

SITE SAFETY AND HEALTH PLAN

FOR

EASTERN BYPASS EE/CA  
AT  
FORT MCCLELLAN, ALABAMA

September 1998

Prepared for:

US ARMY ENGINEERING AND SUPPORT CENTER  
HUNTSVILLE

Prepared by:

ZAPATAENGINEERING, PA

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Prepared by:

ZAPATAENGINEERING, P.A.

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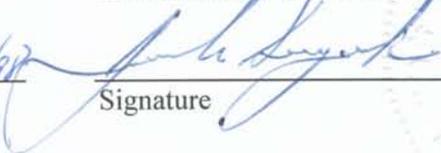
US Army Engineering and Support Center, Huntsville

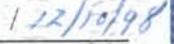
Suzanne Cantor-McKinney  
Project Manager  
ZAPATAENGINEERING, P.A.

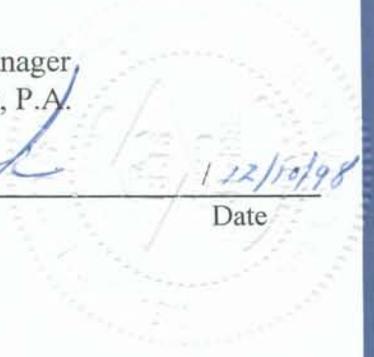
John A. Soyak, CIH  
Safety and Health Manager  
ZAPATAENGINEERING, P.A.

  
Signature

  
Date

  
Signature

  
Date



## **7.0 SITE SAFETY AND HEALTH PLAN**

### **7.1 Scope and Applicability**

This Site Safety and Health Plan (SSHP) has been developed as a guideline for implementing health and safety protocols and practices applicable to project activities during field work associated with the Eastern Bypass Engineering Evaluation/Cost Analysis (EE/CA) field investigations to be conducted at Fort McClellan, Anniston, Alabama. This scope of work is being conducted by ZAPATAENGINEERING, P. A. under contract to the US Army Engineering and Support Center (CEHNC), Huntsville, Alabama. The site investigation is being conducted to determine the presence of Ordnance and Explosive waste (OE) contamination. Unexploded ordnance (UXO) may be buried on site or may possibly be on the ground surface. Potential UXO which has been identified within the investigation areas includes 60mm mortars, rifle grenades, 37mm and 57mm projectiles. Chemical warfare material (CWM) is not suspected to exist within the areas of investigation. If suspect CWM is encountered, ZAPATAENGINEERING will stop work immediately, withdraw from the area, and notify the CEHNC Project Manager and the Fort McClellan Range Control.

7.1.1 The basic requirements for the health and safety of the project workers are defined in the SSHP. All on-site personnel, to include subcontractors, Federal and state personnel and visitors shall be knowledgeable of the provisions contained within this SSHP and shall adhere to all safety and health procedures.

7.1.2 The SSHP is based on available information concerning possible contaminants and physical hazards that exist, or may exist at the investigation sites at Fort McClellan. As more data concerning the nature and/or concentrations of potential contaminants become available, the SSHP shall be modified accordingly. Modifications shall be made by the Site Safety and Health Officers (SSHO) in coordination with the ZAPATAENGINEERING Project Manager and Safety and Health Manager. All modifications shall be documented on a written SSHP Addendum (Attachment I of the SSHP). All addenda or changes shall be dated and consecutively numbered and provided to the CEHNC Project Manager for acceptance. The SSSH shall post a copy of all approved modifications at the site and within the SSHP.

7.1.3 If there is any question as to whether an unplanned occurrence on-site may compromise personnel or public health and safety, the SSSH has the authority to interrupt operations and to remove all personnel from the area. All health and safety activities shall be coordinated through the SSSH. If practical, and if the unplanned occurrence is not a serious health and safety concern, the ZAPATAENGINEERING Project Manager and Safety and Health Manager shall be consulted before any operation is interrupted. If work is stopped due to any health or safety concern, immediate attention shall be given by the SSSH, working cooperatively with the ZAPATAENGINEERING Project Manager and Safety and Health Manager to identify and correct the cause of concern as soon as possible. Any such incident shall be fully documented by the SSSH

in a report to the ZAPATAENGINEERING Project Manager and Safety and Health Manager. In the event of a work stoppage, the CEHNC project representative shall be notified as soon as possible, and kept informed of progress in resolving the incident until normal operations are resumed.

7.1.4 ZAPATAENGINEERING site personnel, subcontractors, and visitors shall be fully familiar with this SSHP, paying particular attention to the safety procedures specific to project activities in which they are involved. The SSHP includes safety and health hazards anticipated from the planned site investigation activities. Prior to commencement of field activities, site workers shall be briefed on emergency procedures and potential hazards of site operations by the SSHO. This initial site briefing shall contain as a minimum the following information:

- discussion of potential health and safety hazards;
- site safety procedures;
- emergency response procedures;
- vehicle rules and use restrictions on Fort McClellan;
- restrictions on handling of materials encountered in work areas;
- UXO and OE safety and disposal procedures;
- personal Protective Equipment (PPE) requirements; and
- applicable Standard Operating Procedures (SOP).

7.1.5 ZAPATAENGINEERING personnel, subcontractors, and visitors shall be required to attest to their knowledge of and compliance with this SSHP by signing the agreement in Attachment I of the SSHP.

7.1.6 A copy of this SSHP shall be available at the site for review by all on-site personnel and shall be maintained by the SSHO. In addition, a copy of the SSHP shall be provided to each subcontractor prior to initial entry onto the site.

## **7.2 Staff Organization, Qualifications, and Responsibilities**

No work shall begin at the site until a site-specific SSHP has been developed by ZAPATAENGINEERING and reviewed and approved by the CEHNC, with copies provided to appropriate subcontractors.

7.2.1 The Chain-of-Command establishes the authority and responsibility for site safety and health and lists key site personnel. Any changes in key personnel must receive prior approval by ZAPATAENGINEERING's Project Manager. The duties and responsibilities of key project personnel are listed below:

### ZAPATAENGINEERING Project Manager

- Advises site personnel and SSHO of their safety, health, and environmental responsibilities and hold them accountable for their assigned site activities.
- Approve all changes of key site personnel.

- Design and manage site operations to minimize environmental, safety, and human health impacts, and provide workplaces free of recognized safety hazards.
- Consult with the Safety and Health Manager as required to resolve health and safety issues arising at the project site.

ZAPATAENGINEERING Safety and Health Manager

- Designate professional staff to support site safety, health, and environmental protection activities.
- Verify that personnel receive the necessary training for conducting an effective site health and safety program.
- Approve all changes of key site health and safety personnel.
- Verify that site activities comply with applicable laws and regulations governing safety, health, and environmental protection.
- Provide consultation to the Project Manager, Site Manager and SSHO for the resolution of site health and safety issues.
- Provide Quality Assurance review for health and safety activities.
- Provide direct supervision for health and safety activities conducted by the SSHO.

Site Safety and Health Officer (SSHO)

The SSHO shall also be the Unexploded Ordnance Supervisor for all site activities. The primary duty and responsibility of the SSHO is to implement and direct the health and safety plan at the site in accordance with the following provisions contained in this SSHP:

PPE Program  
Site Control Plan  
Emergency Response Plan  
Hazard Communication Program  
UXO and OE Safety and Disposal Plan

Specific health and safety duties include:

- Present on-site during all active work activities.

- Conduct of initial site entry briefings and daily tailgate safety meetings.
- Provides oversight of all site activities.
- Verifies that all tasks are conducted in a safe manner by conducting daily inspections of all site activities.
- Has authority to stop any operation that threatens the health or safety of site personnel or the surrounding populace or has the potential for a significant adverse impact on the environment.
- Amends the SSHP as on-site activities and events change and submits to the ZAPATAENGINEERING Project Manager and Safety and Health Manager for review prior to forwarding to CEHNC Project Manager for concurrence.
- Consults with the Safety and Health Manager to resolve site health and safety issues.
- Works with the ZAPATAENGINEERING Site Manager on a daily basis but reports directly to the Safety and Health Manager on all health and safety related issues.
- Attends coordination and planning meetings with CEHNC and subcontractors.
- Coordinates site security activities.
- Ensures that all work performed on-site is conducted in accordance with the SSHP.
- Directs site emergency response activities and is responsible for implementing the SSHP Emergency Response Plan (ERP).

Specific UXO duties include:

- Develops and implements the Intrusive Excavation Plan, Conventional Safe Holding Area Plan, and Disposal Demolition Plan for the project.
- Reports directly to the USA Environmental Director of Programs for UXO related issues.
- Manages the funding, manpower and equipment necessary to safely conduct site UXO operations.
- Is knowledgeable of the contents of the site Work Plan (WP).

- Ensures that the required UXO safety and health elements are addressed in the SSHP and WP.
- Ensures implementation of UXO project quality and safety and health procedures.
- Responsible for early detection and identification of potential UXO problem areas, including safety and health matters, and instituting corrective measures.
- Has Stop Work authority for all UXO safety and health issues.
- Establishes UXO work zones and controls access to these zones.
- Maintains current certification in Red Cross cardiopulmonary resuscitation (CPR) and Standard First-Aid Training.
- Investigates UXO accidents/incidents and "near misses".
- Maintains and calibrates UXO and anomaly avoidance equipment, and documents calibration data in the monitoring log.
- Consults directly with the ZAPATAENGINEERING Project Manager to resolve any UXO site issues.

7.2.2 The following Organizational Chart lists project members, their organizations and telephone numbers.

<b>ORGANIZATION</b>	<b>CONTACT</b>	<b>TELEPHONE NUMBER</b>
ZAPATAENGINEERING - Project Manager	Suzy Cantor-McKinney	(704) 358-8240
ZAPATAENGINEERING - Safety and Health Manager	John A Soyak, CIH	(410) 838-2731
CEHNC - Program Manager	David Skridulis	(256) 895-1468
USA Environmental Inc. - UXO Manager	George Spencer	(813) 884-5722
Sanford Cohen & Associates (SC&A)	Dr. David Lieblich	(978) 459-4411
Johnson & Gore, Inc.	Nathan Johnson	(256) 533-7331

**7.2.3 Project Manager**

The Project Manager, Ms. Suzy Cantor-McKinney, is the ZAPATAENGINEERING representative who reports directly to upper-level management and the CEHNC. Assigned responsibilities include authority to direct daily site work activities, respond to

emergency situations, and assume total responsibility for all site activities. The Project Manager is responsible for the reparation, organization, and review of the project including SSHP and the work plans. The Project Manager is also responsible for the selection assignment, and conduct of the site personnel. The Project Manager is responsible for ensuring that all project activities are completed in accordance with the requirements set forth in the SSHP. The Project Manager obtains the necessary site access authorizations, ensures that the appropriate plans are in place to support site work activities for site personnel, and coordinates the preparation of final reports and supporting documentation. Ms. Suzy Cantor-McKinney provides technical and field support for soil and groundwater investigation at RCRA/CERCLA sites, Formerly Used Defense Sites (FUDS), landfill sites, and petroleum and hazardous waste contamination sites. She served as Project Manager in the research and development of the Engineering Evaluation / Cost Analysis (EE/CA) for the former H. Smart Field in Macon, Georgia. She researched the impacts of chemical warfare materiel on human health and the environment and presented the risks and risk reduction alternatives in the EE/CA. Ms. Cantor-McKinney has also developed and implemented community relations plans for the US Army Corps of Engineers. She has coordinated the activities of a Restoration Advisory Board, comprised of diverse public members, to oversee the cleanup of a former defense site contaminated with unexploded ordnance waste.

