approved by: John Sullivan
PRINCIPAL STEPS		RECOMMENDED CONTROLS	
Installation of Electrical Conduit ❖ Trench Excavation ❖ Cutting PVC Conduit w/Sawzall ❖ Cleaning Conduit	POTENTIAL SAFETY / Eye Injuries Hand Injuries Dropped Objects (Pipe) Respiratory and Skin Exposure to Conduit Cleaner & Glue Existing Utility Contact	<ul style="list-style-type: none"> • Safety Glasses meeting ANSI Z87 will always be worn. • A 15 minute flow eyewash will be located in the work area. • Cut resistant work gloves will be worn during all cutting operations. • Guards will be kept in place on all power tools. • Sawzall will be operated in accordance with manufacturer's instructions. • Watch conduit for twisting & turning while lifting. • Handle carefully from top to man below in trench. • ANSI Standard Z41 approved Steel Toe boots will be worn. • ANSI Standard Z89.1 approved Hard Hats will be worn. • All personnel involved with glue application shall read and understand the MSDS for glue. • Nitrile gloves will be worn to ensure no skin exposure of glue on hand. • Cleaning & gluing of conduit will only be performed in the open air, not in enclosed areas such as trailer or Connex Box. • All intensive work will be conducted in accordance with the FWENC Underground Utilities Procedure EHS 3-15 • All underground utilities will be identified by a locating service (Dig Safe) and a reference number will be logged in the project file system. • Utilities will be de-energized and locked/tagged, if possible. • Non-aggressive excavation methods will be utilized within the utility buffer zone. 	



ECC Activity Hazard Analysis

Project/Location : Ft Wingate Army Depot	Activity/Phase of Work: Electrical	Estimated Start Date: April 10, 2006	
Analysis Performed by: ECC ESQ Group	Date: 1/16/06	Analysis Approved by: John Sullivan	Date: 3/28/06
PRINCIPAL STEPS	POTENTIAL SAFETY /	RECOMMENDED CONTROLS	
<p>Installation of Secondary Electric Wiring & Energizing Systems</p>	<p>Open Excavations</p> <p>Back/Muscle Strains from Pulling Wires, lifting, etc</p>	<p style="text-align: center;">Consider People, Equipment, Materials and Environment</p> <ul style="list-style-type: none"> • Any excavation four feet and deeper will be provided with ladders to allow for means of egress in such a way as to require no more than 25 feet of lateral travel. • The excavated areas will be barricaded to prevent field personnel from falling into the open area. • Protective systems (sloping, benching or shoring) to prevent trench/excavation cave-in will be affected in excavations greater than four feet in depth, or if deemed necessary, by a competent person. • All trenching/excavation will be in accordance with the provisions of 29 CFR Subpart P. • The competent person will complete a Daily Excavation Inspection Checklist and submit this to the SSOH on a daily basis. The competent person will also complete a Soils Analysis Checklist initially and whenever the soil condition changes. • Excavation spoils will be staged a minimum of two feet back from the edge of all excavations. • All personnel will keep back a minimum of two feet from the edge of all excavations- the competent person will regularly inspect the edges of the excavation for cracks, fissures and subsidence and he/she can increase the minimum distance to edge as needed. • >All non-essential personnel will be kept out of the excavation work zones. • All personnel in and around trench shall be aware of changes in stability of the trench and report any concerns to a MT Supervisor. • Refer to the GA/MT excavation AHA dated 7/29/03 for further information. 	
<p>Installation of Secondary Electric Wiring & Energizing Systems</p>	<p>Back/Muscle Strains from Pulling Wires, lifting, etc</p>	<ul style="list-style-type: none"> • Utilization of mechanical devices will be the 1st option considered for pulling wires/cable and lifting heavy loads. • Team lifting/pulling will be used in lieu of mechanical devices, if necessary. • Site personnel will be instructed on proper lifting/pulling techniques. • No person should lift more than 50 lbs. Alone. • Personnel will be rotated out of repetitive motion tasks on a regular basis. • If manual lifting/pulling is required, have proper footing prior to lifting/pulling. • Use proper bending and lifting procedures. 	



ECC Activity Hazard Analysis

Project/Location : Ft Wingate Army Depot **Activity/Phase of Work:** Electrical **Estimated Start Date:** April 10, 2006

Analysis Performed by: ECC ESQ Group **Date:** 1/16/06 **Analysis Approved by:** John Sullivan **Date:** 3/28/06

PRINCIPAL STEPS

Fire

RECOMMENDED CONTROLS
Consider People, Equipment, Materials and Environment

- Switch boxes, receptacle boxes, metal cabinets, enclosures around equipment and temporary power lines shall be marked to indicate the maximum operating voltage
- Specifications & design of wiring shall be appropriate for powering requirements of system.
- ABC type fire extinguishers shall be readily available (10-lb. Minimum).
- All electrical circuits shall be grounded in accordance with the NEC and NESC.
- Grounding rods and pipe electrodes shall be unbroken 8-foot lengths and driven to full depth, where applicable.



ECC Activity Hazard Analysis

Project/Location: : Ft Wingate Army Depot	Activity/Phase of Work: Electrical	Estimated Start Date: April 10, 2006	Date: 3/28/06
Analysis Performed by: ECC ESQ Group		Analysis Approved by: John Sullivan	
PRINCIPAL STEPS	POTENTIAL SAFETY / Electric Shock/Electrocution	RECOMMENDED CONTROLS Consider People, Equipment, Materials and Environment <ul style="list-style-type: none"> • All electrical work will be performed by Licensed Electricians. • All lockout/tagout procedures will be followed as outlined in SSHP. • All electrical installation shall comply with National Electrical Safety Codes (NESC), National Electric Code (NEC), OSHA 29 CFR 1910 Subpart S, and 29 CFR 1926 Subpart V and USACE EM 385-1-1. • Live parts of wiring or equipment shall be guarded to protect all persons or objects from them. • Transformer banks and high voltage equipment shall be protected from unauthorized access; entrances not under constant observation shall be kept locked; metallic enclosures shall be grounded; and signs warning high voltage and prohibiting unauthorized entrance shall be posted on the front of the enclosure with live voltage signs on all sides. • When it is necessary to work on energized lines or equipment, only licensed live wire electricians shall supervise this work, electricians must use rubber gloves and other protective equipment or hotline tools meeting the provisions of ANSI/ASTM standards and USACE EM 385-1-1 shall be used as required. If feasible, all electrical equipment will be de-energized prior to working on it and verified as such with test equipment. • In the following situations (or when requested by safety personnel), at least two persons shall work together-one person trained to recognize electrical hazards shall be delegated to watch the movements of others during work to provide warning if they get dangerously close to line conductors or perform other unsafe acts. The second person can also provide immediate assistance in case of an accident¹. <ol style="list-style-type: none"> 1. Work on energized overhead lines supervised by a Licensed electrician. 2. Work involving handling energized conductors or apparatus. 3. Work at remote or isolated locations. 4. Work at night or during inclement weather. 5. Work in substations where wiring is congested. 	



ECC Activity Hazard Analysis

Project/Location: : Ft Wingate Army Depot	Activity/Phase of Work: Electrical	Estimated Start Date: April 10, 2006	
Analysis Performed by: ECC ESQ Group	Date: 1/16/06	Analysis Approved by: John Sullivan	Date: 3/28/06
PRINCIPAL STEPS Installation of Secondary Electric Wiring & Energizing Systems (cont)	POTENTIAL SAFETY / Electric Shock/Electrocution (continued)	RECOMMENDED CONTROLS Consider People, Equipment, Materials and Environment <ul style="list-style-type: none"> • Insulation mats or platforms of substantial construction, providing good footing shall be placed on the floors and on the frames of equipment having exposed live parts so that the operator or person cannot come into contact with the live parts. • Barriers will be established to prevent equipment and people from entering a work area. • Plugs, cords and receptacles shall be kept out of water unless they are approved submersible type. • Switches, fuses, and automatic circuit breakers shall be marked, labeled, or arranged for ready identification of the circuits or equipment supplied through them. • Switches, circuit breakers, fuse panels, and motor controls located outside shall be waterproof. • Vertical clearance of temporary wiring above walkways shall not be less than 10 feet for circuits carrying 600 volts or less. • All circuits shall be protected with Ground Fault Circuit Interrupter (GFCI) devices. • All personnel who work on any electrical system will be duly trained and certified to work on the equipment and voltages that are involved. • All cords must have third prong grounding mechanism intact. • Work will not be conducted in the rain, without proper safeguards. • Cords will be inspected prior to each use for damage. Damaged equipment will be tagged and taken out of service. • All circuits will be tested for energization and voltage prior to start of work. 	
COMPETENT PERSONS (as required): Michael Poe			



ECC Activity Hazard Analysis

Project/Location : Ft Wingate Army Depot	Activity/Phase of Work: Electrical	Estimated Start Date: April 3, 2006	
Analysis Performed by:		Date:	
Analysis Approved by:		Date:	
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS	
Hand and portable power tools Electrical test equipment Heavy Equipment (320 CAT Excavator) Fire Extinguishers Chains, Slings or Ropes Power Tools (Sawzall) Hand Tools (I.e., Hammers)	Daily inspection by user Daily inspection and functional check by user. Initial inspection will be conducted prior to use and daily inspections will be done when in use. Monthly inspections will be performed Inspections prior to each use will be conducted. Capacity ratings must be visible Initial inspections will be conducted prior to use and daily thereafter. Initial inspections will be conducted prior to use and daily thereafter.	Qualified electrical worker Proficiency training will be conducted. Hydraulic license for operator is required. Personnel will be given instructions on proper use of fire extinguishers. Personnel will be trained on proper use of chains, slings, and ropes. Rigging training will be conducted. Proficiency training for users will be given. Personnel will be given training on the safety procedure associated with hand tools.	



ECC Activity Hazard Analysis

Project/Location: : Ft Wingate Army Depot	Activity/Phase of Work: Electrical	Estimated Start Date: April 3, 2006	
Analysis Performed by:	Date:	Analysis Approved by:	Date:
PPE (High Voltage PPE, Cut Resistant Gloves etc.)	Daily inspections for defects, prior to use.	Proficiency training for users will be given.	
GFI's	Daily Safety and detailed Monthly inspections will be performed.	Personnel will be instructed on proper use of GFI.	
Extension Cords	Daily Safety and detailed Monthly inspections will be performed.	Personnel will be instructed on proper use of extension chords.	
Ladders	Daily Safety and detailed Monthly inspections will be performed.	Personnel will be instructed on proper use of ladders.	
Testing equipment-meggers, various meters, etc	Preinspection use and annual inspections	Personnel will be trained in the use of all electrical instruments.	

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No.	Name	Age	Sex	Color	Height	Weight	Build	Complexion	Hair	Eyes	Other
1	John Smith	25	M	White	5'8"	160	Medium	Fair	Black	Blue	None
2	Mary Jones	32	F	White	5'4"	120	Slender	Fair	Black	Blue	None
3	Robert Brown	18	M	White	5'6"	140	Medium	Fair	Black	Blue	None
4	Elizabeth White	45	F	White	5'2"	110	Slender	Fair	Black	Blue	None
5	William Green	30	M	White	5'9"	170	Medium	Fair	Black	Blue	None
6	Sarah Black	28	F	White	5'3"	115	Slender	Fair	Black	Blue	None
7	James Taylor	22	M	White	5'7"	150	Medium	Fair	Black	Blue	None
8	Anna Miller	35	F	White	5'1"	105	Slender	Fair	Black	Blue	None
9	George Wilson	20	M	White	5'5"	135	Medium	Fair	Black	Blue	None
10	Lucy Moore	40	F	White	5'0"	100	Slender	Fair	Black	Blue	None

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ECC Activity Hazard Analysis

Project/Location: : Ft Wingate Army Depot

Activity/Phase of Work: General Site Work

Estimated Start Date: April 10, 2006

Analysis Performed by: ECC ESQ Group

Date: 1/16/06

Analysis Approved by: John Sullivan

Date: 3/28/06

PRINCIPAL STEPS

POTENTIAL SAFETY/HEALTH HAZARDS

RECOMMENDED CONTROLS

Note: This activity hazard analysis covers the common hazards and controls that may be applicable to multiple activities at the project site. It is to be used in conjunction with the more specific Activity Hazard Analysis for a particular Activity. The specific AHAs will cover hazards and controls unique to those activities or subcontractor operations, per EM 385-1-1. General site environmental conditions such as weather conditions, thermal stressors, and biological hazards are covered in detail in the SSHP. They will be addressed on the AHAs only if the activity itself poses unique or exacerbated hazards or exposures.

Heavy Equipment Operations

Struck by heavy equipment and other vehicles operating at the site

- Inspect vehicles and equipment upon first arrival on site and daily before operations.
- Ensure all equipment and vehicles have functional brakes, lights, horns, backup alarms, tire pressure.
- Only qualified operators will be permitted to operate heavy construction equipment. Supervisor will observe operation to establish competency.
- Site vehicles will only be driven by licensed drivers.
- Establish control zones around heavy equipment work area.
- Route traffic away from work area.
- Ensure vehicles have back-up alarms.
- Make eye contact with operators before approaching equipment.
- Do not approach equipment from blind spots.
- Use spotters for backing equipment in congested areas.
- Park vehicle with blade/bucket on ground, transmission in neutral, parking brake engaged. Rubber tire vehicles should use wheel chocks when parked on incline.
- Speed limits
 - 25 mph on main roads
 - 15 mph on work sites where pedestrian traffic may occur



ECC Activity Hazard Analysis

Project/Location: : Ft Wingate Army Depot	Activity/Phase of Work: General Site Work	Estimated Start Date: April 10, 2006	
Analysis Performed by: ECC ESQ Group	Analysis Approved by: John Sullivan	Date: 3/28/06	
PRINCIPAL STEPS	POTENTIAL SAFETY/HEALTH HAZARDS	RECOMMENDED CONTROLS	
Heavy Equipment Operations (cont)	Struck against other vehicles and objects Caught in or between Tipover Electrocution	<ul style="list-style-type: none"> - Obey speed limits - Perform a 360 degree walkaround around the equipment or vehicle before moving. - Park away from obstructions, such as monitoring wells. - Use spotters for backing equipment in congested areas, flaggers for pulling out into public roadways. - Wear seatbelts at all times. All riders must have a seat and seatbelt - Ensure that all guards are in place during inspections - Barricade rotating superstructures of cranes and excavators - Stay out of area between machine and other object - Block parts during maintenance with blocks, cribbing, or supplied ram and steering blocks - Ensure all construction equipment has Rollover Protection Structure (ROPS) and inspect ROPS daily. - Operate equipment up and down slopes whenever possible, with load on the uphill side. - Operate across slopes within manufacturers recommendations - Don't turn or speed on slopes - Keep loads as low as possible, - Ground tools going down slope as much as possible - Park dump trucks on firm, level ground for dumping. Observe load from safe area behind to ensure even flow. - Maintain equipment and loads at least 10 feet from energized overhead powerlines less than 50k V. - Increase buffer zone for voltages >50k in accordance with Table 11-1 of EM 385-1-1, 2003. - Use non-conductive tag lines. 	



ECC Activity Hazard Analysis

Project/Location: : Ft Wingate Army Depot	Activity/Phase of Work: General Site Work	Estimated Start Date: April 10, 2006	
Analysis Performed by: ECC ESQ Group	Date: 1/16/06	Analysis Approved by: John Sullivan	Date: 3/28/06
PRINCIPAL STEPS	POTENTIAL SAFETY/HEALTH HAZARDS	RECOMMENDED CONTROLS	
Manual Material Handling	Struck by quick-change buckets becoming detached from equipment. Excessive noise exposure	<ul style="list-style-type: none"> - Verify complete and proper engagement of locking device prior to equipment use (visual inspection). - Vehicles and equipment will have mufflers. - Monitor noise in work area with sound level meter. - Have workers wear hearing protection when noise levels exceed 85 dBA. - Use quieter equipment, if possible. 	
	Slips, falls	<ul style="list-style-type: none"> - Use three points of contact during access and egress of cabs. - Keep steps clean and free of mud, snow and ice. 	
	Spills	<ul style="list-style-type: none"> - Inspect hydraulic hoses and fittings daily. - Use only fuel filling nozzles with automatic shutoffs and do not use latch open dogs on nozzle handle. 	
	Fires	<ul style="list-style-type: none"> - Shut down engine during fueling. No smoking or open flames in fuel storage and dispensing areas. - All mobile construction equipment provided with fire extinguisher with at least a 3A:40B:C rating (Ansul Sentry AA05VB or equivalent). 	
	Back strain from lifting and moving equipment	<ul style="list-style-type: none"> - Use mechanical lifting devices when feasible (forklifts, cranes, carts, etc.). - Do not lift more than 50 lbs per individual. - Have others help lift excessively heavy loads. 	
	Cuts and scrapes from material handling	<ul style="list-style-type: none"> - When lifting, maintain ergonomically correct lifting posture. - Ensure loads to be handled are free of sharp edges and points. - Wear leather work gloves and long sleeved work shirts 	



ECC Activity Hazard Analysis

Project/Location: : Ft Wingate Army Depot	Activity/Phase of Work: General Site Work	Estimated Start Date: April 10, 2006	
Analysis Performed by: ECC ESQ Group	Date: 1/16/06	Analysis Approved by: John Sullivan	Date: 3/28/06
PRINCIPAL STEPS	POTENTIAL SAFETY/HEALTH HAZARDS	RECOMMENDED CONTROLS	
Using hand and portable power tools	Struck by, caught in or between	<ul style="list-style-type: none"> - Wear leather work gloves and long sleeved work shirts. - Inspect power tools for damage or defects before and after each use. - Ensure all guards are in place. - Use tools only as designed. - Receive proper training in tool use. 	
	Struck by flying debris	<ul style="list-style-type: none"> - Wear impact-resistant, ANSI-approved safety glasses with side shields - Wear face protection in addition to safety glasses for electric or pneumatic grinding, chipping, abrasive saw metal cutting, chain saw and brush cutter work 	
	Excessive noise exposure	<ul style="list-style-type: none"> - Monitor noise in work area with sound level meter. - Wear hearing protection when noise levels exceed 85 dBA. - Use quieter equipment, if possible. 	
	Sprains/strains and vibration-induced musculoskeletal disorders	<ul style="list-style-type: none"> - Do not use heavy tools over shoulder height. - Where tool use is necessary on a continuous or repetitive basis take frequent breaks to rest muscles and joints, particularly if working in awkward positions - Use lightest tool acceptable for application - Use anti-vibration gloves for repetitive use of high velocity or high impact tools, such as impact wrenches, reciprocating saws, etc. 	
Working with electrical equipment	Contact with energized electrical circuits	<ul style="list-style-type: none"> - Ensure all electrical installation and maintenance work is conducted by a licensed electrician. - Identify all electrical circuits connected to the structures and shut them off at their source, lock and tag them out. Disconnect them from the equipment and cap them. 	



ECC Activity Hazard Analysis

Project/Location: : Ft Wingate Army Depot	Activity/Phase of Work: General Site Work	Estimated Start Date: April 10, 2006	
Analysis Performed by: ECC ESQ Group	Date: 1/16/06	Analysis Approved by: John Sullivan	Date: 3/28/06
PRINCIPAL STEPS	POTENTIAL SAFETY/HEALTH HAZARDS	RECOMMENDED CONTROLS	
Working with hazardous energy sources	Exposure to electrical, mechanical, pneumatic energy sources, hazardous liquids and gases, high pressures and temperatures	<ul style="list-style-type: none"> - Ensure electrical power tools are connected to ground fault circuit interruptors - Do not use electrical power tools in wet environments. - Use only heavy duty extension cords and inspect daily to ensure insulation and plug connections are intact. - Shut down systems and implement Lockout/Tagout per SOP HS-021 before doing any maintenance or repair on systems 	
Walking/working at ground level	- Slip and trips on equipment and debris left on the ground Struck by dropped, flying objects Slips/trips/falls changing elevations	<ul style="list-style-type: none"> - Clear work area and walkways of debris. - Wear high traction, safety toe footwear. - Keep walkways dry or surface with slip-resistant materials - Post exit signs and evacuation routes. - Ensure portable ladders are properly placed and secured - Wear ANSI approved hard hat, safety glasses, safety-toe footwear - Provide stairs, ladders or ramps when elevation changes greater than 19 inches are necessary - Use three-points-of-contact ascending and descending stairs and ladders 	



ECC Activity Hazard Analysis

Project/Location: Ft Wingate Army Depot	Activity/Phase of Work: General Site Work	Estimated Start Date: April 10, 2006	
Analysis Performed by: ECC ESQ Group	Date: 1/16/06	Analysis Approved by: John Sullivan	Date: 3/28/06
PRINCIPAL STEPS	POTENTIAL SAFETY/HEALTH HAZARDS	RECOMMENDED CONTROLS	
	Falls to lower level, e.g. excavations, pits, sumps	<ul style="list-style-type: none"> - Cover, fill or barricade excavations at the end of each day. - Establish warning lines or barricades around excavation sides during work, or use fall protection system. For projects covered by EM 385-1-1, perimeter protection will be consistent with Class I, II or III as necessary (See section 25 B). - Keep all pits, sumps covered whenever possible. - When working at an opening to a space that is greater than 6 ft. deep or contains dangerous machinery, provide fall protection. 	
Walking/working at elevations	Falls from elevations	<ul style="list-style-type: none"> - Elevated surfaces not designed as work platforms will be evaluated by a qualified person for structural capacity before using as a work platform - Fall protection will be used in the follow order of preference when working at elevations > 6 ft.: <ul style="list-style-type: none"> - Covering of floor holes - Standard guardrails - Restraint systems that restrict access to edge - Safety nets - Personal fall arrest system with suitable anchorage, lifeline, lanyard, body harness and attachment hardware - Written Fall prevention plan that includes warning lines and monitor - Personal Fall arrest system in conjunction with standard guardrails will be used on articulated and telescoping boom aerial work platforms - Scaffolds will be designed by a qualified individual, constructed and inspected daily under the supervision of a Competent Person, and used by trained individuals. The Competent Person will determine feasible fall protection measures during erecting and dismantling. - Work platforms will be sound construction and be kept in clean, dry 	



ECC Activity Hazard Analysis

Project/Location: : Ft Wingate Army Depot	Activity/Phase of Work: General Site Work	Estimated Start Date: April 10, 2006
Analysis Performed by: ECC ESQ Group	Date: 1/16/06	Analysis Approved by: John Sullivan
		Date: 3/28/06
PRINCIPAL STEPS	POTENTIAL SAFETY/HEALTH HAZARDS	RECOMMENDED CONTROLS
Confined Space Entry	Exposure to hazardous atmospheres, dangerous machinery, engulfment hazards	<ul style="list-style-type: none"> - conditions, and be free of obstructions that may cause tripping hazards. - Implement SOP HS-017 and site-specific Confined Space Entry Plan, attached to SSHP. Label spaces and implement permit system for entry, unless non-permit spaces authorized by CIH.
Hot work including flame and spark producing operations: gas and electric welding, cutting, brazing; metal grinding and cutting with spark-producing equipment; burning	Fire and thermal burns from torch cutting and welding operations	<ul style="list-style-type: none"> - Clear work area of combustible materials. - Complete hot work permit. - Inspect welding equipment daily/ - Equip torch sets with check valves at the torch and regulator and flame arrestors at least at the regulator. - Close cylinder valves when not in use. - Secure oxygen cylinders at least 20 ft. from fuel cylinders and other combustible materials. - Wear welder's goggles and welder's leather gloves, and flame resistant clothing for cutting and oxy-fuel welding. Use welding helmet and leathers for electric welding. - Stage ABC type fire extinguisher nearby. - Have fire watch present during and for 30 min. after hot work is completed.
Hot work including flame and spark producing operations: gas and electric welding, cutting, brazing; metal grinding and cutting with spark-producing equipment; burning (cont)	Contact with hot slag	<ul style="list-style-type: none"> - Clear workers from area beneath structures. - Rope off floor and post warning signs - Clear floor area of combustible material.
	Exposure to metal fume from torch cutting metal	<ul style="list-style-type: none"> - Do not torch cut painted surfaces. Remove paint first with chemical paint remover. - Monitor for metal fume exposures as needed. - When monitoring results require, wear air purifying respirator with P100 dust /fume filters.
	Eye contact with flying debris	<ul style="list-style-type: none"> - Wear impact-resistant, ANSI-approved safety glasses with side shields



ECC Activity Hazard Analysis

Project/Location: : Ft Wingate Army Depot	Activity/Phase of Work: General Site Work	Estimated Start Date: April 10, 2006	
Analysis Performed by: ECC ESQ Group		Analysis Approved by: John Sullivan	Date: 3/28/06
PRINCIPAL STEPS	POTENTIAL SAFETY/HEALTH HAZARDS	RECOMMENDED CONTROLS	
	Welders flash and keratitis from use of cutting torch or welding flash	<ul style="list-style-type: none"> - Wear safety glasses, welder goggles, welding helmet as appropriate with appropriate lens shade as selected in accordance with ANSI Z87.1. Example lens shades include: <ul style="list-style-type: none"> - Torch soldering – 2 - Oxy-fuel cutting and welding – 5 or 6 - Shielded metal arc welding (stick) – 10 to 14 depending on electrode size and current for welder. At least 5 for helper/fitter 	
Heavy equipment	<ul style="list-style-type: none"> - Receipt by Equipment Supervisor - Daily by operators 	Only qualified operators permitted to operate. Qualifications and competency reviewed by Supervisor. Licensed where required by state regulations.	
Site vehicles	<ul style="list-style-type: none"> - Receipt by Equipment Supervisor - Daily by drivers 	Drivers must have current license.	
Hand and Portable power tools	<ul style="list-style-type: none"> - Receipt by Equipment Supervisor - Daily by users 	Proper lifting techniques Training in use of power tools by Supervisor and review of operating manual. Powder-operated tool users certified by vendor.	
Temporary power supplies including GFCIs, extension cords, cord and plug operated tools	<ul style="list-style-type: none"> - Outlets – weekly during site inspection - GFCI – weekly during site inspection - Extension cords and cords and plugs on equipment – daily by users 	General electrical safe work practices training provided during site orientation. Only licensed electricians will install, repair and maintain electrical equipment and current carrying parts of electrically-supplied tools and equipment.	



ECC Activity Hazard Analysis

Project/Location: : Ft Wingate Army Depot	Activity/Phase of Work: General Site Work	Estimated Start Date: April 10, 2006	
Analysis Performed by: ECC ESQ Group	Date: 1/16/06	Analysis Approved by: John Sullivan	Date: 3/28/06
POTENTIAL SAFETY/HEALTH HAZARDS		RECOMMENDED CONTROLS	
PRINCIPAL STEPS Fall protection	<ul style="list-style-type: none"> - Daily site inspection for open-sided floor and floor hole hazards by SSHS and site workers - Personal fall arrest systems, restraint systems, warning systems – daily by users and Competent Person - Excavations – daily by Competent Person - Scaffolds – daily by Competent Person - Guardrails – weekly during site inspections - Daily pre and post use calibrations - Functional tests in field as determined by SSHS or trained technician 	Training in the hazards and proper fall protection during site-orientation, AHA reviews and site briefings as appropriate. Personal fall arrest system training by Competent Person. Scaffold use training by Qualified Person. Scaffold inspection training by Competent Person. Aerial Lift training by vendor or other competent person.	
Air monitoring equipment		Training in calibration and use of air monitoring equipment by vendor, CIH, or other competent person. Review of operating manuals.	



ECC Activity Hazard Analysis

Project/Location: Ft. Wingate Depot Activity	Activity/Phase of Work: Plumbing	Estimated Start Date: April 10, 2006
Analysis Performed by: ECC ESQ Group		Date: 1/16/06
		Analysis Approved by: John Sullivan
		Date: 3/28/06
PRINCIPAL STEPS Piping installation	POTENTIAL SAFETY / HEALTH HAZARDS Falls from ladders and platforms	<p style="text-align: center;">RECOMMENDED CONTROLS</p> <p style="text-align: center;">Consider People, Equipment, Materials and Environment</p> <ul style="list-style-type: none"> • Use proper ladder for the job. For electrical work, use only non-conductive ladders. • Place ladder on firm even footing. • Secure strait and extension ladders. • Don't overextend, keep belt buckle between side rails. • Inspect ladder before use. Do not use defective, or broken ladders. • Wear body harness attached to anchorage point in basket when using aerial lifts. If you use a scissor lift that does not have a designated anchor point, notify SHS who will contact manufacturer for recommendation.
	Contact with PVC cleaner and cement	<ul style="list-style-type: none"> • Wear nitrile gloves when handling PVC cleaner and cement. If welding PVC components in confined or enclosed space, contact SHS.
	Lacerations from sharp hand tools	<ul style="list-style-type: none"> • Wear leather gloves or Kevlar gloves using hand tools or handling materials with sharp edges. • Retract, cover or close any blades immediately after use and place in tool box, tool belt or other safe location to prevent incidental contact.