#### ***7.2.4 Safety and Health Manager***

Mr. John A. Soyak, Certified Industrial Hygienist (CIH), is responsible for review of the Safety and Health Program, and the SSHP. The CIH shall make appropriate recommendations to ensure the SSHP meets Federal and state requirements. In addition, he shall sign and date all copies of the SSHP prior to submittal. The CIH shall also ensure compliance of the site-specific SSHP. Mr. Soyak has over 30 years of experience in the comprehensive practice of industrial hygiene and occupational health and safety. He is responsible for managing health and safety issues that include activities such as planning, developing, and implementing programs and providing environmental and OSHA training for a variety of clients. Mr. Soyak has developed and reviewed numerous site-specific Health and Safety plans and has conducted audits to verify compliance with OSHA requirements and corporate directives. As a military member, Mr. Soyak served as Environmental Group Leader at the US Army Toxic and Hazardous Materials Agency, Aberdeen Proving Ground, MD. He conceived, coordinated, and managed the development of environmental and occupational health elements for the Department of Army Chemical Stockpile Disposal Program and the Army's Installation Restoration Program.

#### ***7.2.5 Site Safety and Health Officer***

The SSHO shall be a UXO Supervisor designated by USA Environmental to provide all services, equipment, personnel and UXO support activities at the project site. The individual selected shall meet all requirements contained within the US Army Engineering and Support Center, Ordnance and Explosive Center of Expertise (CX), Personnel and Work Standards for Ordnance Response, dated July 30, 1996.

### **7.2.6 UXO Manager**

Mr. George R. Spencer, USA Environmental, will be the UXO Manager and he will designate a USA Senior UXO Supervisor for this project. Mr. Spencer has extensive safety management experience. He served as an Explosive Ordnance Disposal (EOD) Officer and a Military Safety Manager at the US Army Safety Center. He has analyzed accident cause factors and created accident prevention programs, using risk management, systems management, and motivational concepts for the Department of the Army. He was a UXO Safety Specialist for the US Army Corps of Engineers, Huntsville, Alabama and Explosive Safety Officer for the EOD project in Kuwait. Mr. Spencer has conducted on-site safety audits and performed accident investigations both in the military and civilian arenas. Additionally, he has served as a UXO Technician and Senior UXO Supervisor on USA Environmental UXO contracts at Fort Monroe, Virginia and the Chocolate Mountain Bombing Range, California. He has completed Naval Explosive Ordnance Disposal (USNAVSCLEOD) training which details procedures for evaluation and disposal of OE.

### **7.2.7 Subcontractors**

All subcontractor personnel assigned to site activities shall have successfully completed a 40-hour hazardous site worker course, an 8-hour annual refresher course, and an 8-hour supervisor's course as appropriate in accordance with 29 CFR 1926.65. All training certificates are located in Attachment II of the SSHP.

7.2.7.1 All subcontractor personnel assigned to the site shall have successfully completed a medical examination within the past 12-months in accordance with 29 CFR 1926.65(f) and be qualified for the wear of personal protective equipment as related to their job functions. Medical certifications are located in Attachment II of the SSHP.

7.2.7.2 Subcontractor personnel are responsible for conducting all assigned tasks in a safe manner which complies with the SSHP and are responsible for notifying the SSHO, or other responsible personnel in the event of unsafe conditions. ZAPATAENGINEERING shall dismiss from the site any person who in the opinion of the SSHO violates safety procedures.

#### USA Environmental

UXO support, services, personnel and equipment during active project activities.

Qualified UXO Supervisor to perform the duties of the SSHO.

#### Sanford Cohen & Associates (SC&A)

Geophysics services, equipment and personnel.

#### Johnson & Gore, Inc.

Land surveying services, equipment and personnel.

Burford's Tree Surgeon

Brush clearing services, equipment and personnel.

**7.2.8 Occupational Physician**

The Occupational Physician for ZAPATAENGINEERING is Dr. John Beard MD, Nalle Clinic, Occupational Health Section. Dr. Beard is certified in occupational medicine by the American Board of Preventive Medicine and is responsible for medical surveillance protocols and for review of all physical examinations and test results. Dr. Beard can be reached at (704) 342-8000, 1918 Randolph Road, Charlotte, North Carolina 28204.

**7.2.9 CPR and First Aid Certifications**

The Project Manager and SSHO are certified in CPR and first aid by the American Red Cross. At least two certified personnel will be on-site at all times.

**7.2.10 Visitors**

The SSHO has the responsibility for approving the entry of visitors and shall brief visitors concerning potential safety and health hazards at the site, PPE requirements, and emergency response procedures. Site visitors are defined as personnel from any local, state, or Federal organization with responsibility and authority to conduct official business at the project site. All visitors shall be requested to verify compliance with provisions of the SSHP by signing the Initial SSHP Log (Attachment I of the SSHP). If visitors are to enter the work area, they must provide documentation to the SSHO that they have fulfilled the training and medical surveillance requirements of 29 CFR 1926.65 for work at hazardous waste sites and provide Level D PPE. Once site entry has been approved by the SSHO, the visitor shall be requested to sign the Visitor Acknowledgment Sheet (Attachment I of the SSHP). All visitors must remain under escort while in the work area. If a visitor enters an Exclusion Zone, all work activities within the Exclusion Zone shall be terminated until the visitor leaves the zone. In the event that a visitor does not adhere to the provisions of the SSHP, the visitor shall be requested to leave the site by the Site Manager. All non-conformance incidents shall be documented by the SSHO.

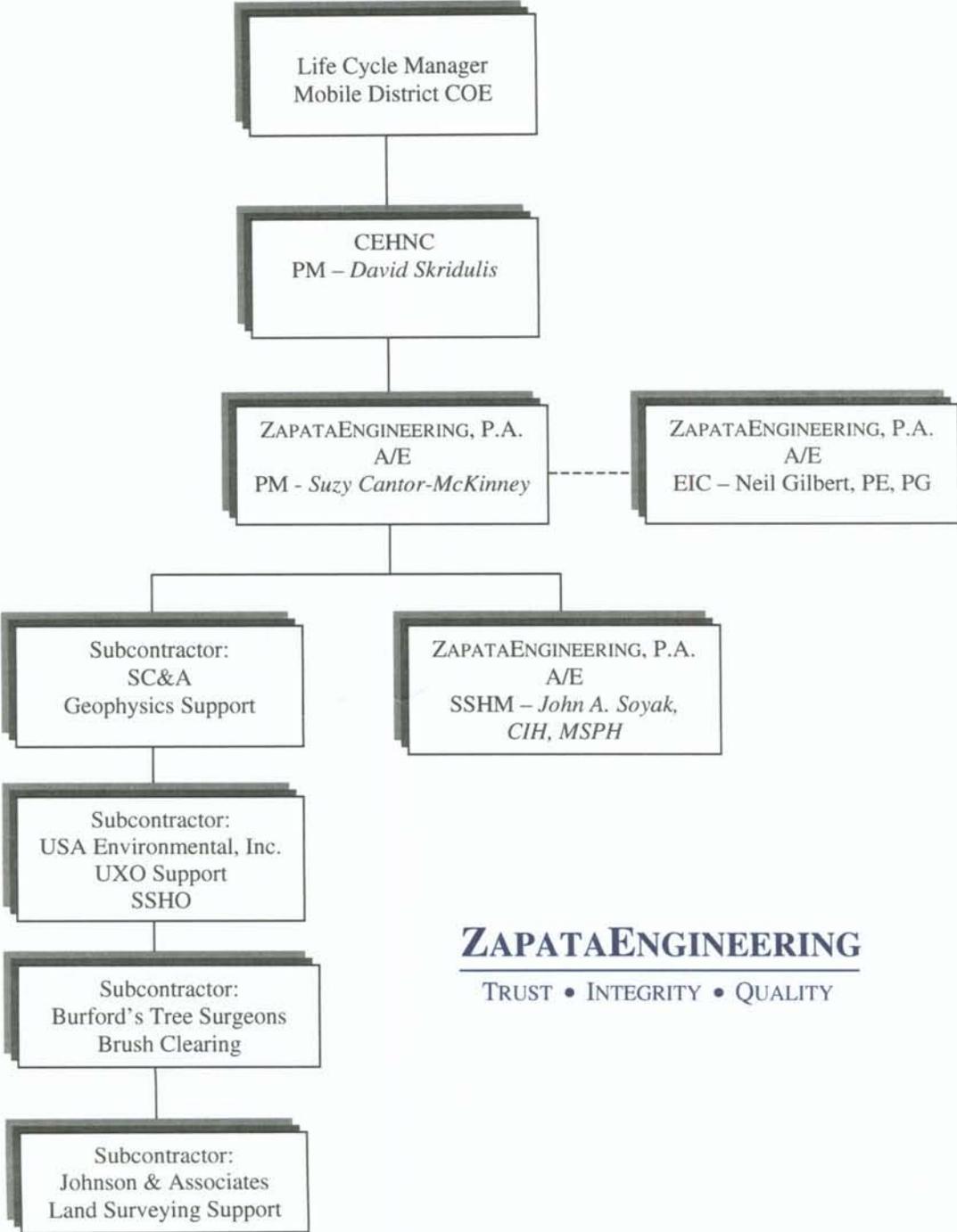
Figure 7-1 Organizational Chart



# Fort McClellan

## Eastern Bypass EE/CA

### Organizational Chart



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## **7.3 Site Description and Contamination Characterization**

### **7.3.1 Site Description**

Fort McClellan has been used for artillery training of troops and the National Guard as early as 1912 to present day, and is located in Calhoun County, Alabama, northeast of Anniston (Figure 7-2). The proposed eastern bypass route begins on the western boundary of the installation in the vicinity of Summerall Gate and proceeds due east approximately one (1) mile, then turns due south for approximately 3.5 miles to the southern boundary.