ECC Activity Hazard Analysis

Project/Location: Ft. Wingate Depot Activity	Activity/Phase of Work: Plumbing	Estimated Start Date: April 10, 2006	
Analysis Performed by: ECC ESQ Group	Date: 1/16/06	Analysis Approved by: John Sullivan	Date: 3/28/06
PRINCIPAL STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS Consider People, Equipment, Materials and Environment	
Fire and thermal burns from torch cutting and welding/brazing operations	<ul style="list-style-type: none"> • Clear work area of combustible materials. • Plug or cover any holes and penetrations in walls and floors. • Obtain hot work permit from Supervisor and SHS. • Inspect welding equipment daily. • Equip torch sets with check valves at the torch and regulator and flame arrestors at least at the regulator. • Close cylinder valves when not in use. • Secure cylinders. Store oxygen cylinders at least 20 ft. from fuel cylinders and other combustible materials. • Wear welder's goggles and welder's leather gloves, and flame resistant clothing for cutting and oxy-fuel welding. Use welding helmet and leathers for electric welding. • Stage ABC type fire extinguisher nearby. • Have fire watch present during and for 30 min. after hot work is completed. 		
Contact with hot slag	<ul style="list-style-type: none"> • Clear workers from area beneath structures. • Rope off floor and post warning signs • Clear floor area of combustible material. 		
Exposure to metal fume from torch cutting metal	<ul style="list-style-type: none"> • Do not torch cut painted surfaces. Remove paint first with chemical paint remover. • Monitor for metal fume exposures as needed. • When monitoring results require, wear air purifying respirator with P-100 dust /fume filters. 		
Eye contact with flying debris	<ul style="list-style-type: none"> • Wear impact-resistant, ANSI-approved safety glasses with side shields 		



ECC Activity Hazard Analysis

Project/Location: Ft. Wingate Depot Activity	Activity/Phase of Work: Plumbing	Estimated Start Date: April 10, 2006	
Analysis Performed by: ECC ESQ Group		Date: 1/16/06	Analysis Approved by: John Sullivan
PRINCIPAL STEPS		RECOMMENDED CONTROLS	
Placement of fixtures	POTENTIAL SAFETY / HEALTH HAZARDS Musculoskeletal strain from lifting and moving	Consider People, Equipment, Materials and Environment <ul style="list-style-type: none"> • Use mechanical lifting devices when feasible (forklifts, cranes, hand carts, etc.). • Use furniture glides or dollies to position items. • Do not lift more than 50 lbs per individual. • Have others help lift excessively heavy loads. • When lifting, maintain ergonomically correct lifting posture. 	
	Welders flash and keratitis from use of cutting torch or welding flash	<ul style="list-style-type: none"> - Wear safety glasses, welder goggles, welding helmet as appropriate with appropriate lens shade as selected in accordance with ANSI Z87.1. Example lens shades include: <ul style="list-style-type: none"> - Torch soldering - 2 - Oxy-fuel cutting and welding - 5 or 6 • Shielded metal arc welding (stick) - 10 to 14 depending on electrode size and current for welder. At least 5 for helper/fitter 	
COMPETENT PERSONS (as required): Michael Poe			
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS	
Hand and Portable power tools, welding/brazing equipment	<ul style="list-style-type: none"> - Receipt by Equipment Supervisor - Daily by users 	Training in use of power tools by Supervisor and review of operating manual. Powder-operated tool users certified by vendor.	
PVC cleaner and cement		MSDS information	

Date	Description	Debit	Credit	Balance
1952	Jan 1			
	Jan 15			
	Jan 31			
	Feb 1			
	Feb 15			
	Feb 28			
	Mar 1			
	Mar 15			
	Mar 31			
	Apr 1			
	Apr 15			
	Apr 30			
	May 1			
	May 15			
	May 31			
	Jun 1			
	Jun 15			
	Jun 30			
	Jul 1			
	Jul 15			
	Jul 31			
	Aug 1			
	Aug 15			
	Aug 31			
	Sep 1			
	Sep 15			
	Sep 30			
	Oct 1			
	Oct 15			
	Oct 31			
	Nov 1			
	Nov 15			
	Nov 30			
	Dec 1			
	Dec 15			
	Dec 31			

Your obedient servant,
 J. Edgar Hoover

ACTIVITY HAZARD ANALYSIS

Job: Drum Removal

Date Prepared: 13 April 2006

Project: Installation of Fencing on the Western and Northern Boundary of Parcel 3

Prepared By: Terraner PMC Reviewed By: ECC ESQ Group

Recommended Protective Clothing and Equipment

Level C - Nitrile Inner Gloves; Leather outer gloves; Steel toed leather boots; Hard hat if overhead hazards exist; Safety glasses; Chemical protective clothing; Full-face air purifying respirator with multi-contaminant/P-100 combination cartridges (when opening drums to evaluate for possible volatile chemical exposure; use to be continued if volatile chemicals are detected by field screening)

Level D - Nitrile inner gloves; Leather outer gloves; Hard hat if overhead hazards exist; Steel toed leather boots; Chemical protective clothing; Safety Glasses

JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	EM-385-1-1 (PARA REF)
<p>1) UXO-qualified personnel will approach each drum (two locations) from an upwind direction and locate and mark any anomalies or visible MEC items for avoidance</p> <p>2) UXO-qualified personnel will escort cultural resources personnel to identify and mark any archaeological/TCP features in the drum locations and access routes</p> <p>3) UXO-qualified personnel will excavate each drum and assess the type (e.g., closed- or open-head) and possible contents</p> <p>4) If the drum is empty, it will be inspected for possible explosive safety hazards and staged for disposal off-site</p> <p>5) If the drum contains a liquid, it will be opened by UXO-qualified personnel and the contents evaluated for explosive safety and occupational exposure (e.g, vapors)</p>	<p>General</p> <p>Site access control</p> <p>Explosion, fire and over pressure</p>	<p>Site personnel will be given task-specific briefings daily regarding the hazards associated with the task and the procedures used to control/mitigate the hazards. All personnel inside the EZ will wear a minimum of Level C PPE, until drums are opened, assessed and air monitoring indicates downgrade appropriate, then minimum is Level D. All ECC subcontractors will be required to read the portions of the APP/SSHP that apply to their operations, and sign off to signify that they have done so.</p> <p>Site personnel will maintain a constant watch for intrusion of unauthorized personnel. Positive site access control will be established prior to on-site operations using barricades, signs or other methods to ensure that unauthorized access during tasks that could cause exposure to MEC or other ES&H hazards.</p> <p>Only UXO qualified personnel will handle initial approach and excavation of the drums. No other personnel will be permitted in the areas until it has been determined that no explosive hazard exists and all anomalies and visible MEC items have been identified and marked for avoidance. Non-sparking tools (drum wrench) will be used to open the drum. Liquid drum contents will be analyzed using a field screening test kit for explosive hazards. Solid drum contents will be visually inspected for the presence of MEC and/or MD. If drum contents are determined to present a possible explosive hazard, the area where the drum is located will be evacuated and the USACE PM and/or MMSS will be contacted for guidance.</p>	<p>01.B.05</p> <p>28.A.02 (10)</p> <p>25.A.01</p>

ACTIVITY HAZARD ANALYSIS

<p>hazards; disposal characterization samples will be collected as appropriate</p> <p>6) If the drum contains solid materials, UXO-qualified personnel will remove the solid materials onto polyethylene sheeting and evaluate the materials for the presence of MEC/MD; disposal characterization samples will be collected as appropriate</p> <p>7) Prepare drum and drum contents for shipping for off-site disposal; drums containing liquid will be overpacked, and solid materials from drums will be re-containerized in DOT-approved drums</p>	<p>Chemical</p>	<p>Personnel opening drums (if closed) will wear respiratory protection as specified under PPE above and use a flame ionization detector and a four gas monitor to include H2S and %LEL to evaluate drum contents for potential exposure to volatile chemicals. If monitor results indicate organic vapor concentrations exceeding background values or flammable liquids the use of respiratory protection will be continued until the drums have been re-sealed or overpacked. If H2S is detected, personnel will back off and allow the drum to vent, until the breathing zone concentrations are less than 5 ppm before any additional handling occurs.</p> <p>If ambient temperatures exceed 75°F, ECC will implement the Heat Stress Prevention SOP. Personnel will be monitored for heat stress and will maintain adequate hydration.</p> <p>If ambient temperatures drop below 61°F, ECC will implement the Cold Stress Prevention SOP, and personnel will be monitored for cold stress.</p> <p>When there are warnings or indications of impending severe weather, conditions will be monitored and appropriate precautions taken to protect personnel and property as specified in the SSHP.</p> <p>All personnel will utilize good house keeping procedures and maintain clean work areas to remove trip hazards. Personnel will also be aware of uneven walking and working surfaces.</p> <p>Heavy equipment operators will be trained on the use, inspection and maintenance of the heavy equipment they use, and all site personnel will be briefed regarding safe operation near heavy equipment.</p> <p>Personnel will be cautioned about physical strain associated with strenuous activities that may be conducted at the site. Personnel will use caution to not over exert themselves or overstrain muscles and joints. Proper lifting techniques will be emphasized.</p> <p>Hand and power tools will be selected to ensure that the right tool is being used for the right job and being used in the manner in which it was intended to be used. All hand and power tools will be inspected daily prior to use and any defective tools will be tagged and removed from service immediately Personnel will follow the other requirements of the Hand and Power Tool Safety SOP to ensure proper use of the hand and power tools anticipated for this project.</p> <p>Level D PPE with leather gloves will be used per the SSHP for all tasks with a potential for cuts or lacerations. Personnel will be trained in the proper use and selection of the equipment and tools they must use to complete their tasks and the hazards of exposed metal and other cut hazards.</p>	<p>6.A.01</p> <p>06.J.02 – 06.J.04</p> <p>06.J.05 – 06.J.10b</p> <p>06.J.01</p> <p>14.C</p> <p>16.A.02 – 16.A.04</p> <p>01.C.01</p> <p>11.C.05 & 13.A</p> <p>05.A.01</p>
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ACTIVITY HAZARD ANALYSIS

	Biological	Biological hazards that may be encountered include stinging and biting insects, hazardous plants, and snakes. Insect repellent will be used by site personnel as needed to repel hazardous insects. Site personnel will report to the SSHO and their team leader the presence of any hazardous animals, insects or plants.	06.D.01 – 06.D.03
	UV Radiation	Site personnel will be cautioned about the possibility of sunburns and will be use sunscreen with a minimum SPF 30 on exposed skin.	06.J.13 & 05.B.07
	Manual lifting of heavy objects	Personnel will use safe lifting procedures and lift with their legs and not their backs.	14.A.04
	Overhead Hazards	Hard hats will be required in those areas with potential hazard of head injury. All protective head gear shall meet the current requirements of the current ANSI Z89.1.	05.D.01 & 05.D.02
	Finger crush, back injury, toe crush and other drum handling hazards.	Personnel will utilize safe drum handling procedures and mechanical lifting techniques when ever possible to minimize personnel having to handle drums.	

Equipment To Be Used	Inspections Required	Training Required
1. Hand Tools 2. Heavy Equipment	Daily inspection of hand tools and heavy equipment	40-Hour HAZWOPER 8-Hour Refresher Initial Site / Task Hazard Training PPE Training All personnel operating hand tools will be trained in proper inspection, maintenance and use of the hand tools. Heavy equipment operators are required to be trained in the operation, inspection and maintenance of heavy equipment

Year	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100																				
Population	150,000	155,000	160,000	165,000	170,000	175,000	180,000	185,000	190,000	195,000	200,000	205,000	210,000	215,000	220,000	225,000	230,000	235,000	240,000	245,000	250,000	255,000	260,000	265,000	270,000	275,000	280,000	285,000	290,000	295,000	300,000	305,000	310,000	315,000	320,000	325,000	330,000	335,000	340,000	345,000	350,000	355,000	360,000	365,000	370,000	375,000	380,000	385,000	390,000	395,000	400,000	405,000	410,000	415,000	420,000	425,000	430,000	435,000	440,000	445,000	450,000	455,000	460,000	465,000	470,000	475,000	480,000	485,000	490,000	495,000	500,000	505,000	510,000	515,000	520,000	525,000	530,000	535,000	540,000	545,000	550,000	555,000	560,000	565,000	570,000	575,000	580,000	585,000	590,000	595,000	600,000	605,000	610,000	615,000	620,000	625,000	630,000	635,000	640,000	645,000	650,000	655,000	660,000	665,000	670,000	675,000	680,000	685,000	690,000	695,000	700,000	705,000	710,000	715,000	720,000	725,000	730,000	735,000	740,000	745,000	750,000	755,000	760,000	765,000	770,000	775,000	780,000	785,000	790,000	795,000	800,000	805,000	810,000	815,000	820,000	825,000	830,000	835,000	840,000	845,000	850,000	855,000	860,000	865,000	870,000	875,000	880,000	885,000	890,000	895,000	900,000	905,000	910,000	915,000	920,000	925,000	930,000	935,000	940,000	945,000	950,000	955,000	960,000	965,000	970,000	975,000	980,000	985,000	990,000	995,000	1,000,000

ATTACHMENT 3
STANDARD OPERATING PROCEDURES
(Table of Contents)

ATTACHMENT 3
STANDARD OPERATING PROCEDURES
FOR THE [REDACTED]



ECC CORPORATE HEALTH & SAFETY PROGRAM STANDARD OPERATING PROCEDURES

- SOP HS-001 – (Reserved)
- SOP HS-002 – Acknowledgements
- SOP HS-003 – Injury & Illness Prevention Program
- SOP HS-004 – General Information and Responsibility
- SOP HS-005 – Hazard Evaluation Analysis
- SOP HS-006 – Air Monitoring Program
- SOP HS-007 – Hazard Communication Program
- SOP HS-008 – Employee Safety Training Program
- SOP HS-009 – Medical Surveillance Program
- SOP HS-010 – Site Control Program
- SOP HS-011 – Respiratory Protection Program
- SOP HS-012 – Personal Protective Equipment Program
- SOP HS-013 – Decontamination Program
- SOP HS-014 – Hearing Conservation Program
- SOP HS-015 – Cold Stress Monitoring Program
- SOP HS-016 – Heat Stress Monitoring Program
- SOP HS-017 – Confined Space Entry Program
- SOP HS-018 – Excavation and Trenching Safety Program
- SOP HS-019 – UST and AST Removal Program
- SOP HS-020 – Electrical Safety Program
- SOP HS-021 – Lockout and Tagout Program
- SOP HS-022 – Vehicle and Heavy Equipment Safety Program
- SOP HS-023 – Hoisting and Crane Operation Program
- SOP HS-024 – Fall Protection Program
- SOP HS-025 – Emergency Response and Contingency Program
- SOP HS-026 – Spill and Discharge Control Program
- SOP HS-027 – Fire Protection Program
- SOP HS-028 – Unexploded Ordnance (UXO) Safety Program
- SOP HS-029 – Asbestos Abatement Program
- SOP HS-030 – Radiation Protection Program
- SOP HS-031 – Chemical Hygiene Program
- SOP HS-032 – Diving Management Plan
- SOP HS-033 – Driver Fleet Safety Program
- SOP HS-034 – Biological Hazard Program
- SOP HS-035 – Blood Borne Pathogen Program
- SOP HS-036 – Drug and Alcohol Program
- SOP HS-037 – OSHA Record Keeping Program
- SOP HS-038 – Employee Safety Incentive Program
- SOP HS-039 – Hand and Power Tools Safety Program
- SOP HS-040 – Back Injury Prevention Program
- SOP HS-041 – Lead Remediation Operating Procedures
- SOP HS-042 – Disciplinary Procedures
- SOP HS-043 – Incident Reporting and Investigation
- SOP HS-044 – Repeat Vehicle Accident Offender Program

LETTER REPORT OF THE ...

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ATTACHMENT 4

ES & H FORMS



Contractor Accident Notification Form

Submit thru: Local Corps of Engineers Field Office
To: Fort Worth District Safety Office

Name of Person Reporting: _____
Phone number: _____
Name of QA: _____

Accident Information

Date of Accident: _____ Time: _____
Installation / Project / Lake Name: DROP DOWN MENU or Other: _____
Exact Location (Bldg., Room, Area, Etc.): _____
Project Title: _____
Contract Number: _____
Prime Contractor: _____
Subcontractor: _____

Accident Classification

Contractor / Subcontractor :

Personal Injury Accident
Lost Time No Yes _____ days
Fatality
Contractor Property Damage
Estimated Dollar Amount: \$ _____
Employee Name: _____
Job Position: _____

- 1 of 2 -

ADDITIONAL REPORTS:

- For lost time ENG Form 3394 (Accident Report Form) due in Safety Office within 15 working days.
- Attach Activity Hazard Analysis for All.

Contractor Accident Notification Form

Detailed Description of Accident:

Recommended corrective Action to include AHA:

- 2 of 2 -

ADDITIONAL REPORTS:

- For lost time ENG Form 3394 (Accident Report Form) due in Safety Office within 15 working days.
- Attach Activity Hazard Analysis for All.

Revised: 09 Feb 2004



Environmental Chemical Corporation

INCIDENT REPORT AND INVESTIGATION

Date of Report: _____

ECCONET Incident Report # _____

TYPE OF INCIDENT (check all that apply)

- INJURY/ILLNESS VEHICLE DAMAGE HIGH LOSS POTENTIAL (NEAR MISS) QUALITY FIRE
 SPILL/RELEASE PROPERTY LOSS/DAMAGE PERMIT OR EQUIV. EXCEEDANCE SECURITY OTHER

GENERAL INFORMATION

PROJECT: _____ TASK: _____

COMPANY OR SUBCONTRACTOR NAME(S): _____

DATE OF INCIDENT _____ DAY OF WEEK: _____ MILITARY TIME: _____

SUPERVISOR ON DUTY: _____ PHONE: _____ SUPV ON SCENE? YES NO

LOCATION OF INCIDENT: _____

WEATHER/LIGHTING CONDITIONS: _____

DESCRIBE WHAT HAPPENED (step by step, use additional pages if necessary)

1. What was the employee doing, or what was happening, just before the incident occurred? Describe the activity, as well as the equipment, tools, or materials in use. *Be specific, e.g., "Climbing a ladder while carrying tools" or "Driving westbound on Main St."*
- _____
- _____
2. What happened? What was the contact or event and how did it occur? *e.g., "When the ladder slipped on the wet floor, employee fell 20 feet" or "was distracted by bee, swerved off right side of road and struck the stop sign"*
- _____
- _____

IMMEDIATE CORRECTIVE ACTIONS (use additional pages if necessary)

AFFECTED EMPLOYEE INFORMATION (Include injured person or employees whose activities resulted in incident) N/A

NAME: _____ MALE FEMALE COMPANY: _____

HOME ADDRESS: _____

DATE OF BIRTH: _____ HOME PHONE #: _____

JOB CLASSIFICATION: _____ YEARS IN JOB CLASSIFICATION: _____

TIME EMPLOYEE BEGAN WORK: _____ DATE OF HIRE: _____

DID INCIDENT RELATE TO ROUTINE TASK FOR JOB CLASSIFICATION?: YES NO

INJURY/ILLNESS INFORMATION N/A

NATURE OF INJURY OR ILLNESS (Body part affected and how it was affected, e.g. strained back): _____

OBJECT/EQUIPMENT/SUBSTANCE CAUSING HARM: _____

FIRST AID PROVIDED: YES NO IF YES, WHERE: ON SITE OFF SITE

IF YES, WHO PROVIDED FIRST AID?: _____

WILL THE INJURY/ILLNESS RESULT IN: RESTRICTED DUTY LOST TIME UNKNOWN



Environmental Chemical Corporation

INCIDENT REPORT AND INVESTIGATION

ECCONET Incident Report # _____

TREATMENT OR EVALUATION INFORMATION (Attach Provider's Report/Statement) N/A

WAS TREATMENT OR EVALUATION PROVIDED? YES NO FIRST AID EVALUATION MEDICAL TREATMENT

IF YES, WHERE? ON SITE DR'S OFFICE HOSPITAL OTHER:

NAME OF PERSON(S) PROVIDING TREATMENT OR EVALUATION:

ADDRESS WHERE TREATMENT OR EVALUATION WAS PROVIDED:

TYPE OF TREATMENT OR EVALUATION:

WAS THE EMPLOYEE HOSPITALIZED OVERNIGHT? YES NO

PROPERTY LOSS OR DAMAGE INFORMATION N/A

PROPERTY OR VEHICLE INVOLVED:

DESCRIPTION OF LOSS OR DAMAGE: ESTIMATED \$ LOST:

SPILL OR RELEASE INFORMATION N/A

SUBSTANCE SPILLED OR RELEASED: FROM WHERE: TO WHERE:

ESTIMATED QUANTITY/DURATION:

REPORTABLE QUANTITY (RQ): RQ EXCEEDED? YES NO

RELEASED TO WATERS OF STATE? YES NO CERCLA HAZARDOUS SUBSTANCE? YES NO

RESPONSE ACTIONS TAKEN:

PERMIT OR EQUIVALENT EXCEEDANCE N/A

TYPE OF PERMIT: PERMIT #:

DATE OF EXCEEDANCE: DATE FIRST KNOWLEDGE OF EXCEEDANCE:

PERMITTED LEVEL OR CRITERIA (e.g., Water Quality, Air Quality):

EXCEEDANCE LEVEL OR CRITERIA: EXCEEDANCE DURATION:

RESPONSE ACTIONS TAKEN:

PERSONS PREPARING REPORT (Employee and Supervisor to Complete Report)

EMPLOYEE'S NAME (PRINT): SIGN: DATE:

EMPLOYEE'S NAME (PRINT): SIGN: DATE:

SUPERVISOR'S NAME (PRINT): SIGN: DATE:

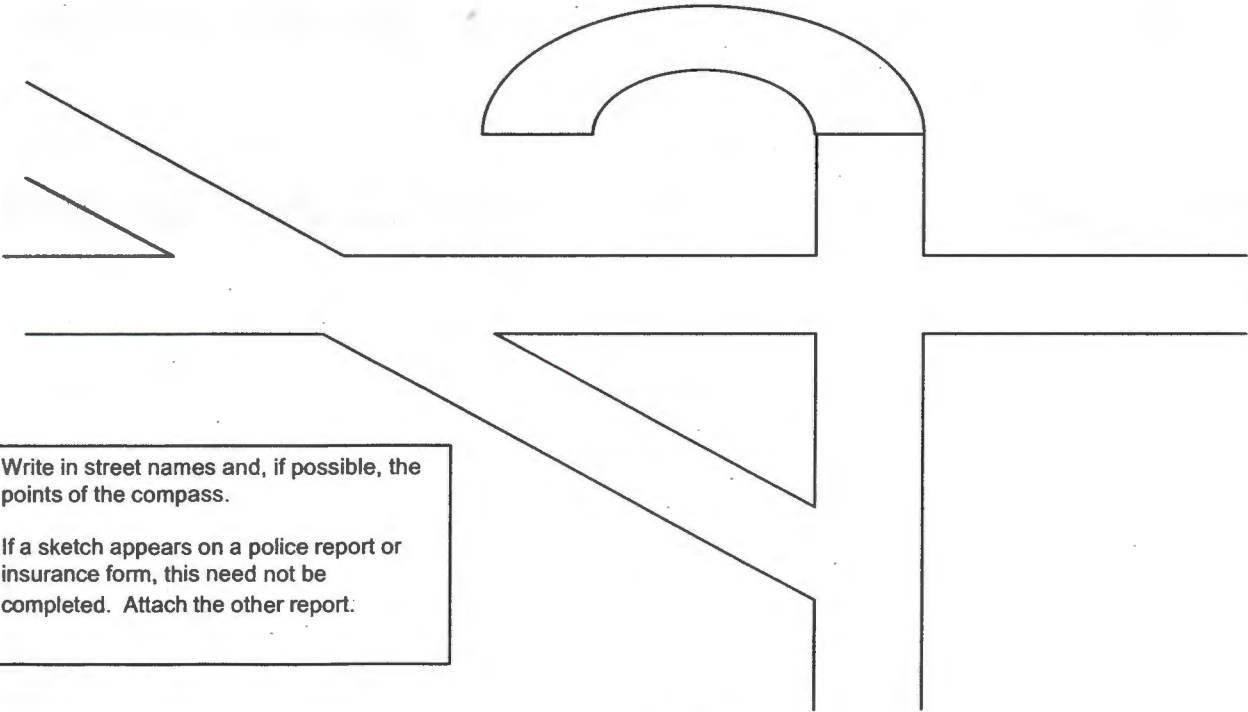
PERSONNEL NOTIFIED (Notify Health and Safety Manager Immediately)

ORGANIZATION	NAME(S)	DATE/TIME
<input type="checkbox"/> Program Health and Safety Manager		
<input type="checkbox"/> Project Manager		
<input type="checkbox"/>		
<input type="checkbox"/>		

RECEIVED BY H&S REP (NAME): DATE/TIME:

Serious Incidents require immediate notification to the Program Health and Safety Manager and Vice President of ESQ. Fatalities or hospitalization (admittance) of three or more individuals requires notification to OSHA within 8 hours. Contact the Program Health and Safety Manager to make the notification. If unavailable, the senior operations person on site should make the notification. Section 1 of the ECCONET form is due the day of the incident. Completed Incident Report and Investigation is due on ECCONET 48 hours after the incident.

INCIDENT SKETCH



Write in street names and, if possible, the points of the compass.

If a sketch appears on a police report or insurance form, this need not be completed. Attach the other report.



**Environmental
Chemical
Corporation**

INCIDENT REPORT AND INVESTIGATION

ECCONET Incident Report # _____

1. GENERAL INFORMATION

COMPANY:	DATE OF INCIDENT:	DATE OF INVESTIGATION REPORT:
INCIDENT COST:	ESTIMATED: \$	ACTUAL: \$
OSHA RECORDABLE: <input type="checkbox"/> YES <input type="checkbox"/> NO	# RESTRICTED DAYS:	# DAYS AWAY FROM WORK:
WAS THE ACTIVITY ADDRESSED IN AN AHA?: <input type="checkbox"/> YES (Attach a copy) <input type="checkbox"/> NO		

2. CAUSE ANALYSIS

IMMEDIATE CAUSES - WHAT ACTIONS AND CONDITIONS CONTRIBUTED TO THIS EVENT? *(See examples on next page)*

--

BASIC CAUSES - WHAT SPECIFIC PERSONAL OR JOB FACTORS CONTRIBUTED TO THIS EVENT? *(See examples on next page, use SCAT chart for guidance)*

--

3. ACTION PLAN

REMEDIAL ACTIONS - WHAT HAS BEEN AND/OR SHOULD BE DONE TO CONTROL THE CAUSES LISTED? *If applicable, include management programs (see attached list) for control of incidents.*

ACTION	PERSON RESPONSIBLE	TARGET DATE	DATE COMPLETE	VERIFIED BY

4. PERSONNEL PERFORMING INVESTIGATION

NAME: (Print)	SIGN:	DATE:
NAME: (Print)	SIGN:	DATE:
NAME: (Print)	SIGN:	DATE:

5. REVIEW AND APPROVAL

HEALTH AND SAFETY OFFICER (Print)	SIGN:	DATE:
COMMENTS:		
PROJECT MANAGER (Print)	SIGN:	DATE:
COMMENTS:		
ENVIRONMENTAL, SAFETY, QUALITY (Print)	SIGN:	DATE:
COMMENTS:		

NOTE: Attach additional information as necessary, i.e. pictures, statements, etc.