### **7.3.2 Background**

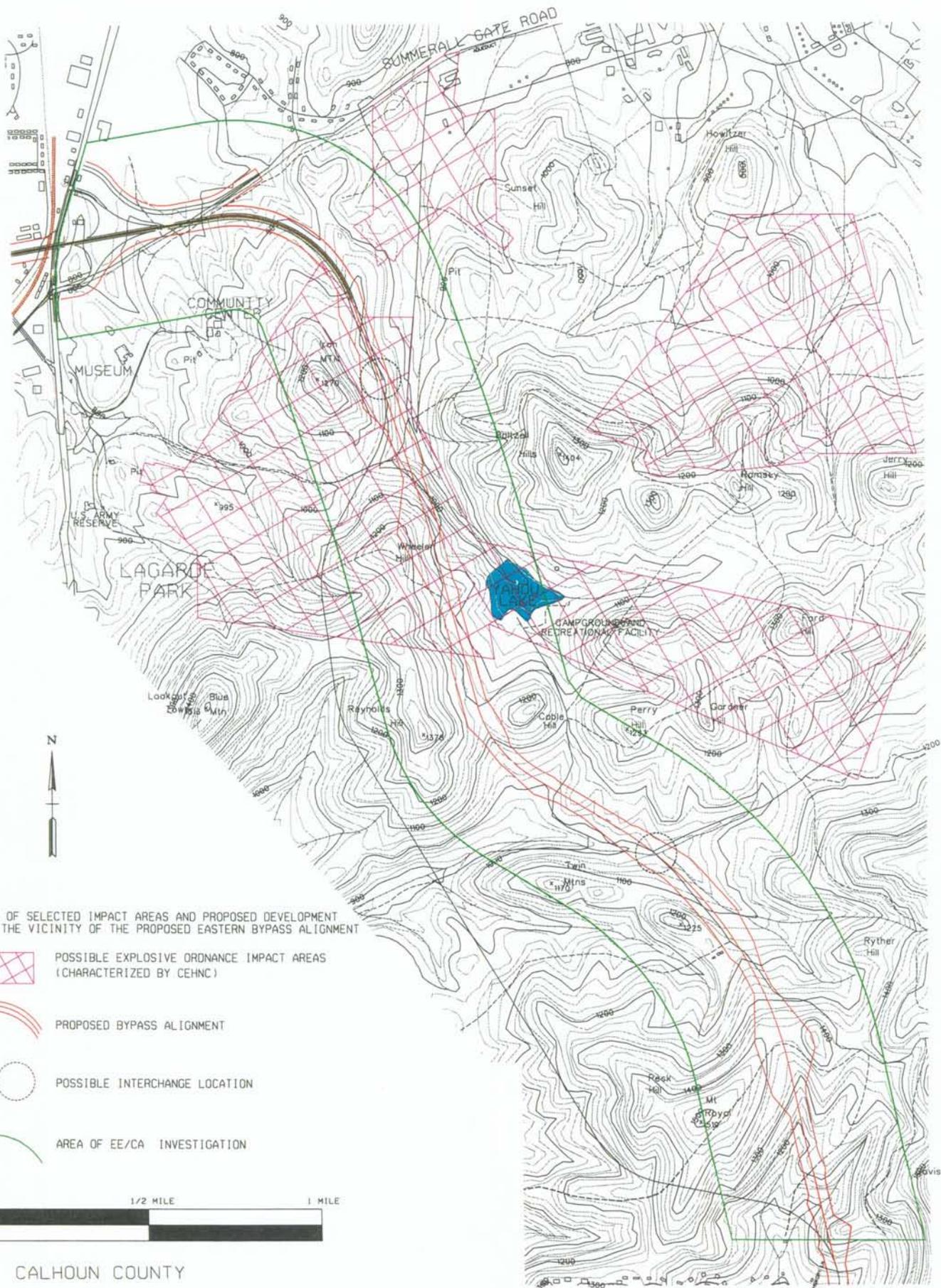
On December 6, 1915, President Woodrow Wilson signed Executive Order 2281 to reserve 1,160 acres for military purposes. This acreage in three parcels was named the Anniston Field Artillery Range, which later became part of the main reservation in 1917. Prior to this time, the area was used by the National Guard. In 1917, the Federal Government purchased the area as an artillery range. This purchase increased the camp size to 18,997.18 acres. In 1941, the War Department acquired an additional 26,912.17 acres, which was separated from the post by approximately six (6) miles. Also in 1941, an additional 4,160 acres, known as the Choccolocco corridor, was leased. Eleven parcels totaling 297.53 acres, lying along the periphery of the Fort McClellan boundary, were conveyed by quitclaim deed to various interests.

### **7.3.3 Historical OE Activities**

During the Spanish American War, the Fourth Alabama Artillery used the Choccolocco Mountains as a background for firing shells. In 1912, National Guardsmen conducted maneuvers in the area.

7.3.3.1 During World War I, a Field Artillery Brigade Firing Center was established at Fort McClellan. Training would have included the use of rifle grenade discharges, 3” or 75 mm guns, 37 mm guns, anti-aircraft machine guns, heavy machine guns, 6” or 155 mm howitzers, and trench mortars.

7.3.3.2 Subsequent to World War I, the Camp was used for a Reserve Office Training Corps encampment, then redesignated for the Citizens Military Training Camps. In 1929, Camp McClellan was made a permanent Army Post.



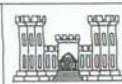
LOCATION OF SELECTED IMPACT AREAS AND PROPOSED DEVELOPMENT AREAS IN THE VICINITY OF THE PROPOSED EASTERN BYPASS ALIGNMENT

-  POSSIBLE EXPLOSIVE ORDNANCE IMPACT AREAS (CHARACTERIZED BY CEHNC)
-  PROPOSED BYPASS ALIGNMENT
-  POSSIBLE INTERCHANGE LOCATION
-  AREA OF EE/CA INVESTIGATION



CALHOUN COUNTY

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US ARMY ENGINEERING & SUPPORT CENTER  
 HUNTSVILLE, ALABAMA

PROJECT TITLE: FORT McCLELLAN EASTERN BYPASS  
 DRAWING TITLE: AREA OF EE/CA INVESTIGATION

PROJECT #:	PAGE #:	DATE:	DRAWN BY:	SCALE:	FIGURE
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7.3.3.3 During World War II, Fort McClellan became the site of the Branch Immaterial Replacement Training Center, which was later abandoned in favor of Infantry Replacement Training Center, which included vigorous combat training. The firing of 60mm mortars, 37mm anti-tank guns and 57mm anti-tank guns occurred. A rocket range and grenade court were also utilized.

7.3.3.4 In 1951, Fort McClellan was reactivated for operation of the Chemical Corps Training School as a replacement center for the Chemical Corps. Between the years of 1950 and 1973, Fort McClellan was home to the Women's Army Corps Center and the Women's Army Corps School, the National Guard, the US Army Combat Developments Command Chemical Biological-Radiological Agency, and the Infantry Advance Individual Training Unit.

7.3.3.5 In 1979, the Military Police School moved to Fort McClellan. During that same year, the US Army Chemical Corps School re-established, along with a training Brigade for Basic Training. FORSCOM units were also garrisoned at the post during the 1970's and 1980's.

#### ***7.3.4 Description of On-Site Activities***

ZAPATAENGINEERING and its subcontractor, USA Environmental conducted ground reconnaissance in August 1998 to identify areas of possible OE contamination which were not documented within the area of the proposed bypass. The work was conducted to select areas for placement of grids to be geophysically mapped and possibly sampled. Field surveys were conducted to identify UXOs using handheld magnetometers. None of the investigational areas was identified as containing UXOs. No intrusive activities were conducted during the investigation.

7.3.4.1 Remaining on-site activities will consist of clearing brush and conducting the geophysical survey. The geophysical survey will consist of instrument Prove-out and data collection in the sample areas. These activities are detailed in Section 7.4 Hazard Assessment and Risk Analysis.

#### ***7.3.5 Contamination Characterization***

Ordnance items which have the potential to be located in the vicinity of the proposed eastern bypass area includes 60mm mortars, rifle grenades, 37mm and 57mm projectiles. No evidence of UXO other than small arms, has been found in the non-impact areas of the proposed bypass.

### **7.4 Hazard Assessment and Risk Analysis**

Site personnel will be restricted to the identified work areas associated with each particular site activity. The areas in which the proposed field activities will be conducted may potentially contain UXOs. The investigational areas are considered native,

undisturbed soils. There is no evidence of dumping or former intrusive activities in the proposed investigational areas with the exception of firebreak roads.

7.4.1 The SSHO, as the Senior UXO Supervisor, will be required to identify anomalies when brush clearing and land surveying activities are conducted at the project site. If the SSHO encounters suspected UXOs during work activities, all personnel will immediately be directed to withdraw from their work area(s) to predetermined assembly areas. The ZAPATAENGINEERING Project Manager and CEHNC representative will be notified and a resolution reached regarding further actions.

7.4.2 An Activity Hazardous Analysis has been developed for each major work phase identifying the tasks, potential health and safety hazards, and control measures to be implemented to eliminate or reduce the hazards to an acceptable level. Biological hazards are prevalent at this site during all phases of field activities, and precautions shall be implemented as described in Section 7.7, Biological Hazards. The following major phases of the work are to be performed during the site investigational activities.

#### **7.4.3 Mobilization**

Mobilization activities are minimal. ZAPATAENGINEERING has coordinated with the Directorate of Environment, Building 141A, to establish an on-site office. This on-site office will be used as a base of operations and to store field supplies, equipment and instruments.

#### **7.4.4 Brush and Scrap Metal Removal**

Brush clearing activities will be conducted as necessary to provide access to the areas of investigation geophysical prove-out location. Brush and vegetation up to a size of three (3) inches in diameter will be removed from the geophysical prove-out and investigational areas. All generated debris shall be disposed of on-site. Brush will be cut to a height of no greater than six (6) inches above ground surface to eliminate interference with UXO instrument evaluation operations. The SSHO will accompany Burford's Tree Surgeon personnel during the brush clearing and surface debris removal activities. The SSHO shall conduct a visual survey for surface ordnance prior to initiating the clearing activities. Scrap metal and metal debris will be collected and disposed of at either a scrap metal dealer or local landfill.

#### **7.4.5 Geophysical Investigations**

Geophysical instrument prove-out evaluations and geophysical site investigations shall occur after the brush clearing and scrap metal removal activities at the selected investigational sites. The geophysical prove-out phase will determine the best geophysical instrument(s) for detecting the OE within the areas of investigation in the proposed eastern bypass. Inert or OE stimulant will be buried within the investigational plots to determine geophysical instrument responses. The SSHO will perform a sweep of the prove-out area using a Schonstedt magnetometer to verify that the area is anomaly-free prior to placement of the seed items. If an anomaly is encountered, it shall be excavated and removed from the investigational plot by USA Environmental personnel.

All the seed items used during the evaluations will be removed at the completion of the tests and the excavations backfilled with soil.

#### **7.4.6 Anomaly Excavations**

The purpose of anomaly excavation is to determine the presence and nature of OE contamination within the non-impact areas of the proposed eastern bypass area of Fort McClellan. Anomaly excavation sites shall be selected by the ZAPATAENGINEERING Project Manager and CEHNC Project Manager. All anomaly excavation locations shall be surveyed and plotted to the nearest one foot by a Registered or Professional Land Surveyor. The excavation sites shall undergo geophysical surveys using the instrumentation selected during the geophysical prove-out. Identified anomalies shall be excavated by USA Environmental personnel to a depth of three feet to determine the identity of the magnetic anomalies. All anomalies need not necessarily be excavated. If deeper excavation is required, the on-site Huntsville Center Safety specialists or the Project Manager will make the decision. A detailed accounting of all OE encountered shall be made to include the amounts of OE, identification, condition, depth, and location.

7.4.6.1 If USA Environmental personnel encounter a suspected OE containing CWM or an unidentifiable item, they will:

- Immediately withdraw upwind to a safe location outside the fragmentation zone of the type of ordnance.
- Contact the US Army Engineering and Support Center (CEHNC) and the Fort McClellan Range Control.

#### **7.4.7 OE Disposal**

USA Environmental personnel shall perform demolition operations in a manner consistent with industry standards and safety practices. The Conventional Safe Holding Area (SHA) Plan outlines the provisions for the safe storage of explosives needed to perform demolition work and to safely store recovered conventional ordnance awaiting destruction. The preferred method of disposal is blow (detonate) in place (BIP). However, items that are safe to move may be consolidated to reduce the number of shots within the SHA. Demolition operations shall be in accordance with TM 60A-1-1-31. Electric and non-electric demolition operations may be performed by USA Environmental during anomaly excavations at Fort McClellan. The method that provides the most positive control over the specific time of detonation is electric. However, situations may occur, such as in an area with a high EMR hazard, when non-electric firing may be the only option. The SSHO shall supervise all demolition procedures and secure the necessary approvals for OE disposal and schedules for destruction from the CEHNC Safety. All detonation holes shall be backfilled with soil.

7.4.7.1 Demolition shots will be limited to 20 pounds net explosive weight including priming charges. Demolition operations will begin in a work site when all non-essential and non-UXO personnel are beyond the fragmentation zone of the ordnance being

detonated. Ordnance that is safe to move may be consolidated to reduce the number of shots. All roads and trails that provide access to the disposal site shall have roadblocks established during disposal operations. The SSHO will monitor compliance with the safety measures contained in the work plan and associated documents and in the event of non-compliance will stop or suspend operations.