EXAMPLES OF IMMEDIATE CAUSES

SUBSTANDARD ACTIONS

1. Operating Equipment without Authority
2. Failure to Warn
3. Failure to Secure
4. Operating at Improper Speed
5. Making Safety Devices Inoperable
6. Using Defective Equipment
7. Failure to Use PPE Properly
8. Improper Loading
9. Improper Placement
10. Improper Lifting
11. Improper Position for Task
12. Servicing Equipment in Operation
13. Horseplay
14. Under Influence of Alcohol/Drugs
15. Using Equipment Improperly
16. Failure to Follow Procedure
17. Failure to Identify Hazard/Risk
18. Failure to Check/Monitor
19. Failure to React/Correct

SUBSTANDARD CONDITIONS

1. Inadequate Guards or Barriers
2. Inadequate or Improper Protective Equipment
3. Defective Tools, Equipment, or Materials
4. Congestion or Restricted Action
5. Inadequate Warning System
6. Fire and Explosion Hazards
7. Poor Housekeeping/Disorder
8. Noise Exposure
9. Exposure to Radiation
10. Exposure to Temperature Extremes
11. Inadequate or Excess Illumination
12. Inadequate Ventilation
13. Presence of Harmful Substances
14. Inadequate Instructions/Procedures
15. Inadequate Information/Data
16. Inadequate Preparation/Planning
17. Inadequate Support/Assistance
18. Inadequate Communications Hardware/Software/Process
19. Road Conditions
20. Weather Conditions

EXAMPLES OF BASIC CAUSES

PERSONAL FACTORS

1. Inadequate Physical/Physiological Capability
2. Inadequate Mental/Psychological Capability
3. Physical or Psychological Stress
4. Mental or Psychological Stress
5. Inadequate Training or Lack of Knowledge
6. Lack of Skill or Qualifications
7. Improper Motivation
8. Abuse or Misuse

JOB FACTORS

1. Inadequate Leadership/Supervision
2. Inadequate Engineering
3. Inadequate Purchasing
4. Inadequate Maintenance or Calibration
5. Inadequate Tools/Equipment
6. Inadequate Work Standards or Procedural Controls
7. Excessive Wear and Tear
8. Inadequate Communications

MANAGEMENT PROGRAMS FOR CONTROL OF INCIDENTS

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Leadership and Administration 2. Management Training 3. Planned Inspections and Maintenance 4. Task Analysis and Procedures 5. Task Observation 6. Emergency Preparedness 7. Rules and Work Permits 8. Accident/Incident Analysis 9. Personal Protective Equipment | <ol style="list-style-type: none"> 10. Health Control 11. Program Audits 12. Engineering and Change Management 13. Personal Communications 14. Group Communications 15. General Promotion/Awareness 16. Hiring and Placement 17. Purchasing Controls 18. Off-the-Job Safety |
|---|--|



Environmental Chemical Corporation

SITE H/S INSPECTION FORM

Page 1 of 4

Site Information:

Project Name:	Date of Inspection:
Company(s):	Type of Inspection: <input type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input type="checkbox"/> Quarterly

Tasks or Activities Observed:

Persons Conducting Inspection:

Name	Company	Name	Company

A. General Workplace Conditions

Category	Observations (N/A if Not Applicable)	Action required <input type="checkbox"/> Yes <input type="checkbox"/> No
Walking/Working Surfaces		
Aisles and Passageways		
Platforms/Scaffolding		
Ladders		
Stairs		
Exits/Egress		
Roadways		
Excavations/Trenches		
Ventilation		
Lighting		
Noise Exposure		
Ergonomics		
Potable Water		
Sanitation Facilities		
Temperature Extremes		

B. Hazardous Materials Use & Storage

Category	Observations (N/A if Not Applicable)	Action required <input type="checkbox"/> Yes <input type="checkbox"/> No
MSDSs Available		
Material Labeling		
Storage Conditions		
Storage Containers Condition		
Chemical Storage Compatibility		
Compressed Gas Storage & Use		
Waste Storage/Disposal		



C. Motor Vehicles & Power Equipment		
Category	Observations (N/A if Not Applicable)	Action required <input type="checkbox"/> Yes <input type="checkbox"/> No
Seatbelts & Back-up Alarms		
Dozer Equipment		
Scraper Equipment		
Road Grader Equipment		
Water Trucks		
Front End Loader/Backhoe Equip.		
Cranes/ Hoists & Rigging		
Forklifts		
Other Heavy Equipment		
D. Hazard Controls		
Category	Observations (N/A if Not Applicable)	Action required <input type="checkbox"/> Yes <input type="checkbox"/> No
General Site Controls		
Work Zone Delineation		
Lockout Systems		
Accident Prevention Signs and Tags		
Barricades		
Hole Covers		
Electrical Grounding & GFCI Use		
E. Emergency Systems		
Category	Observations (N/A if Not Applicable)	Action required <input type="checkbox"/> Yes <input type="checkbox"/> No
Emergency Instructions		
Fire Protection		
Eye Wash and Showers		
First Aid Kits/Stations		
Emergency Rescue Equipment		
F. Protective Equipment Use & Compliance		
Category	Observations (N/A if Not Applicable)	Action required <input type="checkbox"/> Yes <input type="checkbox"/> No
Eye Protection		
Ear Protection		
Respiratory Protection		
Head Protection		
Hand Protection		
Foot Protection		
Body Protection		
Fall Protection		



Site Information:

Project Name:

Date of Inspection:

Company(s):

Type of Inspection: Weekly Monthly Quarterly

Summary and Recommendations

Finding Number and Hazard Classification (#/Classification)*	Findings and Recommended Corrective Action	Date Corrected	Corrected or Verified by

*Classify as Major or Minor – Major findings indicate that a potential or imminent hazard to people, property, or the environment exist



**Environmental
Chemical Corporation**

MEDICAL DATA SHEET

This Medical Data Sheet should be completed by site personnel and kept in an accessible location during the length of project work. This data sheet is not a substitute for required medical surveillance or qualifications required for work at the site. Where possible, this data sheet should accompany personnel requiring medical assistance as a means of providing potentially important personal information to medical providers. Return completed form to project safety representative and update this medical data sheet as often as necessary to maintain its accuracy. This includes changes in medication, emergency contacts, or allergies and sensitivities.

This form may contain confidential information of a personal nature and must be treated/secured accordingly.

Name:		Date:
Address:		Age (optional):
		Height (optional):
Home Telephone:	Work Telephone:	Weight (optional):
Emergency Contact Name and Telephone Number:		
Medications Currently Taking: (both prescribed and over-the-counter medication)		
Known Allergies or Sensitivities (such as allergic reaction to bee stings, food allergies, penicillin):		
Other Significant Medical Alerts or Precautions:		
Name of Personal Physician (if known):		Telephone No.:
Project:		Supervisor Name:
Task:		Supervisor Title:
Company/Department:		Telephone Number:



ENVIRONMENTAL CHEMICAL CORPORATION SELF-EVALUATION INSPECTION FORM

The primary purpose of Environmental Chemical Corporation's (ECC's) self - Evaluation Inspection Form is to detect potential hazards so they can be corrected before an accident occurs. ECC's self-evaluation can determine conditions that need to be corrected or improved to bring operations up to acceptable standards, both from safety and operational standpoints. Secondary purposes are to improve operations and thus to increase efficiency, effectiveness, and profitability. ECC's Self-Evaluation Inspection Form can be utilized on a daily, weekly, or monthly basis.

Project: **Date:**

Inspection Type: Daily Weekly Monthly Corporate

Area(s) of Inspections :

Evaluation Conducted By:

CATEGORY	OBSERVATIONS (N/A if not applicable)	RECOMMENDATIONS
RECORD KEEPING		
1. OSHA Postings		
2. Employee Safety Training		
3. Medical Surveillance Program		
4. Site Safety & Health Plan Sign-off		
5. Exposure Monitoring Records		
6. Daily Tailgate Safety Meetings		
7. Visitors Sign-Off		
8. Accident Investigation Reports		
9. Workers Compensation Claims (Please indicate claimant's name/date of incident)		

CATEGORY	OBSERVATIONS (N/A if not applicable)	RECOMMENDATIONS
GENERAL WORKPLACE		
1. House Keeping		
2. Noise Exposure		
3. Lighting/Illumination		
4. Field/Office Ergonomics		
5. Roadways/Traffic Control		
6. Scaffolding/Fall Protection		
7. Sanitation/Toilet/Wash Facilities		
HAZARD COMMUNICATION		
1. List of Hazardous Materials		
2. Hazardous Materials Labeling		
3. Material Safety Data Sheets		
4. Employee Training		
EQUIPMENT OPERATIONS		
1. Inspection Checklists (Heavy Equipment)		
2. Hand Portable Tools Inspections		
3. Machine/Equipment Guarding		
4. Hoisting/Rigging Operations		
HAZARD CONTROLS		
1. Lockout/Tagout Systems		
2. Site Control (EZ, CRZ, SZ)		
3. Decontamination Procedures		
4. Safety Signs		
5. Site Security		
EMPLOYEE PROTECTIVE EQUIPMENT		
1. Hearing Protection		

CATEGORY	OBSERVATIONS (N/A if not applicable)	RECOMMENDATIONS
2. Respiratory Protection		
2. Head Protection		
5. Foot Protection		
6. Eye Protection		
7. Hand Protection		
8. Body Protection		
MATERIALS		
1. Storing of Compressed Gases		
2. Storing of Flammable Liquids		
3. House Keeping of Storage Room		
EMERGENCY SYSTEMS		
1. Fire Protection		
2. Eye Wash & Shower		
3. First Aid Kits		
4. Spill Containment Supplies		
5. Emergency Instructions		
EXCAVATION ACTIVITIES		
1. Excavation Control Measures		



**ENVIRONMENTAL CHEMICAL CORPORATION
HEAT STRESS MONITORING**

Position Level of PPE	Name	Time	Blood Pressure	Heart Rate	Baseline Periodic Recheck	WBGT Temp °F In/Out	Wet Bulb Temp °F	Dry Bulb Temp °F	Comments

Reviewed by _____

Date _____



Environmental Chemical Corporation

HEAT STRESS MONITORING DATA SHEET

Project _____

Company _____

1. Take and record measurement of temperature and pulse at the following times:
 - a. before beginning shift
 - b. at each break
 - c. at the end of the day
2. Shorten the work cycle if measurements exceed:
 - Pulse – 110 beats per minute
 - Temperature – 99.6° F
3. Never continue work if your body temperature is more than 100.4° F, or if you are experiencing sudden and severe fatigue, nausea, dizziness, or lightheadedness.

Employee: _____ Date: _____ Body Weight: prework _____ postwork _____

Time							
Temp							
Pulse							

Employee: _____ Date: _____ Body Weight: prework _____ postwork _____

Time							
Temp							
Pulse							

Employee: _____ Date: _____ Body Weight: prework _____ postwork _____

Time							
Temp							
Pulse							

Employee: _____ Date: _____ Body Weight: prework _____ postwork _____

Time							
Temp							
Pulse							

Employee: _____ Date: _____ Body Weight: prework _____ postwork _____

Time							
Temp							
Pulse							



Environmental Chemical Corporation

HAZARDOUS MATERIALS INSPECTION FORM

Project Name: _____

Inspectors Name: _____ Date of Inspection: _____

Area/Building/Location Inspected: _____

Description/Identification: _____

Asbestos-Containing Materials (ACM)	No	Yes	Initials	Comments
Potential for ACM (insulated?, coated?, gaskets?, non-metal?)				
Identified on ACM Inventory?				
Material available for sampling?				
Special Requirements Identified to Access Materials?				
Glove-Bag Required?				
Quantity of ACM anticipated?				
Special Handling/Packaging/Staffing/Safety Requirements:				

Mercury (Hg) Switches/Contamination	No	Yes	Initials	Comments
Mercury switches or fixtures identified?				
Switches/guages intact?				
Visible staining on paint or soil?				
Suspect Mercury identified?				
Special Requirements Identified to Access Materials?				
Quantity of Mercury anticipated?				
Special Handling/Packaging/Staffing/Safety Requirements:				

Hazardous Liquids/Solids	No	Yes	Initials	Comments
Free-standing liquid identified?				
Equipment type originally contained liquids? (reservoirs, tanks, motors)				
Evidence or documentation of draining by others?				
Visible staining or spilling evident?				
Quantity of Liquids anticipated?				
Characteristics that may help identify?				
Suspect PCB Motors?				
Suspect Lead Paint?				
Special Handling/Packaging/Staffing/Safety Requirements:				
Field Notes/Comments:				

ECC Demolition Foreman Date

ECC QC/Engr. Date

ECC ACM Supervisor Date

ECC Safety Officer Date



**Environmental
Chemical Corporation**

PRE-DEMOLITION CHECKLIST

Project Name: _____ Building/Structure: _____ Date: _____

1. OSHA Survey	Performed:	By Whom:
Site Hazards Identified:		
AHA Reviewed with crew: Y N	Date Reviewed:	H&S Sign:
2. Client Activity Permit?	Permit No.:	Date Expires:
3. HAZMAT Survey	Date:	By Whom:
Materials Identified:		
Removal Date:	Disposition:	
4. Utilities De-Energized	Notified:	Verified by:
	Document Filed:	Date:
5. Floor Drains Sealed:	Performed:	By Whom:
Standing Water Removed:	Sampled: Y N	Disposition:
6. ACM Survey:	Performed by:	Required Action:
	Date:	Date:
ACM Abatement: Friable Removed: Y N Non-Friable Removed N	Date Performed:	Inspected by:
		Date:
7. PCB Identified: Y N	PCB's Removed: Y N Date:	Disposition:
8. Bio-Hazards: Y N	Removal Required: Y N	Performed: Date:
9. Lighting Removed Y N	Performed:	Date:
10. Site Preparation:		
Run-on/Run-off Control: Y N	Requirements:	Performed by: Date:
Dust Control: Y N	Requirements:	Hydrant/Water Location:
Signs/Barricades:	Requirements:	In Place: Y N
ECC Safety:	Safety Walk-Through?: Y N	Date:
ECC QC Engr:	Date:	ECC Proj Mgr: Date:
Client QC:	Date:	Client Engr: Date:
Client Site Manager:		Date:

THE UNIVERSITY OF CHICAGO

Department of
Chemistry

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Appendix E
Munitions Constituents Sampling and Analysis Plan
(Not Applicable)



Appendix F
Field Forms





Contractor Quality Control Report

Date: _____ Report No.: _____ Contract/CTO: _____

Phase	Yes-No-N/A If No, Include Remarks	Identify definable features of work, location, and list personnel present	
Preparatory	The plans and specs have been reviewed	Definable feature of work: Location: List personnel present:	
	The submittals have been approved		
	Materials comply with approved submittals		
	Materials are stored properly		
	Preliminary work was done correctly		
	Testing plan has been reviewed		
Initial	Preliminary work was done correctly		Testing performed, and who performed test
	Sample has been prepared/approved		
	Workmanship is satisfactory		
	Test results are acceptable		
	Work is in compliance with the contract		
Follow-Up	Work complies with contract as approved in initial phase		Testing performed, and who performed test

Rework items identified today
(not corrected by close of business)

Rework items corrected today
(from Rework Items list)

Remarks:

On behalf of the contractor, I certify that this report is complete and correct and the equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

_____ Date

Government Quality Assurance Report

Date

Quality assurance representative's remarks and/or exceptions to the report:

_____ Date
 Government QA Representative



Contractor Daily Production Report

Date:	Contract/CTO:
Report No.:	Title and Location:
Max. Temp:	Contractor:
Min. Temp:	Superintendent:
AM Weather:	PM Weather:

Work Performed Today

Work Location and Description	Employer	Number	Trade	Hours
Total work hours on job site today				
Cumulative total of work hours from previous report				
Total work hours from start of field operations				

Job Safety

Was a job safety meeting held this date? If yes, attach copy of the meeting minutes to hard copy.	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
Were there any lost time accidents this date? If yes, attach copy of completed OSHA report.	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
Was crane/manlift/trenching/scaffolding/HV elec/highwork/HAZMAT work done? If yes, attach statement or checklist showing inspection performed.	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
Was hazardous material/waste released into the environment? If yes, attach description of incident and proposed action	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
Have the safety requirements been met?	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
List safety actions taken/safety inspections conducted on this date:		
List equipment/material received today to be incorporated into the job:		
List training activities:		
Comments:		



1240 Bayshore Highway
 Burlingame, CA 94010
 650/347-1555
 650/347-4571

Contractor Production Report—SUXOS Daily Journal

Date:	Project:
SUXOSS:	PM:
Instrument Type:	QCM:
Field Operation Time:	UXOSO:
Client:	Contract/CTO:

Team No.	Grids Cleared	Total Digs	OE	OE Scrap (lbs.)	Total Scrap (lbs.)	Hazmat Found	Backhoe Required
<i>Total:</i>		0.00	0.00	0.00	0.00		

Comments:

Geophysical Completed Grids:

Date



Contractor Production Report—Roster of Personnel On-Site

Date:

Name	Location	ECC	SUB	Employer	Type of Work	Hours

_____ Date



1240 Bayshore Highway
Burlingame, CA 94010
650/347-1555
650/347-4571

Contractor Production Report—Notes

Date:

<p>A large grid area for recording data, consisting of approximately 20 columns and 30 rows of small squares.</p>

_____ Date

Contractor Quality Control Report Continuation Sheet
(Attach additional sheets if necessary)

Page ____ of ____

Date: _____

Contractor: Environmental Chemical Company (ECC)

Report No. _____

Contract No. _____ CTO No. _____

Project No. _____

PREPARATORY PHASE INSPECTION

Y - Yes; N - No; N/A - Not Applicable	
Plans and Specs have been reviewed	
Submittals have been approved	
Materials comply with approved submittals	
Preliminary work was done correctly	
Testing Plan has been reviewed	
Work method and schedule discussed	

Identify Definable Feature of Work and Location, and List Personnel Present

Contractor's QC Manager

Date

Contractor Quality Control Report Continuation Sheet
(Attach additional sheets if necessary)

Page ____ of ____

Date: _____

Contractor: Environmental Chemical Corporation (ECC)

Report No. _____

Contract No. _____ CTO No. _____

Project No. _____

INITIAL PHASE INSPECTION

Y - Yes; N - No; N/A - Not Applicable	
Preliminary work was done correctly	
Sample was prepared and approved	
Workmanship is satisfactory	
Test results are acceptable	
Work is in compliance with the contract	

Identify Definable Feature of Work, Location, and Personnel Present

Testing Performed & Who Performed Test (including number of samples and tests taken)

Contractor's QC Manager

Date

Contractor Quality Control Report Continuation Sheet
(Attach additional sheets if necessary)

Page ____ of ____

Date: _____

Contractor: Environmental Chemical Corporation (ECC)

Report No. _____

Contract No. _____ CTO No. _____

Project No. _____

FOLLOW-UP PHASE INSPECTION

Y - Yes; N - No; N/A - Not Applicable	
Work is in compliance with the contract	

Identify Definable Feature of Work, Location, and Personnel Present

Testing Performed & Who Performed Test (including number of samples and tests taken)

Contractor's QC Manager

Date

NON-CONFORMANCE REPORT

Contract No. _____ CTO No. _____

NCR Number:	Project Name and Number:	Date:	Page of
<p>Nonconformance Description (include specific requirement violated):</p> <p>Identified by: _____ Date: _____</p>			
<p>Root Cause of Nonconforming Action:</p> 			
<p>Corrective Action(s) to be Taken (include date when action(s) will be complete):</p> <p>To be Performed by: _____ Date: _____</p>			
<p>Action(s) to be Taken to Preclude Recurrence:</p> <p>To be Performed by: _____ Date: _____</p>			
<p>Acceptance by:</p> <p>Project Manager: _____ Date: _____</p> <p>CQC Manager: _____ Date: _____</p>			
Corrective Action(s) Completed by and Date:		Verification Completed by and Date:	

CORRECTIVE ACTION REQUEST

Project _____

Contract No. _____ CTO _____

Adverse Trend: Yes <input type="checkbox"/> No <input type="checkbox"/>		CAR Number:		Date:	
Organization/Project/Department:			Person Contacted:		
Discrepancy (include specific requirements violated): 					
Originator:			Response Due Date:		
Corrective Action Taken/Proposed to Correct Discrepancy: 					
Corrective Action Taken to Prevent Recurrence (the cause of the discrepancy must also be included here): 					
Corrective Action Taken by (signature and date):			Date When Corrective Action Completed:		
Corrective Action Evaluated:			Verification of Implementation:		
Evaluated by:		Date:		Verified by:	
				Date:	

FIELD WORK VARIANCE

Project Name: _____ Variance No.: _____

Project No.: _____ Page ____ of ____

Contract No. _____ CTO No. _____ Date: _____

Variance (include justification and present requirements) Requested by: _____

Proposed Change

Technical Justification

Cost/Schedule Impact

Reason for Change Addition Deletion

Change Order Required No Yes Change Order No. _____

Applicable Document

cc:

Approved by: _____
Project Manager

Date:

Approved by: _____
CQC Manager

Date:

Approved by: _____
Contracting Officer

Date:

REWORK ITEMS LIST

Contract No. **Project:** **CTO NO.**

Item	Date Identified	Date Corrected
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
20.		
21.		
22.		
23.		
24.		

STOP WORK ORDER

Project Name: _____
S.W.O. No. _____
Contract No. _____

Date: _____
Page _____ of _____
CTO Number - _____

1. Written Notice Issued to: _____ Name: _____ Title: _____ Org.: _____	2. P.O. # or Activity: _____ 3. Location: _____ 4. Issued by (name): _____ Issued by (title): _____
5. Verbal Notice Issued to: Name: _____ Date: _____ Time: _____ Title: _____	
6. Associated NCR No.: _____ 7. Associated CAR No.: _____	
8. Stop Work Order Condition Description: 	
9. Remedial Action Required: By Whom: _____ By When: _____ Required Remedial Action Determined by: Project Manager: _____ Date: _____	
CQC MANAGER: _____	DATE: _____
10. Follow-up of Remedial Action Taken: Verbal Notice to Resume Operations Given to: Name: _____ Date: _____ Time: _____ Title: _____ Stop Work Order Cancellation Authorized by: Program CQC Manager: _____ Date: _____	



**Environmental
Chemical Corporation**

**CONSTRUCTION EQUIPMENT
INSPECTION CHECKLIST**

PROJECT/TASK: _____ COMPANY: _____

DATE: _____ TIME: _____ M T W Th F Sa Su
(Circle One)

Type of Inspection: (Check One) Daily Incoming Outgoing

Make/Description: _____ Model: _____ I.D. No: _____

Inspected By: (Name and Signature) _____

EQUIPMENT	Acceptable	Not Acceptable	N/A	COMMENTS AND ACTION TAKEN
Operation/Owners Manual				
Brakes				
Brake Lights				
Reverse Signal Alarm				
Horn/Air Horn				
Tires/Tracks				
Steering				
Seat Belt				
Operating Controls				
Fire extinguisher				
Lights				
Defroster				
Mirrors				
Instruments				
Coupling Devices				
Bed/Cargo Area				
Tailgate and latch				
Tarp/covers				
Windshield Wipers				
Windshield/Window Glass				
Mudflaps/Rock guards				
Exhaust Systems				
Hitches and Safety Cables				
Hydraulic Lines/ Air Hoses				
Engine Oil Level				
Hydraulic Oil Level				
Rollover Equipment				
Cleanliness				

Comments: _____ Fuel Level: ¼ ½ ¾ F
Hour Meter: _____
Odometer: _____

Noted deficiencies must be approved by the Superintendent and/or Health and Safety Officer prior to operation.

This inspection form is to be filled out at the start of the work shift upon deliveries by the Equipment/Truck Operator to ensure that the equipment/truck is safe to operate and is free from apparent damage, which could cause failure while in use. Once completed, this form is to be given to the Site Superintendent or Safety Officer to be kept on file on-site. In all cases, consult the manufacturer's data to ensure compliance with all inspection criteria, which may not be indicated.

TEST EQUIPMENT LIST AND CALIBRATION LOG

Contract No. _____ CTO No. _____						
Project Name: _____						
Equipment Name: _____ Equipment Tolerance: _____						
Equipment Number and Use (Screening or Analytical)	Equipment Name (Manufacturer and Model ID)	Date and Time (of Calibration)	Calibration Standard Used (Manufacturer and Lot Number)	Equipment Reading (Include Units and Tolerances)	Comments (and/or Observations)	Initials (of Person)

<p>1. Name of the person or organization</p>	<p>2. Address of the person or organization</p>	<p>3. City, State, and Zip</p>
--	---	--------------------------------

I am writing to you because I am interested in your work. I have been following your progress in the field of research and I am impressed by the results you have achieved. I would like to know more about your current projects and how you plan to proceed in the future. Please let me know if there is any way I can be of help to you.

I am sure that your work will continue to make significant contributions to the field. I look forward to hearing from you again soon. Thank you for your time and attention.

Sincerely,
 [Signature]

Appendix G

MSD Calculation Sheets

(Not Applicable)

10/10/04

10/10/04

10/10/04

Appendix H
Resumes for UXO-Qualified Personnel



ALAN J. KIMBOL

Education: Naval School, Explosive Ordnance Disposal, Indian Head, Maryland

Associates Degree, City College, Bellevue, Washington

Senior High School, Kennewick, Washington

OSHA 40 Hour Course, Allied Technology Group

American Heart Association, Heartsaver First Aid and Adult CPR & AED to May 2007

Other: Have attended and graduated from many technical and safety schools. List will be made available upon request.

MILITARY EOD ASSIGNMENTS:

1972 to 1990

– United States Navy. Fifteen of those years were in Explosive Ordnance Disposal. After graduation from EOD School I went to one of the mobile units for four years and then was transferred to a training unit. There I developed and taught a course on detecting, containing and rendering safe of chemical and biological agents. Went from 2nd Class Petty Officer to Chief Petty Officer during this time and attended two EOD refresher classes. Was promoted to Senior EOD Technician.

Was transferred to The Explosive Ordnance Disposal Technology Center. There most of the work I did was on the explosives research and development range. There I worked with the engineers to develop new and safer render safe procedures for many different types of ordnance, both foreign and domestic. We developed many new explosive tools during this time. There was also a lot of work on explosive mitigation techniques using foam and other barriers to reduce the effect of an explosive blast.

While there one of my main responsibilities was the control of the explosives magazines and inventory and ordering of all explosives. Operated the budget for that. Got very good reviews from my commanding officers there. Was promoted to Master Explosive Ordnance Disposal Technician there. Held a Top Secret Security Clearance.

Was transferred from there to EOD Mobile Unit Four in Key West, Florida where I was responsible for the maintenance of all of the boats and vehicles. Ran the budget for that. Did a lot of secret service support while there. Was promoted to Senior Chief Petty Officer while there. During that time I wrote a computer program that tracked all of jobs of the boat/vehicle shop. My division received Navy Achievement medal for it.

CIVILIAN UXO EXPERIENCE:

1990 to 10/2004

Ingersoll-Rand Company, Davidson, North Carolina – Industrial machines and controls. Was promoted to Senior Technician. Learned operation of heavy lifting equipment and computer skills here.

10/ 2004 to 12/2004

MKM Engineers, employed as UXO Tech III at Seneca Army Depot in New York, and at Ravenna, Ohio Army Ammunition Depot. Here my main responsibility was removing (sifting) ordnance and ordnance related items from areas of concern and helping geologists obtain samples for The Corps of Engineers.

12/2004 to 5/2005

O.E.R. employed as a UXO Tech II Team Leader at Switzerland, Florida bombing range. Used metal detectors and heavy equipment to locate and remove

5/2005 to 12/2005

ECC employed as Team Leader (UXO Tech III) at Mass Military Reservation in the clean up of area CS-19. Qualified in first aid and CPR . In charge of two UXO teams and the clean up of over 700 targets.

- December 2004 to May 2005 – O.E.R. employed as a UXO Tech II Team Leader at Switzerland, Florida bombing range. Used metal detectors and heavy equipment to locate and remove practice ordnance from the range. Completed the OSHA 8 hour Hazwoper Supervisor/refresher Course
- 10/2005 to 12/2005 ECC/PBC employed as Team Leader (UXO Tech III) at MMR on the clearing and demolition of UXO for the PBC contract of installing several pipelines for ground water purification systems. Perfect safety record.
- December 2005 (Three Day) Tetra Tech NUS QA work as a UXO Tech III at the old Conway bombing range. Clearing anomalies and QA work.
- December 2005 (Five Day) Tetra Tech NUS UXO support work at Charles City, VA for unloading of dredge barges. UXO Tech III. Dredge came from USN ammunition piers and had some ordnance in the spoils, mostly 40mm rounds
- 01/2006 to Present Tetra Tech ECI UXO Tech III at Fort McClellan, Alabama. Bain's Gap Road Project. Corps of Engineers Job. Team Leader, clearing anomalies to open a road for public use. Using Schonstedt and Vallon instruments and a trackhoe.

DONALD JOSEPH BROWNEY

Education: Community College of the Air Force Feb 2005

- Associates in Explosive Ordnance Disposal

Georgia Perimeter College Spring 2000 to Fall 2001

- Associates in Business Administration

Northeast Atlanta Christian School** 1994 to 1997

- Advanced Academic Diploma

**NOTE: School has since changed its name to Hebron Christian Academy

Training: USACE Construction Quality Management for Contractors, 1997; Society of American Military Engineers #E789862, 10/1997 International Society of Explosive Engineers 9903165, 1/2000 OSHA 40-Hour HAZWOPER, 1990; OSHA 40 Hour Hazardous Waste Operations Supervisor, 1993; OSHA 8-Hour Refresher and Supervisor Training, 2003; OSHA Excavation Safety "Competent Person" Training, 1995; OSHA 60-Hour Confined Space Supervisor/Instructor Certified, 1995; Arc View Software and GIS Training Workshop, 2001; Underwater Demolition/SEAL Team Training, 1967

MILITARY EOD ASSIGNMENTS:

2/03 to 2/04 Operation Enduring Freedom Mobilization
- NAS Keflavik, Iceland

July 2004 OEOB (White House)
- USAF VIP

1/204 to 9/05 Operation Iraqi Freedom Deployment
- Tallil (Ali), Iraq and Kirkuk, Iraq

CIVILIAN UXO EXPERIENCE:

4/04 to 5/04 Civilian UXO contract work (Tech II)
- Carrabelle, FL
- USA Environmental

8/04 to 12/04 Civilian UXO contract work (Tech II)
- Cape Cod, MA
- Environmental Chemical Corp.

11/05 to 12/05 Civilian UXO contract work (Tech II)
- Ft. Benning, GA
- USA Environmental

1/06 to Current Civilian UXO contract work (Tech II)
- Camp Butner, NC
- USA Environmental

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Fourth block of faint, illegible text, possibly a transition or a new section.

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DID MR-025

Alan J. Kimbol

Date Attended Basic Eod School: Oct 1974 – Nov 1975

Other Pertinent Training: Hazwoper 40 Hour, May 1995; Tech Escort School, Jun – Jul 1982; Cpr/First Aid, May 2005

MILITARY EOD ASSIGNMENTS:

NOV 75-OCT 78 EOD Tech (Basic) EOD Mobile Unit One, Oahu, Hawaii. Member of shipboard teams

OCT 78-NOV 82 EOD Tech (Senior) EOD Training Unit One, Oahu, Hawaii. Instructor of Chemical / Biological EOD Procedures for EODGRUONE.