#### ***7.4.8 Location Surveys and Mapping***

All anomaly excavation sites shall be surveyed and plotted to the nearest one foot by a Registered or Professional Land Surveyor using precision surveying methods to establish the four corners within the limits of the area of investigation. During all field and intrusive survey activities, the SSHO shall conduct visual UXO surveys for surface ordnance prior to the survey crew entering an area of investigation and a magnetometer survey of each intrusive activity site to ensure that the site is anomaly free prior to the survey crew driving stakes, setting monuments, or establishing other points.

#### ***7.4.9 Demobilization***

Demobilization activities are anticipated to be minimal. Demobilization will consist of the removal, transport and disposal of scrap metal and metal debris that was collected during brush clearing and anomaly excavation activities. The metal will either be disposed of through a scrap metal dealer or local landfill. Equipment, supplies and instruments stored at the on-site office and SHA shall be packaged and transported off of Fort McClellan back to its originating organization.

**Table 7-1 Mobilization**

**ACTIVITY HAZARD ANALYSIS**

Activity: Mobilization

Analyzed by/Date: YA Hubbard/Sept 98

Reviewed By/Date: J.A. Soyak/Sept 98

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS	
Set-up on-site office.  Unload instruments, equipment and supplies.	Back Strain/Sprain Uneven Surfaces/Poor Housekeeping Hand cuts and Lacerations Foot Injuries Heat/Cold Stress	Proper lifting techniques, move heavy equipment with wheelbarrow/carts Unload on level ground, good housekeeping.  Wearing of work gloves. Wearing of ANSI-approved safety shoes or boots with steel toe. Rest/work cycles, fluids, heat/cold stress monitoring. Personal Protective Equipment – Level D.	
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS		TRAINING REQUIREMENTS
Vehicles and trucks Hand carts	Inspect all hand tools prior to use and repair or replace damaged tools. Daily inspection of Fire Extinguishers and First Aid Kits. Daily activity inspections by SSHO.		Basic First Aid and CPR Daily Safety Meeting Emergency Response Plan Accident Prevention Plan Heat/Cold Stress Awareness

**Table 7-2 Brush and Scrap Metal Removal**

**ACTIVITY HAZARD ANALYSIS**

Activity: Brush and Scrap Metal Removal Analyzed by/Date: YA Hubbard/Sept 98 Reviewed By/Date: J.A. Soyak/Sept 98

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS	
<p>Clearing brush to approximately 6 in. above ground surface.</p> <p>Removal of all surface scrap metal debris.</p> <p>Establishment of Safe Holding Area (SHA)</p>	<p>Back Strain/Sprain</p> <p>Uneven Surfaces/Poor Housekeeping</p> <p>Foot Injuries</p> <p>Heat/Cold Stress</p> <p>Cuts and Lacerations with use of Hand Tools and Equipment</p> <p>Flying Projectiles</p> <p>Biological</p> <p>OE and UXO items</p> <p>Noise</p>	<p>Proper lifting techniques, move heavy objects with wheelbarrow/carts. Unload on level ground, good housekeeping.</p> <p>Wearing of ANSI-approved safety shoes or boots with steel toe. Rest/work cycles, fluids, heat/cold stress monitoring. Steel-toe safety boots, work gloves, hard hats, and leg chaps.</p> <p>Safety glasses with side shields (impact resistant). Avoidance</p> <p>SSHO conducting visual inspections for OE and UXO items.</p> <p>Ear plugs and/or muffs during noise hazardous operations.</p> <p>Personal Protective Equipment -- Level D</p>	
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS		TRAINING REQUIREMENTS
<p>Hydro-Ax or Bush Hog</p> <p>Machetes</p> <p>Axes</p> <p>Powered hand equipment</p> <p>Roll-off containers</p> <p>Magnetometer(s)</p> <p>Vehicles and trucks</p>	<p>Inspect all hand tools prior to use and repair or replace damaged tools.</p> <p>Daily heavy equipment inspections.</p> <p>Daily inspection of Fire Extinguishers and First Aid Kits.</p> <p>Daily activity inspections by SSHO.</p> <p>Magnetometer daily inspections and calibration prior to use.</p>		<p>Basic First Aid and CPR</p> <p>Daily Safety Meeting</p> <p>Emergency Response Plan</p> <p>Accident Prevention Plan</p> <p>Heat/Cold Stress Awareness</p>

**Table 7-3 Geophysical Investigations**

**ACTIVITY HAZARD ANALYSIS**

Activity: Geophysical Investigations

Analyzed by/Date: YA Hubbard/Sept 98

Reviewed By/Date: J.A. Soyak/Sept 98

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS	
Conduct of geophysical equipment tests and evaluations,  Placement of inert OE items ,  Anomaly surveys.	Back Strain/Sprain Uneven Surfaces/Poor Housekeeping Foot Injuries Heat/Cold Stress Cuts and Lacerations with use of Hand Tools and Equipment Flying Projectiles Biological OE and UXO items	Proper lifting techniques Unload on level ground, good housekeeping.  Wearing of ANSI-approved safety shoes or boots with steel toe. Rest/work cycles, fluids, heat/cold stress monitoring. Steel-toe safety boots, work gloves, and hard hats.  Safety glasses with side shields (impact resistant). Avoidance SSHO conducting visual inspections for OE and UXO items.  Personal Protective Equipment -- Level D	
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS		TRAINING REQUIREMENTS
Shovels Powered hand equipment Hand tools Magnetometer Geophysical survey instrumentation Vehicles and trucks	Inspect all hand tools prior to use and repair or replace damaged tools. Daily inspection of Fire Extinguishers and First Aid Kits. Daily activity inspections by SSHO. Magnetometer daily inspections and calibration prior to use.		Basic First Aid and CPR Daily Safety Meeting Emergency Response Plan Accident Prevention Plan Heat/Cold Stress Awareness

**Table 7-4 Geophysical Investigations, Anomaly Excavations**

**ACTIVITY HAZARD ANALYSIS**

Activity: Anomaly Excavations Analyzed by/Date: YA Hubbard/Sept 98 Reviewed By/Date: J.A. Soyak/Sept 98

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS	
Location and establishment of anomaly excavation sites.  Conduct of geophysical surveys.  Identification of anomalies.	Back Strain/Sprain Uneven Surfaces/Poor Housekeeping Foot Injuries Heat/Cold Stress Cuts and Lacerations with use of Hand Tools and Equipment Flying Projectiles Biological OE and UXO items	Proper lifting techniques Unload on level ground, good housekeeping.  Wearing of ANSI-approved safety shoes or boots with steel toe. Rest/work cycles, fluids, heat/cold stress monitoring. Steel-toe safety boots, work gloves, and hard hats.  Safety glasses with side shields (impact resistant). Avoidance SSHO and USA Environmental personnel conducting visual inspections and identification of OE and UXO items.  Personal Protective Equipment -- Level D	
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS		TRAINING REQUIREMENTS
Shovels Powered hand equipment Hand tools Magnetometer(s) Geophysical survey instruments Vehicles and trucks	Inspect all hand tools prior to use and repair or replace damaged tools. Daily inspection of Fire Extinguishers and First Aid Kits. Daily activity inspections by SSHO. Magnetometer daily inspections and calibration prior to use.		Basic First Aid and CPR Daily Safety Meeting Emergency Response Plan Accident Prevention Plan Heat/Cold Stress Awareness

**Table 7-5 Geophysical Investigations, OE Disposal**

**ACTIVITY HAZARD ANALYSIS**

Activity: OE Disposal

Analyzed by/Date: YA Hubbard/Sept 98

Reviewed By/Date: J.A. Soyak/Sept 98

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS	
Demolition of OE by Blow-in-Place or consolidation within SHA.	Back Strain/Sprain Uneven Surfaces/Poor Housekeeping Heat/Cold Stress Cuts and Lacerations with use of Hand Tools and Equipment Flying Projectiles Biological OE and UXO items  Noise	Proper lifting techniques Unload on level ground, good housekeeping.  Rest/work cycles, fluids, heat/cold stress monitoring.  Work gloves Establishment of safe blast distances. Avoidance SSHO and USA Environmental personnel conducting all demolition activities. Ear plugs/muffs. Personal Protective Equipment -- Level D	
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS		TRAINING REQUIREMENTS
Shovels Hand tools Explosives and detonators Vehicles and trucks	Inspect all hand tools prior to use and repair or replace damaged tools. Daily inspection of Fire Extinguishers and First Aid Kits. SSHO to inspect and oversee all demolition activities SSHO to coordinate demolition activities, approvals and schedules with USAESCH Safety.		EOD Trained Personnel Basic First Aid and CPR Daily Safety Meeting Emergency Response Plan Accident Prevention Plan Heat/Cold Stress Awareness

**Table 7-6 Location Surveys and Mapping**

**ACTIVITY HAZARD ANALYSIS**

Activity: Land Surveying Analyzed by/Date: YA Hubbard/Sept 98 Reviewed By/Date: J.A. Soyak/Sept 98

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS	
Establishing location of anomaly excavation plots.  Magnetometer surveys.	Uneven Surfaces/Poor Housekeeping Foot Injuries Heat/Cold Stress Biological OE and UXO items	Unload on level ground, good housekeeping.  Wearing of ANSI-approved safety shoes or boots with steel toe. Rest/work cycles, fluids, heat/cold stress monitoring. Avoidance SSHO conducting visual inspections for OE and UXO items and magnetomer surveys prior to driving survey stakes. Personal Protective Equipment – Level D.	
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS		TRAINING REQUIREMENTS
Stakes Hand tools Surveying equipment Magnetometer Vehicles and trucks	Inspect all hand tools prior to use and repair or replace damaged tools. Daily inspection of Fire Extinguishers and First Aid Kits. Daily activity inspections by SSHO. Magnetometer daily inspections and calibration prior to use.		Basic First Aid and CPR Daily Safety Meeting Emergency Response Plan Accident Prevention Plan Heat/Cold Stress Awareness

**Table 7-7 Demobilization**

**ACTIVITY HAZARD ANALYSIS**

Activity: Demobilization

Analyzed by/Date: YA Hubbard/Sept 98

Reviewed By/Date: J.A. Soyak/Sept 98

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS	
<p>Removal, transport and disposal of scrap metal debris.</p> <p>Removal and transport of equipment, supplies and instruments from on-site office and SHA.</p>	<p>Uneven Surfaces/Poor Housekeeping</p> <p>Foot Injuries</p> <p>Cuts and Lacerations with use of Hand Tools and Equipment</p> <p>Heat/Cold Stress</p> <p>Biological</p>	<p>Unload on level ground, good housekeeping.</p> <p>Wearing of ANSI-approved safety shoes or boots with steel toe. Steel-toe safety boots, work gloves, and hard hats.</p> <p>Rest/work cycles, fluids, heat/cold stress monitoring.</p> <p>Avoidance</p> <p>Personal Protective Equipment – Level D.</p>	
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS		TRAINING REQUIREMENTS
<p>Hand tools</p> <p>Hand carts</p> <p>Vehicles and trucks</p>	<p>Inspect all hand tools prior to use and repair or replace damaged tools.</p> <p>Daily inspection of Fire Extinguishers and First Aid Kits.</p> <p>Daily activity inspections by SSHO.</p>		<p>Basic First Aid and CPR</p> <p>Daily Safety Meeting</p> <p>Emergency Response Plan</p> <p>Accident Prevention Plan</p> <p>Heat/Cold Stress Awareness</p>

## 7.5 Anomaly Avoidance

The SSHO will ensure that USA Environmental personnel follow the safety procedures below during the brush clearing and land surveying phases to mitigate any OE or UXO-associated hazards which could be encountered at the project site.