NOV 82-JUL 86 EOD Tech (Master) EOD Technology Center, Indian Head, MD. Research and Development of render safe procedures for the EOD Community. Diver training. Promoted to CPO.

JUL 86-APR 90 EOD Tech (Master) EOD Mobile Unit Four, Key West, Florida. Unit Logistics Chief, Unit Vehicle and Boat Maintenance Chief. NCOIC of Vehicle and Boat Maintenance. Promoted to Senior Chief.

RETIRED: APR 90

CIVILIAN UXO EXPERIENCE

OCT 04-DEC 04 UXO Tech III, MKM Engineers, Seneca New York, Army Depot and Ravenna, Ohio Army Ammunition Depot.

DEC 04-May 05 UXO Tech II, OER, Team Leader for Switzerland, Florida Bombing Range.

MAY 05-DEC 05 UXO Tech III, ECC at Cape Cod MMR Team Leader of CS-19 Project. Also Team Leader for ECC PBC Contract.

DEC 05 UXO Tech III, Tetra Tech NUS, Old Conway Bombing Range, Conway, SC Anomaly removal and QA work. (Three Days)

DEC 05 UXO Tech III, Tetra Tech NUS, Charles City, VA Ordnance Avoidance for barge unloading. (Five Days)

JAN 06 to Present UXO Tech III, Tetra Tech ECI, Fort McClellan, AL Bain's Gap Road Project. Team Leader for anomaly removal.

The first part of the report deals with the general situation in the country. It is a very interesting and informative study of the economic and social conditions of the country at that time.

The second part of the report deals with the specific details of the country's development. It is a very detailed and thorough study of the country's progress in various fields, including agriculture, industry, and education.

The third part of the report deals with the country's future prospects. It is a very optimistic and hopeful study of the country's potential for growth and development in the years ahead.

The report is a very valuable and important document for anyone interested in the country's development and progress. It is a must-read for all those who care about the future of the country.

Appendix I

Department of Army Letter HQDA Ltr 385-04-1

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DEPARTMENT OF THE ARMY
WASHINGTON, D.C. 20310

HQDA Ltr 385-04-1

DACS-SF

30 March 2004

Expires 30 March 2006

SUBJECT: Improved Conventional Munitions and Submunitions

SEE DISTRIBUTION

1. Purpose. This letter—

- a. Restricts the use of improved conventional munitions (ICMs) and submunitions.
- b. Restricts the maintenance, characterization, and clearance of ranges and other areas known or suspected of containing ICMs and submunitions.
- c. Provides minimum requirements for controlling hazards associated with maintaining, characterizing, and clearing ranges and other areas known or suspected of containing ICMs and submunitions.
- d. Does not address non-ICM/submunition unexploded ordnance or biological or chemical warfare material.

2. Applicability. This letter applies to Headquarters, Department of the Army (HQDA) agencies and major Army commands (MACOMS) responsible for or involved in the following—

- a. Activities involving ICM or submunitions undertaken by the Active Army, the Army National Guard of the United States, the U.S. Army Reserve, Army civilian employees, and Army contractors.
- b. Ranges and other areas owned or controlled by the U.S. Army, continental United States (CONUS), and outside continental United States (OCONUS) (including active, inactive, closed, transferred, or transferring ranges) and including activities conducted by other Services on Army-owned or controlled property.

3. Proponent and exception authority. The proponent of this letter is the Army Chief of Staff, who has the authority to approve exceptions to this letter that are consistent with controlling law and regulations. The Chief of Staff, Army may delegate this approval authority, in writing, to the Director of the Army Staff, MACOM commanders, and the Director of Army Safety. Activities may request a waiver to this regulation by providing justification that includes a full analysis of the expected benefits and must include formal review by the activity's senior legal officer. All waiver requests will be endorsed by the commander or senior leader of the requesting activity and forwarded through their higher headquarters to the policy proponent. Refer to AR 25-30 for specific guidance.

4. References. Required publications are listed below.

- a. AR 75-15, Responsibilities and Procedures for Explosive Ordnance Disposal.
- b. AR 210-21, Army Ranges and Training Land Program.
- c. AR 385-10, The Army Safety Program.
- d. AR 385-40, Accident Reporting and Records.
- e. AR 385-63, Range Safety.
- f. AR 385-64, U.S. Army Explosives Safety Program.
- g. DA Pam 385-64, Ammunition and Explosives Safety Standards.
- h. FM 21-16, Unexploded Ordnance (UXO) Procedures.
- i. DOD 6055.9-STD, DOD Ammunition and Explosives Safety Standards. This publication is available at www.dtic.mil.
- j. Military Munitions Rule, 62 FR 6621, 12 Feb 97, codified primarily at 40 CFR 266, Subpart M. This rule can be accessed at this controlled site www.dac.army.mil.

5. Explanation of abbreviations and terms. Abbreviations and terms used in this letter are explained in the glossary.

6. Responsibilities.

a. The Assistant Secretary of the Army (Installations and Environment)(ASA(I&E)) is responsible for establishing overall Army environment, safety, and occupational health policy. The ASA(I&E) will exercise oversight of all aspects of environment, safety, and occupational health statutory compliance. These responsibilities are carried out through the Deputy Assistant Secretary of the Army (Environment, Safety and Occupational Health).

b. The Director of Army Safety (DASAF), Office of the Chief of Staff, U.S. Army, administers and directs the Army Safety Program as specified in AR 385-10. The DASAF will—

- (1) Establish risk assessment criteria for ICM and submunition clearance activities.
- (2) Establish, with the Director of Training (ODCS, G-3, DAMO-TR) policy on restricting the use of ICMs and submunitions.
- (3) Review U.S. Army Technical Center for Explosives Safety (USATCES) evaluations of requests for waivers to the Army restriction on maintenance, characterization, or clearance of ranges or other areas known or suspected of containing ICMs or submunitions, and provide joint (with DAMO-TR) approval or disapproval of waivers to the Army restriction.

c. The DCS, G-3 will—

- (1) Develop policy for training ranges and other training facilities required to support training (AR 210-21).
- (2) Review USATCES' evaluations of requests for waivers from the Army restriction on maintenance, characterization, or clearance of ranges or other areas known or suspected of containing ICMs or submunitions, and provide joint (with the ODASAF) approval or disapproval of waivers from the Army restriction.
- (3) Develop policy and guidance for the Army explosives ordnance disposal (EOD) program.

d. The Judge Advocate General (TJAG) will provide advice on statutory and regulatory requirements affecting ordnance and explosives clearance activities.

e. The Assistant Chief of Staff for Installation Management (ACSIM) will provide

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guidance on the application of environmental policy for ordnance and explosives clearance plans and procedures.

f. The Commander, U.S. Army Technical Center for Explosives Safety will—

(1) Review requests for waivers from the Army restriction on maintenance, characterization, or clearance of ranges or other areas known or suspected of containing ICMs and submunitions and provide an evaluation of each request and recommendation for approval or disapproval to the ODASAF.

(2) Provide guidance on historical records searches to determine past usage of ICMs or submunitions.

(3) Maintain an inventory of Army property and formerly used Defense sites (FUDS) containing ICMs and submunitions.

g. Commanders with responsibility for ranges or other areas known or suspected of containing ICMs or submunitions will—

(1) Ensure DAMO-TR, DALO-AMA, and USATCES are informed of any ranges or other areas known or suspected of containing ICMs or submunitions.

(2) Ensure ranges or other areas known or suspected of containing ICMs or submunitions are clearly marked and entry to these areas is restricted and access is controlled.

(3) Prohibit all activities on ranges or other areas known or suspected of containing ICMs or submunitions, unless a waiver approved by the DASAF and DAMO-TR is obtained.

(4) Follow the procedures contained in this document for requesting waivers to the restriction on maintenance, characterization, or clearance of ranges or other areas known or suspected of containing ICMs or submunitions.

7. Policy.

a. The firing, dropping, or use of ICMs or submunitions for training and demonstration by Army units or other Services, to include foreign national units, on Army ranges or other areas controlled by the Army is prohibited. This prohibition does not include ICM or submunition acceptance or research, development, testing, and evaluation (RDT&E) for intelligence purposes of foreign ICMs or submunitions. However, when such tests are performed, the use of submunitions will be both limited to the minimum number required and restricted to specifically designated target or impact areas.

b. The designation of areas for ICM or submunition proof testing or testing for intelligence purposes of foreign ICMs or submunitions requires the approval of the MACOM commanding general. This authority may not be delegated. Follow the steps listed below when designating ICM or submunitions testing areas.

(1) The MACOM CG will notify the ODASAF, USATCES, DAMO-AMA, and OACSIM of all areas so designated.

(2) Limit areas so designated to ICM or submunition proof testing or testing for intelligence purposes, of foreign ICMs or submunitions. All other uses will be prohibited.

(3) Maintain a complete inventory of all submunition and explosives tested in such areas. The inventory will include the type, full nomenclature, and number of ICMs or submunitions tested, the date of the test, and the agency conducting the test.

(4) Installations with ICMs or submunition test ranges will develop procedures to

ensure that entry into test areas in which ICMs or submunitions have been fired is restricted and access is strictly controlled and will ensure clearing the area following testing.

c. Ranges or other areas known or suspected of containing ICMs or submunitions will be clearly marked at the physical location and on installation master plans, to identify the hazard. Entry to such areas will be restricted and access controlled. If the area known or suspected of containing ICMs or submunitions is a subset of a larger area known not to contain ICMs or submunitions, access to the larger (non-ICM/submunition) area may be granted by the installation commander. However, it will be under the conditions noted in (1) through (4) below. These are in addition to other range entry or unexploded ordnance (UXO) safety requirements.

(1) There is a compelling need for personnel to enter the larger area.

(2) There are no activities taking place in the restricted (ICM/submunition) area.

(3) All personnel authorized to enter the non-ICM/submunition area are provided an explosives safety briefing that identifies the types of ICMs and submunitions that could be encountered and action that should be taken if discovered.

(4) Access into the larger area is coordinated with range and safety personnel.

d. Before access is granted to range impact areas, the installation range operations office will determine, to the extent possible based on range records and procedures, whether the range contains or is suspected of containing, ICMs or submunitions. Access to areas known or suspected of containing ICMs or submunitions are prohibited unless permitted under a waiver approved according to paragraph 8. Also, Range Operations, in coordination with installation safety and EOD representatives, will determine, and monitor implementation of, safety controls required for personnel access. Personnel permitted to enter any area containing or suspected of containing ICMs or submunitions will be fully apprised of the potential dangers and the safeguards to be exercised. When necessary, personnel will have the appropriate escort.

e. Ranges or other areas known or suspected of containing ICMs or submunitions will not be entered by anyone (including government, military, civilian personnel, or contractor personnel) for range maintenance, characterization, or clearance activities without waiver approval. (See para 8.)

f. Range control or safety personnel will report areas known or suspected of containing ICMs or submunitions on Army ranges or other areas immediately through command channels to ODCS, G-3 (DAMO-TR), ODASAF, ODCS, G-4 (DAMO-AMA), and USATCES. At a minimum, the report will include location, type of ICM or submunition suspected, the boundaries (by coordinates) of the area suspected of containing ICMs or submunitions. Also, include the suspected source (for example, weapon system and event in which the ICM or submunitions were most likely used), the date of discovery, and a point of contact. Lastly, if available, include digital pictures of the discovered item. Notify local supporting EOD units.

g. There may be situations that present a compelling need to clear ICMs or submunitions from a range or other area, or to enter, for purposes of range maintenance, areas known or suspected of containing ICMs or submunitions. In such situations, a waiver to the restriction on maintenance, characterization, or clearance of ranges or other areas known or suspected of containing ICMs or submunitions will be considered on a case-by-case basis. Waivers will be approved only when the increased explosives safety risk associated with exposure to ICMs or submunitions is fully justified. (An example would be if the presence of ICMs or submunitions poses an unacceptable, uncontrolled, unavoidable threat to DOD personnel or members of the public or when ICM or submunition clearance

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or range maintenance is required as a prerequisite to a mandated transfer of real property).

h. Maintenance, characterization, and clearance on ranges or other areas involving munitions that are not considered ICMs or submunitions but that have sensitive mechanisms for initiating the explosives firing mechanism (for example, the M83 4-pound fragmentation 'Butterfly' bomblet or the M54 series 4-pound incendiary bomb) are not addressed by this policy. However, plans for maintenance, characterization, or clearance of such munitions can be evaluated at HQDA (ODASAF).

i. In the event emergency destruction of an ICM or submunition located outside of a range (or other area associated with ICMs or submunitions) is required, emergency destruction by Army EOD units may be authorized.

8. Waivers.

a. Requests for waivers may be submitted by the commander of the installation or the head of the U.S. Army Corps of Engineers District. Heads of tenant activities will forward requests through the installation commander. Forward waiver requests through command channels (approval at each level of command is required) providing three copies to Commander, USATCES and one copy to the Installation Management Agency (IMA).

b. Requests for waivers will include the following information, in the following order:

(1) The purpose and scope of the proposed activities (as an example, maintenance, characterization, or clearance) is to be conducted under a waiver. Explain, in detail, the compelling reasons for the proposed activities (see para 7g).

(2) The name and location of the areas in which the proposed activities will be conducted. Provide maps—

(a) Showing the regional location of the site.

(b) Showing the boundaries of the areas for which the waiver is requested.

(c) Showing, for Army-controlled property to be released outside the Department of Defense (DOD), the boundaries of the parcels to be released and listing the anticipated reuse of each parcel and any land-use restrictions to be placed on the property. (Plans for the release of such property must be submitted for review and approved by the Department of Defense Explosives Safety Board (DDESB)).

(d) Listing, for property not under DOD control (such as FUDS), the past and current use and, if known, the anticipated reuse of each area to undergo clearance and any existing land use restrictions applicable to the property.

(e) Listing the planned clearance depths and provide site-specific data to support the depth of clearance determination.

(3) Alternatives to the proposed activities specified in (1) above and justification for selection of the proposed activities over these alternatives.

(4) A description of the use of the site that led to the presence of ICMs or submunitions. This description can consist of extracts from inventory project reports, preliminary assessments, historical records searches, archive search reports, site inspections, safety surveys, engineering evaluations/cost analyses, or other appropriate sources.

(5) Characterization of the terrain with regard to soil, topography, and vegetation

factors that may impact ordnance and explosives detection and recovery for areas for which the waiver is requested. Delineate terrain characterization on site maps.

(6) Information on known or suspected ICMs and submunitions in areas for which the waiver is requested. This information will include estimates of the type, location, depth, and density of ICMs and submunition and will be annotated on a site map.

(7) Information on known or suspected unexploded ordnance (non-ICM/submunition) in areas for which the waiver is requested. This information will include estimates of the type, location, depth, and density of such unexploded ordnance and will be annotated on a site map.

(8) A description of technology and methods to be used to detect, recover, and destroy recovered unexploded ordnance, including ICMs and submunitions. When describing the technology and methods, address capabilities and limitations (to include those imposed by terrain and soil type) and provide a statement specifying the smallest item the equipment is capable of detecting at the detection depth.

(9) The number, composition, training, experience, and certifications of supervisors and members of the work teams that will be within the areas for which the waiver is requested.

(10) An in-depth explosives safety risk assessment detailing the hazards of, and safety controls (including personal protective equipment) for, the proposed activities. Pay specific attention to the types, quantities, and locations of ICMs and submunitions potentially encountered (based on site- and munition-specific activities, hazards, and controls.) The risk assessment will be approved at the appropriate level within the requester's chain of command.

(11) Quantity-distance (Q-D) maps for each area for which the waiver is requested. (Scaled maps of 1 inch equaling not more than 400 feet are preferred. A larger scale is acceptable if distances can be shown with accuracy. If unscaled maps are used, then the maps must label distances). Maps will indicate the following:

(a) Public withdrawal distances, ICM/submunition team separation distances, and separation distances to be employed in destruction of ICMs and submunitions. Identify every inhabited building, occupied area, and public traffic route inside these safety distances and describe measures to be taken to minimize or eliminate risk for exposures within them.

(b) The location of magazines for the storage of demolition explosives and recovered ordnance and explosives.

(12) Summarize EOD, technical escort unit (TEU), and contractor support. When military EOD units are involved in the range clearance activities, their portion of the operational plan will be approved by the EOD unit's chain of command.

(13) A description of quality control and quality assurance procedures, standards, and pass/fail criteria.

c. Whenever possible, waiver requests will be submitted at least 60 days before the date for which initiation of the proposed activities is requested. Coordination with Commander, USATCES is recommended before initiating the waiver request.

d. Commander, USATCES will review waiver requests, coordinating with MACOMs and ARSTAF as necessary, and provide an evaluation of the waiver request and a recommendation to approve or disapprove the request to ODASAF. ODASAF and ODCS, G-3 (DAMO-TR) will provide approval or disapproval.

e. If, after initiating activities under a waiver, any of the following conditions occur, activities will be stopped and the commander will submit, an amended request for waiver using the procedures prescribed in paragraph 8a. Commanders will coordinate with

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Commander, USATCES to determine if, based on the scope of the change in conditions, approval of the amendment can be expedited.

(1) ICMs or submunitions of a type not specified in the current approval are encountered. The amended request for waiver will update information affected by the change. At a minimum, the amended request for waiver will update, or indicate no change to, the information required in paragraphs 8b(2)(d), 8b(6), and 8b(8)-(11).

(2) Additional areas require maintenance, characterization, or clearance. The amended request for waiver will specify the reason for the change and update information affected by the change. At a minimum, the amended request for waiver will update, or indicate no change to, the information required in paragraphs 8b(2)-(7) and 8b(11). (Work may continue in areas as approved in the initial waiver provided safety distances are not encroached.)

(3) The scope of work or work techniques change. The amended request for waiver will specify the reason for the change and update information affected by the change. At a minimum, the amended request for a waiver will update, or indicate no change to, the information required in paragraphs 8b(1) through (3) and 8b(8) through (13).

(4) If, after initiating activities under a waiver, the number or composition of the characterization teams, clearance teams, or EOD, TEU, or contractor support changes, a correction to the request for waiver will be forwarded through command channels to Commander, USATCES, ODASAF, and ODCS, G-3. The correction will specify the reason for the change and update information affected by the change (at a minimum, the information required in paragraphs 8b(9) and 8b(12)). If the change involves military EOD units, work may not be initiated until the change is approved by the EOD unit's chain of command. Otherwise, work activities may proceed while the correction is in process.

9. Hazard control requirements for maintenance, characterization, or clearance of ranges or other areas.

a. Operations will be conducted in a manner that exposes the minimum number of people to the smallest quantity of explosives for the shortest period of time.

b. All work activities will be coordinated with and have the approval of all levels of commands and all Services involved.

c. All work activities will be conducted according to the controls outlined in approved ordnance and explosives safety and health planning documents (for instance, explosives safety risk assessment, hazard analyses, and site safety and health plans).

d. Only qualified UXO personnel may enter and conduct maintenance, characterization, or clearance in areas known or suspected of containing ICMs or submunitions. Qualifications for UXO personnel include the following:

(1) Graduation from the U.S. Army Bomb Disposal School, Aberdeen Proving Ground, MD; the U.S. Naval EOD School, Indian Head, MD; the U.S. Naval EOD School, Eglin AFB, FL; the EOD Assistant Course, Redstone Arsenal, AL; the EOD Assistant Course, Eglin AFB, FL; or a DOD-certified UXO qualification course.

(2) More than 5 years combined active duty military EOD and contractor UXO experience.

e. The qualified UXO personnel involved in maintenance, characterization, or clearance of ranges or other areas known or suspected of containing ICMs or submunitions will

receive training in the hazards of the specific ICM or submunition specified in the waiver request and the procedures to control those hazards.

f. Minimum team separation distance will be the larger of the following:

(1) The distance $D=KW^{1/3}$, using $K=50$ and W =the net explosive weight (NEW) of the munition with the greatest NEW, whether conventional or ICM/submunition; or

(2) Two hundred (200) feet.

g. Whenever possible, ICMs or submunitions encountered will not be disturbed or touched, but will be blown-in-place. Before destruction, all personnel will be removed, at a minimum, beyond the specified separation distance. The separation distances for blow-in-place locations will be determined using distances described in DA Pam 385-64, paragraph 5-7c(2)(b) or allowed by DDESB-approved quantity-distance reduction methods or engineering controls.

h. Any explosive-related incident involving injury to personnel will be immediately reported per AR 385-40. If such an incident occurs, activities will be stopped until a review and validation of procedures has been completed and approved by the commander responsible for the activities.

i. Notify in writing, the ODASAF and the ODCS, G-3 (DAMO-TR) on conclusion of work activities. This notification will include an after-action report detailing the type and number of ICMs and submunitions recovered; the location, depth, and area dispersion of the ICMs and submunitions. Also include the disposition of the ICMs and submunitions and any safety concerns associated with the work activity.

Glossary

Section I Abbreviations

ASCIM
Assistant Chief of Staff for Installation Management

ASA(I&E)
The Assistant Secretary of the Army (Installations and Environment)

CONUS
continental United States

DASAF
Director of Army Safety

DCS, G-3
Deputy Chief of Staff, G-3

DDESB
Department of Defense Explosives Safety Board

EOD
explosives ordnance detachment

FUDS
formerly used Defense sites

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HQDA
Headquarters, Department of the Army

ICMs
improved conventional munitions

IMA
Installation Management Agency

MACOMs
major Army commands

OCONUS
outside continental United States

ODCS,G-3
Office Deputy Chief of Staff, G-3

ODCS, G-4
Office Deputy Chief of Staff, G-4

RDT&E
research, development, testing, and evaluation

TEU
technical escort unit

USATCES
U.S. Army Technical Center for Explosives Safety

UXO
unexploded ordnance

Section II
Terms

Characterization

The process of scanning (visually and through the use of electromagnetic detection devices) the surface or subsurface of an area to determine locations, types, depths, extent, and density of ICMs and submunitions.

Clearance

The identification and removal or on-site destruction of ordnance and explosives.

Improved conventional munitions

Munitions characterized by the delivery of two or more anti-personnel, anti-materiel, or anti-armor submunitions by a parent munition.

Range maintenance

Repair of maneuver damage, repair of ranges and training facilities, or reconfiguration of a training area.

Submunition

Any munition that, to perform its task, separates from a parent munition. A self-contained munition that is carried in multiple inside a single delivery vehicle, and which must be released from the parent munition in order to perform its task.

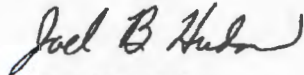
Section III**Special Abbreviations and Terms**

This section contains no entries.

By order of the Secretary of the Army:

PETER J. SCHOOMAKER
General, United States Army
Chief of Staff

Official:



JOEL B. HUDSON
Administrative Assistant to the
Secretary of the Army

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EIGHTH U. S. ARMY
U.S. ARMY FORCES COMMAND
U.S. ARMY MATERIEL COMMAND
U.S. ARMY TRAINING AND DOCTRINE COMMAND
U.S. ARMY CORPS OF ENGINEERS
U.S. ARMY SPECIAL OPERATIONS COMMAND
U.S. ARMY PACIFIC
MILITARY TRAFFIC MANAGEMENT COMMAND
U.S. ARMY CRIMINAL INVESTIGATION COMMAND

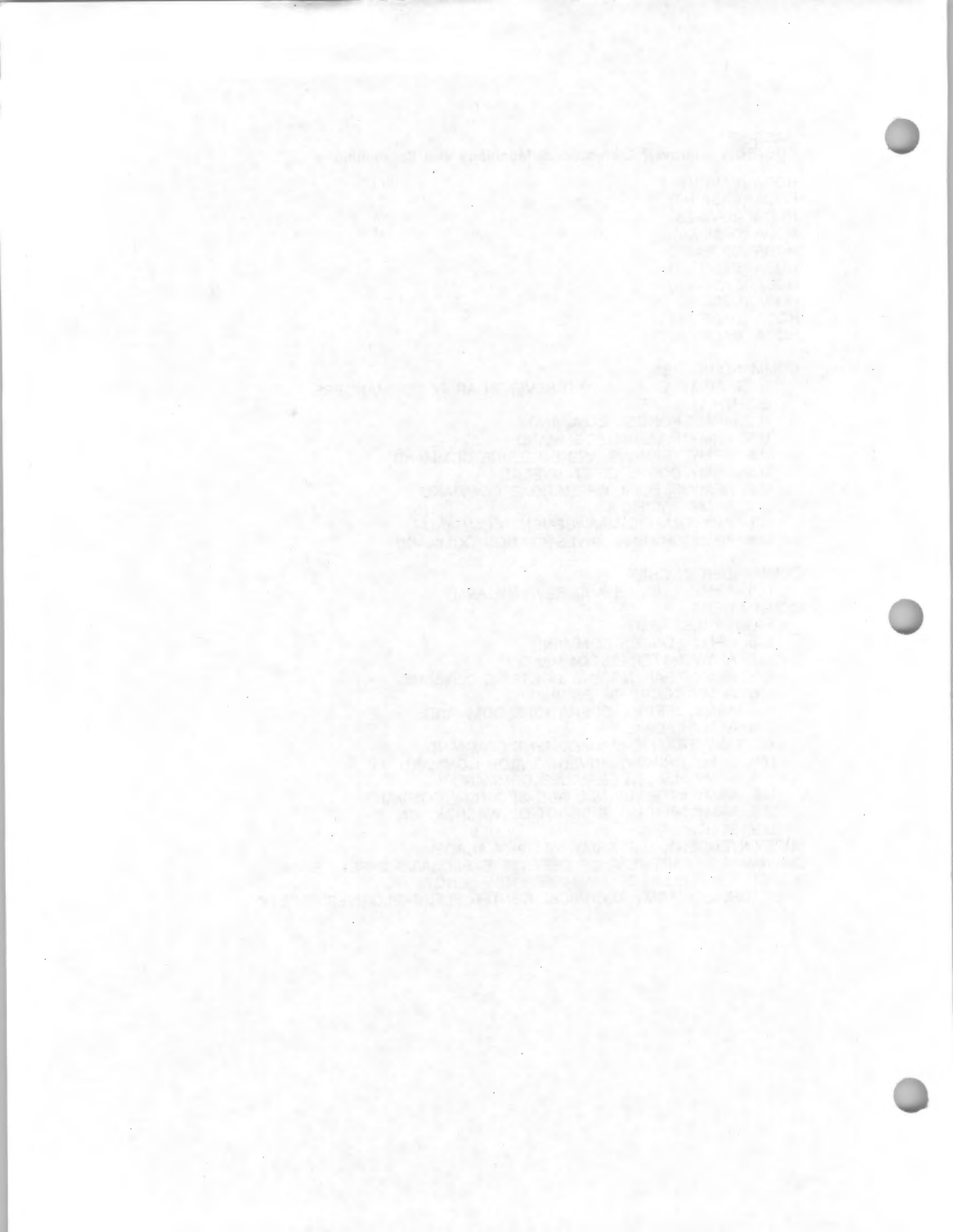
COMMANDER IN CHIEF

U.S. ARMY, EUROPE AND SEVENTH ARMY

COMMANDERS

EIGHTH U.S. ARMY
U.S. ARMY FORCES COMMAND
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SUPERINTENDENT, U.S. ARMY MILITARY ACADEMY
CHAIRMAN, DEPARTMENT OF DEFENSE EXPLOSIVES SAFETY BOARD
DIRECTOR, INSTALLATION MANAGEMENT AGENCY
DIRECTOR, U.S. ARMY TECHNICAL CENTER FOR EXPLOSIVES SAFETY



Appendix J

Information for Threatened and Endangered Species



Rare, Threatened and Endangered Species

Although no systematic survey of rare, threatened, and endangered species at FWDA has been performed, the BRAC Environmental Impact Statement (EIS) indicated that several federal or state listed and candidate endangered or threatened species possibly occur within FWDA boundaries. Listed species include the following:

- *Haliaeetus leucocephalus* - Bald eagle (Federal Threatened)
- *Falco peregrinus* - Peregrine falcon (Federal Endangered)
- *Erigeron rhizomatus* - Zuni fleabane (Federal Endangered)
- *Mustela nigripes* - Black footed ferret (Federal Endangered)
- *Empidonax trailiji extimus* - Southwestern willow flycatcher (Federal & State)
- *Vireo vicinior* - Gray vireo (State)
- *Strix occidentalis lucida* - Southern spotted owl (Federal)
- *Euderma maculatum* - Spotted bat (Federal and State)
- *Accipiter gentilis apache* - Northern goshawk (Federal)
- *Erigeron acomanis* - Acoma fleabane (Federal)
- *Astragalus micromerius* - Chaco milkvetch (State Sensitive)
- *Astragalus accumbens* - Zuni milkvetch (State Sensitive)
- *Mammillaria wrightii* var. *wrightii* - Wright's pincushion cactus (State-Protected)
- *Pediocactus papyracanthus* - Grama grass cactus (Federal, State-Protected)
- *Helianthus paradoxus* - Pecos sunflower (Federal, State-Protected).

A 5,780-acre portion of the installation, much of which was transferred to the DOI in June, 2000 for management by BIA, has previously been identified as an area where positive sightings of threatened and endangered bird species have occurred, including the Mexican Spotted Owl. Spotted Owls habitat is nearby to the south, and outside of the area where the fencing work is being done.

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