- Safety is Paramount.
- Conduct all approaches to suspected UXO in accordance with procedures outlined in CEHNC's Safety Concepts and Basic Considerations Unexploded Explosive Ordnance (UXO), Revised 16 Feb 96.
- Mark and report to the ZAPATAENGINEERING SSHO any UXO/CWM found within the confines of the work area.
- Do not move or handle UXO items.
- Do not move or disturb unidentified items.
- Do not collect souvenirs.
- During survey operations, the work area will be checked for subsurface anomalies prior to driving any stakes into the ground.
- Do not smoke except in designated areas.
- Do not carry fire or spark producing devices into the work area.
- Prohibit unnecessary personnel from visiting the site.
- Suspend all operations immediately upon approach of an electrical storm.
- Observe the hazards of electromagnetic radiation (EMR) precautions when working in the vicinity of electrically initiated or susceptible OE.
- Avoid inhalation and skin contact with smoke, fumes, dust, and vapors of detonations and OE residue.
- Do not attempt to extinguish burning explosives or any fire which might involve explosive materials.
- Avoid the forward portions of munitions employing proximity fusing.
- Assume unknown fuses contain cocked strikers or anti-disturbance features.

## **7.6 Chemical and Radiological Hazards**

No chemical or radiological hazards have been identified within the geographical area of project activities to be conducted at Fort McClellan.

## **7.7 Biological Hazards**

### **7.7.1 Hazardous Plants**

During the conduct of site activities the number and variety of hazardous plants that may be encountered is large and extensive. The ailments associated with these plants range from mild hay fever to contact dermatitis, to carcinogenic affects. However the plants which present the greatest degree of risk to site personnel (i.e., potential for contact vs. affect produced) are those which produce skin reactions and skin and tissue injury.

7.7.1.1 Contact with splinters, thorns and sharp leaf edges is of special concern to site personnel. This concern stems from the fact that punctures, cuts and even minor scrapes caused by accidental contact may result in non-infectious skin lesions, and the introduction of fungi or bacteria through the skin or eye. Personnel receiving any of the injuries listed above, even minor scrapes, should report immediately to the Site Safety and Health Officer for initial and continued observation and care of the injury.

7.7.1.2 The poisonous plants of greatest concern are poison oak, poison sumac, and poison ivy. Poison oak is mostly found in the southeast and west. Poison oak resembles poison ivy, with one important difference. The poison oak leaves are more rounded rather than jagged like poison ivy and the underside of poison oak leaves are covered with hair. Poison ivy thrives in all types of light and usually grows in the form of a trailing vine, however, it can also grow as a bush and can attain heights of 10 feet or more. Poison ivy has shiny, pointed leaves that grow in clusters of three. Poison sumac is a tall shrub or slender tree that usually grows along swampy areas or ponds in wooded areas. Each poison sumac leaf stalk has 7 to 13 leaflets which have smooth edges.

7.7.1.3 The skin reaction associated with contacting these plants is caused by the body's allergic reaction to toxins contained in oils produced by the plant. Becoming contaminated with the oils does not require contact with just the leaves. Contamination can be achieved through contact with other parts of the plant such as the branches, stems or berries, or contact with contaminated items such as tools and clothing. The allergic reaction associated with exposure to these plants will generally cause the following signs and symptoms:

- Blistering at the site of contact, usually occurring within 12 to 48 hours after contact.
- Reddening, swelling, itching and burning at the site of contact.
- Pain, if the reaction is severe.

- Conjunctivitis, asthma, and other allergic reactions if the person is extremely sensitive to the poisonous plant toxin.

7.7.1.4 If the rash is scratched, secondary infections can occur. The rash usually disappears in one (1) to two (2) weeks in cases of mild exposure and up to three (3) weeks when exposure is severe. Preventative measures which can prove effective for most site personnel are:

- Avoid contact with any poisonous plants on-site, and keep a steady watch to identify, report and mark poisonous plants found on-site.
- Wash hands, face or other exposed areas at the beginning of each break period and at the end of each work day.
- Avoid contact with, and wash on a daily basis, contaminated tools, equipment and clothing.
- Barrier creams, detoxification/wash solutions and orally administered desensitization may prove effective and should be tried to find the best preventative solution.

### **7.7.2 Reptiles and Animals**

When site activities are conducted in warm weather at sites that are located in wooded, grassy or rocky environments, the potential for contact with snakes becomes a very real danger. Normally, if a person is approaching a snake, the noise created by the person is usually sufficient to frighten the snake off. However, during the warm months, extreme caution must be exercised when conducting site operations around areas where snakes might be found (i.e., rocks, bushes, logs, or in holes, crevices, and abandoned pipes). If poisonous snakes are identified on-site, the ZAPATAENGINEERING Site Safety and Health Officer will determine if protective clothing, such as snake leggings, are to be used by site personnel.

7.7.2.1 Personnel will be instructed to avoid contact with any snakes identified on the site. Personnel will be cautioned not to reach into places where snakes may hide such as rock and wood piles, or walk through tall grasses.

7.7.2.2 The following descriptions are provided for the poisonous snakes located around Anniston, Alabama:

- Cottonmouth (Florida Cottonmouth, Cottonmouth Moccasin, Water Moccasin, Moccasin). Average adult size is 20 - 48 inches. A dark colored, heavy bodied snake. Juveniles are brightly colored with reddish brown cross bands on a brown

ground color. The dark cross bands contain many dark spots and speckles. The pattern darkens with age so adults retain only a hint of the former banding or are uniform black. The head is thick and distinctly broader than the neck, and when viewed from above the eyes cannot be seen. They can be found in any wetlands or waterways in the state. The cottonmouth occasionally wanders far from water and has been found in bushes and trees.

- Eastern Diamondback Rattlesnake (Diamondback, Rattlesnake, Rattler). Average adult size is 36 - 72 inches. A large, heavy bodied snake with a row of large dark diamonds with brown centers and cream borders down its back. The ground color of the body is brownish. The tail ends in a rattle. Diamondbacks are often found in pine flatwoods, longleaf pine and turkey oak and sand pine scrub areas.
- Dusky Pygmy Rattlesnake (Pygmy Rattler, Ground Rattler). Average adult size is 12 - 24 inches. This is a small snake, but very thick for its size. The top of the triangular shaped head is covered with 9 large scales. The body color is light to dark gray. A longitudinal row of black or charcoal, transverse blotches disrupts a reddish brown strip running down the middle of the back. Dark spots on the side line up with the blotches. The tail is slender and ends in a miniature rattle. The snake is found throughout the state. This snake is common in lowland pine flatwoods, prairies, around lakes and ponds, and along the borders of many freshwater marshes and cypress swamps.
- Eastern Coral Snake (Coral Snake). Average adult size is 20 - 30 inches. Body ringed with black, yellow and red; narrow yellow rings separating the wider red and black rings. The rings continue across the belly of the snake. From tip of snout to just behind the eye the head is black. The tail is black and yellow, without any red rings. The snake occurs throughout the state and occupies a variety of habitats, from dry, well drained flatwoods and scrub areas to low, wet hammocks and the borders of swamps. They are secretive and are usually found under debris and in the ground, but occasionally they are found in the open, and have been seen climbing the trunks of live oaks.

#### 7.7.2.3 The rules to follow if someone is bitten by a snake are:

- Keep the victim calm and immobile.
- Have the victim hold the affected extremity lower than the body while waiting for medical assistance.
- Transport the victim to the Hospital Emergency Room for immediate medical evaluation.
- Do not cut "Xs" over the bite area as this will intensify the effect of the venom.

- Do not apply suction to the wound since this has a minimal effective in removing venom.
- Do not apply a tourniquet since this will concentrate the venom and increase the amount of tissue damage in the immediate area.
- If safely possible to kill the snake without risk to other personnel, bag it and transport it with the victim or try to get a good look at it so it can be identified for proper selection of anti-venom.
- Do not allow the victim to run for help since running increases the heart rate and will increase the spread of the venom throughout the body.

### **7.7.3 Ticks**

The Center for Disease Control (CDC) has noted an increase of Lyme Disease and Rocky Mountain Spotted Fever (RMSF), which are caused by bites from infected ticks that live in and near wooded areas, tall grass, and brush. Ticks are small, ranging from the size of a comma up to about one quarter inch. They are sometimes difficult to see. The tick season extends from spring through summer. When embedded in the skin, they may look like a freckle.

### **7.7.4 Lyme Disease**

Lyme disease has occurred in 43 states, with the heaviest concentrations in the Northeast (Connecticut, Massachusetts, New Jersey, New York, Pennsylvania), the upper Midwest (Minnesota and Wisconsin), and along the northern Texas coast. It is caused by deer ticks and the lone star ticks which have become infected with spirochetes. Female deer ticks are about one quarter inch in size, and are black and brick red in color. Male deer ticks are smaller, and completely black. Lone star ticks are larger and chestnut brown in color.

### **7.7.5 Rocky Mountain Spotted Fever**

RMSF has occurred in 36 states, with the heaviest concentrations in Oklahoma, North Carolina, South Carolina, and Virginia. It is caused by Rocky Mountain wood ticks, and dog ticks which have become infected with rickettsia. Both are black in color.

### **7.7.6 Symptoms**

The first symptoms of either disease are flu-like chills, fever, headache, dizziness, fatigue, stiff neck, and bone pain. If immediately treated by a physician, most individuals recover fully in a short period of time. If not treated, more serious symptoms can occur.

### **7.7.7 Treatment**

If you believe you have been bitten by a tick, or if any of the signs and symptoms noted above appear, contact the ZAPATAENGINEERING Site Safety and Health Officer, who will direct you to a physician for an examination and possible treatment.

### 7.7.8 *Protective Measures*

Standard field gear (work boots, socks, and work uniform) provide good protection against tick bites, particularly if the openings are taped. However, even when wearing field gear, the following precautions should be taken when working in areas that might be infested with ticks:

- When in the field, check yourself often for ticks, particularly on your lower legs and areas covered with hair.
- Spray outer clothing, particularly your pant legs and socks, **BUT NOT YOUR SKIN**, with an insect repellent that contains permethrin.
- When walking in wooded areas, avoid contact with bushes, tall grass, or brush as much as possible.
- If you find a tick, remove it by pulling on it gently with tweezers.
- Do not use matches, a lit cigarette, nail polish or any other type of chemical to "coax" the tick out.
- Be sure to remove all parts of the tick's body, and disinfect the area with alcohol or a similar antiseptic after removal.
- For several days to several weeks after removal of the tick, look for the signs of the onset of Lyme disease, such as a rash that looks like a bulls-eye or an expanding red circle surrounding a light area, frequently seen with a small welt in the center.
- Also look for the signs of the onset of RMSF, such as an inflammation which is visible in the form of a rash comprising many red spots under the skin, which appears three (3) to 10 days after the tick bite.

### 7.7.9 *Bees, Hornets and Wasps*

Contact with stinging insects like bees, hornets and wasps may result in site personnel experiencing adverse health affects that range from mild discomfort to life threatening. Therefore, stinging insects present a serious hazard to site personnel, and extreme caution must be exercised whenever site and weather conditions increase the risk of encountering stinging insects. Some of the factors related to stinging insects that increase the degree of risk associated with accidental contact are as follows:

- The nests for these insects are frequently found in remote wooded, grassy areas where many waste sites are located.
- The nests can be situated in trees, rocks, bushes or in the ground, and are usually difficult to see.

- Accidental contact with these insects is highly probable, especially during warm weather conditions when the insects are most active.
- If a site worker accidentally disturbs a nest, the worker may be inflicted with multiple stings, causing extreme pain and swelling which can leave the worker incapacitated and in need of medical attention.
- Some people are hypersensitive to the toxins injected by a sting, and when stung, experience a violent and immediate allergic reaction resulting in a life-threatening condition known as anaphylactic shock. Anaphylactic shock manifests itself very rapidly and is characterized by extreme swelling of the body, eyes, face, mouth and respiratory passages.
- The hypersensitivity needed to cause anaphylactic shock, can in some people, accumulate over time and exposure; therefore, even if someone has been stung previously, and has not experienced an allergic reaction, there is no guarantee that they will not have an allergic reaction upon receipt of another sting.

#### **7.7.10 Protective Measures**

With these things in mind and with the high probability of contact with stinging insects, all site personnel will comply with the following safe work practices:

- If a worker knows that he is hypersensitive to bee, wasp or hornet stings, they must inform the ZAPATAENGINEERING Site Safety and Health Officer of this condition prior to participation in site activities.
- All site personnel will be watchful for the presence of stinging insects and their nests, and will advise the ZAPATAENGINEERING Site Safety and Health Officer a stinging insect nest or presence of a swarm of bees is located or suspected in the area.
- Any nest located on-site will be flagged and site personnel will be notified of its presence.
- If stung, site personnel will immediately report the ZAPATAENGINEERING Site Safety and Health Officer to obtain treatment and to allow the ZAPATAENGINEERING Site Safety and Health Officer to observe them for signs of allergic reaction.
- Site personnel with a known hypersensitivity to stinging insects will keep required emergency medication on or near their person at all times.

#### **7.7.11 Biting Insects**

Many types of biting insects such as mosquitoes, flies and fleas may be encountered on-site. The use of insect repellents will be encouraged by the ZAPATAENGINEERING Site Safety and Health Officer if deemed necessary. The biting insects of greatest concern are

spiders, especially the black widow and the brown recluse. These spiders are of special concern due to the significant adverse health effects that can be caused by their bite.

#### **7.7.12 Black Widow Spider**

The spider is not aggressive unless agitated when guarding her egg sac. They live in a variety of natural and domestic habitats such as under rocks, wooden boards and in dense plant growth. The female spider is glossy black and marked with a characteristic red hourglass on the underside of the abdomen. The female has a body length of about ½” with a total length of about 1 ½”. The male, which is rarely seen, is smaller and has four pairs of red marks along the sides of the abdomen. Young black widow spiders are tan-to-gray in color and have orange and white “racing stripes” on their abdomens. Black widow spider venom affects the nervous system. The venom causes pain in the lymph nodes. Other symptoms of a severe bite include nausea, elevated blood pressure, sweating, tremors and increased white blood cell counts. The wound may appear as a bluish red spot, surrounded by a whitish area. Victims of a black widow bite may exhibit the following signs or symptoms:

- Sensation of pinprick or minor burning at the time of the bite.
- Appearance of small punctures (but sometimes none are visible).
- After 15 to 60 minutes, intense pain is felt at the site of the bite which spreads quickly, and is followed by profuse sweating, rigid abdominal muscles, muscle spasms, breathing difficulty, slurred speech, poor coordination, dilated pupils and generalized swelling of face and extremities.

#### **7.7.13 Brown Recluse Spider**

Adult brown recluse spiders are soft bodied, yellowish tan to dark brown, about ¼ to ½ inch long and have long, delicate grayish to dark brown legs covered with short, dark hairs. The leg span is about the size of a half dollar. Distinguishing characteristics are the presence of three pairs of eyes arranged in a semicircle on the forepart of the head and a violin-shaped, dark marking immediately behind the semicircle of eyes with the neck of the violin pointing towards the abdomen. The spider may be found in sheltered corners among debris, in wood piles, under loose bark and stones. Human hands, underarms, lower abdomen and the ankles are the areas of the body most likely to be bitten. A bite may go unnoticed for 6 - 8 hours, before a reddening, swelling and blistering of the wound starts to appear. A severe bite can produce an area of dead skin tissue that may require surgery. Victims of a brown recluse bite may exhibit the following signs or symptoms:

- Blistering at the site of the bite, followed by a local burning at the site 30 to 60 minutes after the bite.
- Formation of a large, red, swollen, pustulating lesion with a bull's-eye appearance.

- Systemic affects may include a generalized rash, joint pain, chills, fever, nausea and vomiting; and pain may become severe after eight (8) hours, with the onset of tissue necrosis.

#### **7.7.14 Scorpions**

Average scorpion length is 1 to 1 ½ inches. Young scorpions are pale yellowish brown, usually with two lengthwise dark stripes on their abdomen, older scorpions are uniformed dark brown with the stripes faint or lacking. Scorpions have a pair of enlarged pinchers at their front which they use to grab prey. A scorpion has a pair of eyes in the middle of its back, as well as two (2) to five (5) additional pairs of eyes along the front edge of its body. Scorpions sting with their tail. The sting resembles a bee sting. The human victim may feel the sting or a burning sensation at first but an allergic reaction can occur requiring immediate medical treatment.

#### **7.7.15 Fire Ants**

Fire ants are particularly an aggressive pest. When attacking they first attach themselves to their victim using their jaws. They have the ability to repeatedly sting their victim by inserting, removing, and reinserting their stingers. There are three different reactions one can get from a fire ant sting. These are local, extended, and generalized. Almost everyone is sensitive to the local reaction. This consists of immediate pain and intensely itchy welts at the site of stings. After several hours pustules form as the welts disappear. If left alone, the pustules will break open in 3-7 days, and full healing occurs in 7-14 days. The pustules that form are sterile. They should be left alone, as infection only occurs after scratching them open. The extended reaction consists of a large area of extremely itchy redness and swelling around the stings, which can involve an entire leg or arm. It usually lasts from 1-3 days. Treatment of severe cases may require a physician's attention. The generalized reaction may affect individuals who are allergic to bee stings and are at especially high risk. Symptoms include itchy hives over the entire body and swelling of the throat making it difficult to breathe or swallow. Other symptoms may include flushing, chest or stomach pains, nausea, vomiting, and fainting. If these symptoms occur in any individual after being bitten, seek emergency treatment immediately.

#### **7.7.16 Treatment For Spider, Scorpion, and Ant Bites**

There is no effective first aid treatment for any of these bites. Except for very young, very old or weak victims, these bites are not considered to be life threatening, however medical treatment must be sought to reduce the extent of damage caused by the injected toxins. If any of the described spiders are suspected or known to be on-site, the ZAPATAENGINEERING Site Safety and Health Officer will brief the site personnel as to the identification and avoidance of the spiders. As with stinging insects, site personnel should report to the ZAPATAENGINEERING Site Safety and Health Officer if they locate these spiders or scorpions on-site or notice any type of bite while involved in site activities. Treatment for fire ant bites can consist of ice-packs and anti-itch lotions and sprays to control the itching. If a severe reaction is noted in the individual after being bitten by any of the above, seek emergency medical treatment immediately.

### 7.7.17 *Hantavirus Pulmonary Syndrome*

Hantavirus pulmonary syndrome (HPS) is a serious, often deadly, respiratory disease that has been found mostly in rural areas of the western United States. The disease is caused by a Hantavirus that is carried by rodents and passed onto humans. The Hantavirus, which is found in rodent urine, saliva, and feces, gets into the air as a mist from urine and saliva or dust from feces. Inhalation of the virus is the most common route of exposure; however, a person can also become infected by touching the mouth or nose after handling contaminated materials. Transmission may also occur when fresh or dried materials contaminated by rodent excreta are disturbed, directly introduced into broken skin, introduced into the eyes, or possibly ingested in contaminated food or water. Persons have also become infected after being bitten by rodents. HPS is not contagious from person-to-person. In the Southeast, the cotton rat (*Sigmodon hispidus*), as well as the rice rat (*Oryzomys palustris*), are known to carry the Black Creek Canal Hantavirus.

- The cotton rat has a body about 5 - 7 inches and a 3 - 4 inch tail. The hair is long and coarse, of a grayish brown color, even grayish black. The cotton rat prefers overgrown areas with shrubs and tall grasses.
- The rice rat is slightly smaller than the cotton rat, having a body about 5 - 6 inches and a very long, 4 - 7 inch tail. Rice rats have short, soft, grayish brown fur on top, and gray or tawny underbellies. Their feet are whitish. The rice rat likes marshy areas and is semiaquatic.

7.7.17.1 HPS is a rare disease and presents a minor risk to personnel conducting outdoor construction activities in rural areas. The symptoms of HPS usually appear within two (2) weeks after exposure but may appear as early as three (3) days to as late as six (6) weeks after infection. First symptoms are general and flu-like with fever (101° - 104° F), headache, abdominal, joint and lower back pain, with nausea and vomiting. The primary symptom is difficulty in breathing, which is caused by fluid build-up in the lungs and quickly progresses to an inability to breath. Almost half of the reported cases of HPS, or 44.8%, have resulted in death. If any combination of the symptoms occur after direct or indirect exposure to rodents, especially difficulty in breathing, immediate and intensive medical care is essential. There is no vaccine against the Hantavirus infection.

7.7.17.2 The following preventive measures are to be followed by site personnel to reduce the risk of exposure to HPS:

- All site personnel will be watchful for the presence of rodents, rodent droppings and their nests (burrows). Any rodent sightings or nests shall be immediately reported to the ZAPATAENGINEERING Site Safety and Health Officer.
- All contact with rodents or their nests shall be avoided to the maximum extent possible.

- Personnel shall wash their hands, faces and other exposed skin surfaces prior to leaving the site and before eating.
- All food brought onto the site shall be maintained where rodents have no access, such as, vehicle trunks or portable coolers.
- All food wastes shall be placed within a trash receptacle with lid, and shall be emptied on a daily basis.

## **7.8 Physical Hazards**

### **7.8.1 Noise Hazards**

The Hydro-Ax, Model 621E, and Brush Hogs have the potential of creating hazardous noise levels, i.e., greater than 85 db(A), for the operator and site personnel located in the vicinity of these pieces of heavy equipment. All site personnel will position themselves at least 100 feet from the Hydro-Ax or Brush Hog when they are being operated. The operator shall have available and wear either ear plugs or ear muffs when the equipment is being used.

7.8.1.1 Chain saws, when utilized create hazardous noise levels. The operator and his assistant(s) shall have available and wear ear plugs or muff when operating chain saws (EM 385-1-1, Section 13-F).

### **7.8.2 Eye Hazards**

The Hydro-Ax has the potential of creating eye hazards from wood chips and debris generated during clearing and grubbing activities. The operator of the Hydro-Ax is protected from flying objects while operating the equipment within the enclosed cab. All site personnel will position themselves at least 100 feet from the Hydro-Ax when it is being operated. Site personnel shall adhere to the provisions of EM 385-1-1, Section 31, during tree clearing and grubbing operations.

7.8.2.1 Site personnel shall wear safety glasses with side shields or impact safety goggles when using hand tools that may result in eye hazards from flying projectiles and debris, such as hand axes, machetes and chain saws (EM 385-1-1, Section 13).

### **7.8.3 Slip, Trips, and Falls**

There is always the potential of slips, trips and falls from uneven terrain during site activities. Personnel shall be advised to keep their feet within view and only to work on surfaces which provide proper footing.

### **7.8.4 Thunderstorms and Lighting**

All project activities will be safely terminated and personnel shall seek shelter if a thunderstorm approaches. The SSHO shall safely terminate all project activities when he/she sees or hears an approaching thunderstorm. Lightning takes the shortest path. It hits the highest object, a tall tree or building, a tower or a person standing alone in a flat

field. Common signs of an impending lightening strike are the feeling of hair standing on end and the taste of copper in your mouth. If you are outside, get inside a vehicle and avoid contact with the metal. Avoid using telephones, unless it is an emergency. Do not stand under a natural lightning rod such as a tall, isolated tree in an open area. Do not stand on a hilltop or an open field. Get away from construction vehicles and stay away from wire fences, metal pipes, rails and other metallic paths which could carry lightning to you from some distance away. If out in the open, seek shelter in a low place such as a ravine. If an individual is struck by lightning, first aid should be rendered to those not breathing within four (4) to six (6) minutes to prevent irrevocable damage to the brain. Mouth-to-mouth resuscitation and cardiopulmonary resuscitation (CPR) may be required to be administered by persons with proper training.

7.8.4.1 The SSHO shall have available an emergency weather radio that activates and alarms when emergency forecasts are issued by the Weather Service.

### **7.8.5 Motor Vehicles and Heavy Equipment**

Large motor vehicles and heavy equipment will be used during various site activities. Vehicles and heavy equipment design and operation will be conducted in accordance with 29 CFR 1926, Subpart O, and EM 385-1-1, Section 16. The following precautions will be taken to assist in preventing injuries and accidents.

- Brakes, hydraulic lines, light signals, fire extinguishers, fluid levels, steering, tires, horn, and other safety devices will be checked and maintained in good working order throughout the duration of field activities.
- Large construction motor vehicles will not be backed up unless the vehicle has a reverse signal alarm audible above the surrounding noise level, backup warning lights, or the vehicle is backed up only when an observer signals it is safe to do so.
- Construction and heavy equipment will have necessary safety equipment including seat belts, roll-over protection, emergency shut-off during roll-over, backup warning lights and audible alarms.
- Field support vehicles will be equipped with a first-aid kit and appropriate fire extinguisher.

### **7.8.6 Hazard Communication**

The ZAPATAENGINEERING SSHO shall be responsible for implementing a Hazard Communication Program at the project site (29 CFR 1926.59). The following elements shall be addressed, as a minimum:

- Maintain a current inventory of all potentially hazardous commercial chemical products brought on site by subcontractors.

- Material Safety Data Sheets (MSDSs) shall be provided to the ZAPATAENGINEERING SSSH for all commercial chemical products brought onto the site by subcontractors. The MSDSs shall be reviewed by the ZAPATAENGINEERING SSSH to verify correct use and appropriate issue of PPE as applicable. The MSDSs shall be discussed at the next day's tailgate safety meeting with site personnel (29 CFR 1926.59).
- All containers of commercial chemical products brought onto the site shall have manufacturer's labels, shall be in plain view, and identify container contents and warnings.

### **7.9 Site Communication**

Verbal communications will be used among project personnel to communicate to each other at the project site. If verbal communication is not possible, the following hand signals shall be used:

- Both hands on hips -- Leave Area Immediately.
- Hands on Top of Head – Help, Need Assistance.
- Thumbs Up -- Everything All Right
- Thumbs Down -- No or Negative Response
- Hands Gripping Throat -- Individual Choking or Can't Breathe.

7.9.1 Cellular telephones will be used as the primary offsite communications. ZAPATAENGINEERING and each subcontractor shall have a cellular telephone while onsite. Communication of evacuation routes and assembly points shall occur daily during the tailgate safety briefing.

- All communications will be tested daily. When emergency services are requested from any agency, the caller will remain available to provide information and directions to responding personnel.
- The telephone numbers for all emergency services, including the telephone numbers for ZAPATAENGINEERING and USA Environmental, will be provided to each subcontractor. All site personnel will be aware of the location of the closest cellular telephone.

### **7.10 Accident Prevention**

This section provides the requirements for implementing the US Army Corps of Engineers accident prevention provisions of EM 385-1-1 and the accident reporting requirements of the US Army Engineering and Support Center, Huntsville as contained

within CEHNCR 385-1-1. This SSHP requirement applies to all work performed by ZAPATAENGINEERING for CEHNC at Fort McClellan.

#### **7.10.1 Instruction and Training**

Training requirements for the project include: 40 hours hazardous waste instruction; three (3) days actual field experience under the direct supervision of a trained, experienced supervisor, and eight (8) hours refresher training annually. In addition, UXO personnel from USA Environmental shall meet the requirements of CEHNC, Ordnance and Explosives Center of Expertise (CX), Personnel and Work Standards for Ordnance Response, dated July 30, 1996. On-site supervisors shall have completed the above training and eight (8) hours of additional management/supervisor health and safety training covering at least the following topics: the employer's safety and health program, personal protective equipment program, spill containment program, and health hazard monitoring procedures and techniques. Site-specific Training, Pre-entry Briefing, and Daily Safety Meetings shall be conducted by the SSHO. All on-site workers are required to provide copies of their training certifications. This information shall be maintained in a file by ZAPATAENGINEERING at the work site.

#### **7.10.2 Accident Reporting**

All lost time injuries and property damage accidents, (including motor vehicle accidents occurring during work hours) in which property damage exceeds \$2,000 will be reported to the CEHNC Project Manager within 48 hours of the accident/incident in accordance with CEHNCR 385-1-1. All accidents will be investigated by the SSHO (Attachment I of the SSHP, Accident Investigation Report).

7.10.2.1 All project personnel receiving medical treatment by a physician will obtain a release from the physician on the date of treatment stating either (1) the individual is not fit for duty; (2) the individual is fit for light duty; or (3) the individual is fit for duty. A copy of the release must be attached to the accident report and submitted to the CEHNC Project Manager.

7.10.2.2 In the event of an accident which results in a lost work day or \$2,000 or more in property damage, an Accident Investigation Report will be completed by the SSHO, reviewed by the Project Manager, Safety and Health Manager, and submitted to the CEHNC within 10 days.

7.10.2.3 Immediate telephone notification must be made to the CEHNC Project Manager by the ZAPATAENGINEERING Project Manager if an accident meets one of the following criteria:

- a. Accidents resulting in a fatality,
- b. accidents resulting in \$50,000 or more in property damage,
- c. accidents resulting in 3 or more persons being hospitalized,

- d. accidents that may result in permanent total or permanent partial disability, and
- e. accidents which may result in adverse publicity to the Corps.

The reporting requirement of submitting an accident report within 10 days still applies.

### **7.10.3 Sanitation**

Restrooms and drinking water fountains are located at various locations near the field investigational sites and their usage shall be coordinated with the CEHNC Project Manager by the ZAPATAENGINEERING Project Manager. Potable water and disposable cups will also be available at each work site.

### **7.10.4 Medical Facilities**

At least two (2) individuals shall be currently certified in first aid and CPR. Section 7.20.6 specifies the ambulance service and hospital emergency room along with their telephone numbers.

### **7.10.5 Emergency Plans**

Section 7.20 establishes the Emergency Response Plan for the SSHP.

### **7.10.6 Personal Protective Equipment**

Section 7.14 specifies the type and Level of Protection required for project activities.

### **7.10.7 Housekeeping**

ZAPATAENGINEERING shall keep all areas in neat and orderly condition in accordance with 29 CFR 1910.141(a)(3) and (a)(4). The SSHO shall inspect work areas daily to ensure compliance.

### **7.10.8 Fire and/or Explosion Procedures**

Section 7.12 specifies the Fire Protection and Prevention Plan.

### **7.10.9 Machinery and Mechanized Equipment**

Section 7.8.5, Motor Vehicles and Heavy Equipment, specifies inspection requirements and hand tools shall be inspected daily by the workers and repaired or replaced if damaged.

### **7.10.10 Floor and Wall Openings**

Not applicable to project activities.

### **7.10.11 Noise Control**

Section 7.8.1 specifies procedures for protection against hazardous noise levels.

### **7.10.12 Hot Substances**

No hot work permits are anticipated with this project.

### **7.10.13 Welding, Cutting and Grounding of Machinery**

No welding, cutting, and machinery grounding are anticipated as a part of this project.

### **7.10.14 Electrical**

If portable electric generators are required during site operations, they will be operated according to their manufacturer's instructions. Field operations shall be carried out during daylight hours.

### **7.10.15 Hand Tools and Power Tools**

Several different types of hand tools shall be used during assessment activities. Chain saws are the only power tool usage anticipated. The following precautions shall be monitored by the SSHO during hand tool use.

- Use the tool for its intended purpose.
- When a tool becomes damaged, either repair it before using it again or throw it away.
- When using a hammer, chisel, or punch, safety glasses shall be worn.
- Keep all tools clean and store appropriately when not in use.
- Use wrenches, not pliers, on nuts.
- Use screwdrivers with blades that fit the screw.
- Use penetrating oil on tight nuts.

### **7.10.16 Compressed Gas Cylinders**

Compressed gas usage is not anticipated during project activities.

### **7.10.17 Ramps, Runways, Platforms, and Scaffolds**

No ramps, runways, platforms, or scaffolds are anticipated to be used at the project site.

### **7.10.18 Excavations**

Excavations are not anticipated to be at a depth greater than three (3) feet to remove anomalies for identification purposes. All activities will be conducted in accordance with the Intrusive Excavation Plan.

### **7.10.19 Access Facilities**

Section 7.18 specifies the site security procedures to be implemented at the project site.

### **7.10.20 Clearing**

Section 7.4.4 provides the procedures for brush clearing and scrap metal removal activities.

### **7.10.21 Material Handling, Storage and Disposal**

OE disposal activities will be conducted as provided within the Intrusive Excavation Plan and Safe Holding Area Plan.

#### **7.10.22 Hazardous Materials**

Material Safety and Data Sheets (MSDS) shall be provided by the SSHO for all hazardous chemical substances brought onto the site. The MSDS shall be reviewed by the SSHO to verify correct use and appropriate issue of PPE as applicable. The MSDS shall be discussed at the next day's safety meeting with site personnel (29 CFR 1926.59).

#### **7.10.23 Training**

Sections 7.1 and 7.2 define personnel training requirement for work at this project site.

#### **7.11 Material Lifting**

Many types of objects are handled in normal day to day operations. Care should be taken in lifting and handling heavy or bulky items because they are the cause of many joint and back injuries. The following fundamentals address the proper lifting of materials to avoid joint and back injuries:

- The size, shape and weight of the object to be lifted must be considered. Site personnel will not lift more than they can handle comfortably.
- A firm grip on the object is essential, therefore the hands and object shall be free of oil, grease and water, which might prevent a firm grip.
- The hands, and especially the fingers shall be kept away from any points that cause them to be pinched or crushed, especially when setting the object down.
- The item shall be inspected for metal slivers, jagged edges, burrs, rough or slippery surfaces and pinch points, and gloves shall be used, if necessary, to protect the hands.
- The feet shall be placed far enough apart for good balance and stability.
- Personnel will ensure that solid footing is available prior to lifting the object.
- When lifting, get as close to the load as possible, bend the legs at the knees, and keep the back as straight as possible.
- To lift the object, the legs are straightened from their bending position.
- Never carry a load that you cannot see over or around.
- When placing an object down, the stance and position are identical to that for lifting: with the back kept straight and the legs bent at the knees, the object is lowered.

- When two or more people are required to handle an object, coordination is essential to ensure that the load is lifted uniformly and that the weight is equally divided between the individuals carrying the load. When carrying the object, each person, if possible, shall face the direction in which the object is being carried.

## **7.12 Fire Hazards**

### **7.12.1 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. Such releases can threaten both personnel on-site and members of the general public living or working nearby. Site personnel involved with potentially flammable material or operations will follow the guidelines listed below and EM 385-1-1, Section 9, to prevent fires and explosions:

- Potentially explosive/flammable atmospheres involving gases or vapors will be monitored using a combustible gas indicator.
- Prior to initiation of site activities involving explosive/flammable materials, all potential ignition sources will be removed or extinguished.
- Non-sparking and explosion-proof equipment will be used whenever the potential for ignition of flammable/explosive gases/vapors/liquids exists.
- Dilution or induced ventilation may be used to decrease the airborne concentration of explosive/flammable atmospheres.
- Smoking is prohibited at project work sites, or in the vicinity of operations which may present a fire hazard, and the area will be conspicuously posted with signs stating "No Smoking or Open Flame Within 50 Feet".
- Flammable and/or combustible liquids must be handled only in approved, properly labeled metal safety cans equipped with flash arresters and self-closing lids.
- Transfer of flammable liquids from one metal container to another will be done only when the containers are electrically interconnected (bonded).
- The motors of all equipment being fueled will be shut off during the fueling operations.

### **7.12.2 Fire Protection**

The following safe work practices will be used to protect against fires:

- Vehicles and equipment will not be fueled while running.
- Flammable/combustible liquid storage areas will have at least one (1) 4A:20:B:C: fire extinguisher located within 25-75 feet, marked with the appropriate fire symbol and no smoking signs.
- Temporary offices will be equipped with a fire extinguisher of not less than 10:ABC.
- At least one (1) portable fire extinguisher having a rating of not less than 20:ABC will be located at each work site.

### **7.13 Bloodborne Pathogens**

Due to the nature of the project activities, there is the potential for exposure to blood pathogens as a result of an accident or injury. Typically, work sites are in remote areas and first aid and/or initial emergency first aid shall be provided onsite by the ZAPATAENGINEERING SSO or other site personnel having current certification in CPR and Standard First Aid Training. These personnel will receive training on bloodborne pathogens prior to beginning work at the site.

7.13.1 Protective equipment (CPR Pocket Mask and disposable surgical gloves) are available in all first aid kits onsite. Hand washing facilities shall be available in the Support Zone (SZ). Personnel performing first aid and/or CPR will comply with the following:

- Personnel that provide any first aid will wear disposable latex gloves if there is any visible body fluid.
- The CPR Pocket Mask will be used when performing CPR and disposed of after use.
- Personnel will change clothing that becomes contaminated with body fluids as a result of performing first aid, immediately, or as soon as feasible.
- Personnel will immediately wash their hands after performing first aid procedures.
- Contaminated clothing and equipment will be bagged in red BIO-Hazard bags, labeled as to date and contents, and disposed of as infectious waste.

### **7.14 Personal Protective Equipment**

PPE required at the site will be at the level necessary to protect personnel. PPE selection is based upon protecting site personnel from potential physical hazards which may be encountered at the project site. Therefore, the normal work clothing will be Level D. No respiratory protection or chemical protective clothing is anticipated for use during project

activities. PPE shall be supplied to project personnel in accordance with their respective employer's policies. The ZAPATAENGINEERING SSHO shall daily inspect PPE used by project personnel.

7.14.1 The following PPE specifies level D protection.

- Short or long sleeve outer cotton coveralls or work clothing, which are changed daily.
- Safety boots/shoes with steel toe. UXO personnel will not be required to wear steel toe boots when using magnetometers or conducting OE operations.
- Safety glasses with side shields or impact safety goggles when an eye hazard exists.
- Ear plugs or ear muffs when working within a noise hazardous area such as chain saws, Hydro-Ax, or Bush Hog.
- Hard hat, when overhead hazard exists with exception of UXO personnel conducting magnetometer and OE activities.
- Leather or canvas work gloves.
- Snake chaps or leggings when necessary.
- Protective chaps during brush clearing and chain saw operations.
- Safety reflective vests at any active road traffic location.

7.14.2 The level of protection is based on anticipated site hazards. The levels of protection may change as site conditions change. The ZAPATAENGINEERING SSHO will monitor site conditions and may require the use of additional PPE when necessary.

### **7.15 Medical Surveillance**

ZAPATAENGINEERING, subcontractor personnel, and site visitors who enter into the CRZ or EZ shall have satisfactorily completed a Medical Surveillance Examination meeting the requirements of 29 CFR 1926.65(f). The medical examination protocols and results shall be overseen by a licensed physician who is certified in Occupational Medicine by the American Board of Preventive Medicine, or who by necessary training and experience is board eligible and shall be provided without cost to the employee, without loss of pay, and at a reasonable time and place.

7.15.1 A copy of each site worker's Medical Certification is included in Attachment II of the SSHP. Individuals without proper documentation of their medical examination shall not be permitted to work on-site.

### **7.16 Environmental and Personal Monitoring**

There is no requirement for environmental or air sampling for chemical contaminants. No radiological hazards have been identified at the project site.

### **7.17 Cold Stress Monitoring**

The cold stress Threshold Limit Values (TLVS) are intended to protect workers from the severest effects of cold stress (hypothermia) and cold injury, and to describe exposures to cold working conditions under which it is believed that nearly all workers can be repeatedly exposed without adverse health effects. The TLV objective is to prevent the deep body temperature from falling below 36° Celsius (C) 96.8° Fahrenheit (F) and to prevent cold injury to body extremities (deep body temperature is the core temperature of the body determined by conventional methods for rectal temperature measurements). For a single, occasional exposure to a cold environment, a drop in core temperature to no lower than 35° C (95° F) should be permitted. In addition to provisions for total body protection, the TLV objective is to protect all parts of the body with emphasis on hands, feet, and head from cold injury.

7.17.1 To avoid cold stress, a combination of the following measures shall be considered as thermal conditions warrant:

- The appropriate materials for work clothing shall be selected. This may include denim, goose down, and nylon.
- Several layers of relatively light clothing with an outer layer of wind-proof/water-proof material shall be worn.
- The head should always be covered as it represents up to 40% of total body heat loss.
- Skin surfaces shall be kept as dry as possible.
- Workers shall be given time to acclimatize to the environment.
- Workers shall be trained to recognize and identify symptoms of cold stress.

7.17.2 Pain in the extremities may be the first early warning of danger to cold stress. During exposure to cold, maximum severe shivering develops when the core body temperature has fallen to 95°F. This shall be taken as a sign of danger to any worker, and exposure to cold shall be immediately terminated when severe shivering becomes evident. The following are the common signs and symptoms of cold stress that may be encountered by workers at the site:

- Incipient frostbite is a mild form of cold stress and is characterized by sudden blanching or whitening of the skin.
- Chilblain is an inflammation of the hands and feet caused by exposure to cold and moisture. It is characterized by a recurrent localized itching, swelling, and painful inflammation of the fingers, toes, or ears produced by mild frostbite. Such a sequence produces severe spasms accompanied by pain.
- Second degree frostbite is manifested by skin with a white waxy appearance which is firm to the touch. Individuals with this condition are generally unaware of the seriousness, as the underlying nerves are frozen and unable to transmit signals to warn the body. Immediate first aid and medical treatment is required.
- Third degree frostbite will appear as blue, blotchy skin. The tissue is cold, pale, and solid. Immediate medical attention is required.
- Hypothermia develops when the core body temperature falls below 95°F. In extreme cases progressive loss of consciousness, muscular rigidity, and decrease in respiratory rate may occur which could lead to cardiac failure and death. Immediate medical attention is warranted when the following symptoms are observed:
  1. Involuntary and uncontrolled shivering
  2. Irrational behavior
  3. Slurred speech
  4. Sluggishness

### **7.18 Site Control**

The SSHO shall coordinate access control and security on site. Due to the hazardous nature of OE operations, the SSHO will be solely responsible for authorizing personnel entry into any exclusion zones (EZ). The EZ is the work site, encompassing an area large enough to prevent personnel injuries from fragmentation resulting from OE. During UXO operations, only UXO trained personnel shall be allowed within the EZ.

7.18.1 Representatives from regulatory agencies and visitors having official business will be permitted to enter the site at any time during business hours or any other reasonable times as established by the ZAPATAENGINEERING Site Manager or SSHO. The SSHO has the responsibility for briefing regulatory personnel and visitors concerning potential safety and health hazards at the site, PPE requirements, location of control zones, and emergency response procedures. All visitors and regulatory personnel shall be required to verify compliance with the provisions contained with this SSHP by signing the Initial SSHP Briefing Log (Attachment I of the SSHP). All visitors and regulatory personnel shall remain under escort by the ZAPATAENGINEERING SSHO while at the project site. In the event that a visitor does not adhere to the provisions of this SSHP, the visitor will be requested to leave the project site. All nonconformance incidents will be documented by the SSHO.

7.18.2 Additional site controls to ensure safety are as follows:

- Eating, drinking, and smoking are prohibited except in designated areas.
- Hazardous OE operations will cease if non-UXO trained personnel are present within the EZ or CRZ.
- The ZAPATAENGINEERING SSHO will escort all authorized visitors while at the project site.
- All personnel entering the site, including visitors, will wear the appropriate PPE as designated within this SSHP.
- The ZAPATAENGINEERING SSHO will maintain the site entry control log to ensure accurate accountability for personnel.
- The ZAPATAENGINEERING SSHO will brief all personnel on the contents of this SSHP prior to allowing them entrance onto the site. All personnel will acknowledge this briefing by signing the SSHP briefing log (Attachment I of the SSHP).
- In case of an emergency, personnel will exit the site and move to the designated safe area(s). The safe area will be located upwind of the site outside of the fragmentation area. The ZAPATAENGINEERING SSHO will determine the severity of the emergency. If the emergency warrants site evacuation, the SSHO will notify the ZAPATAENGINEERING Project Manager and the CEHNC Project Manager as soon as possible.

### **7.19 Personnel and Equipment Decontamination**

There are no known chemical or radiological hazards associated with project activities. Personnel and heavy equipment decontamination facilities are not required. Hand washing facilities for personnel hygiene will be available for use.

## **7.20 Emergency Response and Contingency Procedures**

The following ERP shall be utilized by project personnel. When the SSHO reports to the site, the designated hospital, fire and police department will be notified of the location of planned work activities and the potential types of personnel injuries which could be encountered at the project site. All site personnel will be trained, and reminded of the provisions of this ERP during the morning tailgate safety meetings. The ERP will be revised when necessary to reflect current site conditions.

### **7.20.1 Anticipated Site Emergencies**

There are several emergencies which could reasonably be anticipated during the project activities to include:

- Snake, animal and insect bites
- physical injuries from slips, trips or falls
- fires
- injuries associated with UXO operations.

### **7.20.2 Personnel Roles and Responsibilities**

The SSHO shall be responsible for the overall direction and implementation of this ERP and for overall coordination of any emergency response actions. Specific responsibilities of the SSHO include, but are not limited to, the following:

- Notifying police, fire department, emergency medical services as appropriate.
- notifying the ZAPATAENGINEERING Project Manager and providing updates as conditions change
- directing offsite emergency response personnel to the scene and providing assistance
- accounting for all site personnel and visitors
- assisting onsite CPR/Standard First Aid trained personnel with emergency treatment and transport of the victim.

### **7.20.3 Project Personnel Responsibilities**

All project personnel and visitors shall be responsible for:

- Reporting any site emergencies to the SSHO

- knowing site evacuation routes and assembly points
- assisting off-site emergency response personnel as requested.

#### **7.20.4 Safe Distances and Places of Refuge**

The SSHO shall determine safe distances and places of refuge for each work area. Prior to the start of each workday, the SSHO shall discuss the following at the daily tailgate safety meeting:

- Evacuation routes for work areas
- assembly point(s) to be used
- location of nearest fire extinguishers, first aid kits and cellular telephones.

#### **7.20.5 Emergency Notification Procedures**

Emergency telephone numbers shall be provided to each subcontractor on the project site. In the event of an emergency, the ZAPATAENGINEERING Project Manager or SSHO shall contact the appropriate emergency agency by cellular telephone and provide the following information:

- Emergency services needed, i.e., police, fire, emergency medical services, etc.
- location of the incident and where to meet site personnel
- nature of the incident, i.e., personal injury, fire, snake bite, etc.
- time incident occurred
- your name and cellular telephone number
- do not hang up until the dispatcher hangs up and do not leave the cellular telephone in case the dispatcher needs additional information.

#### **7.20.6 Emergency Contact Numbers**

The following emergency telephone numbers shall be provided by the SSHO to all subcontractors and a copy shall be maintained with each cellular telephone on the project site.

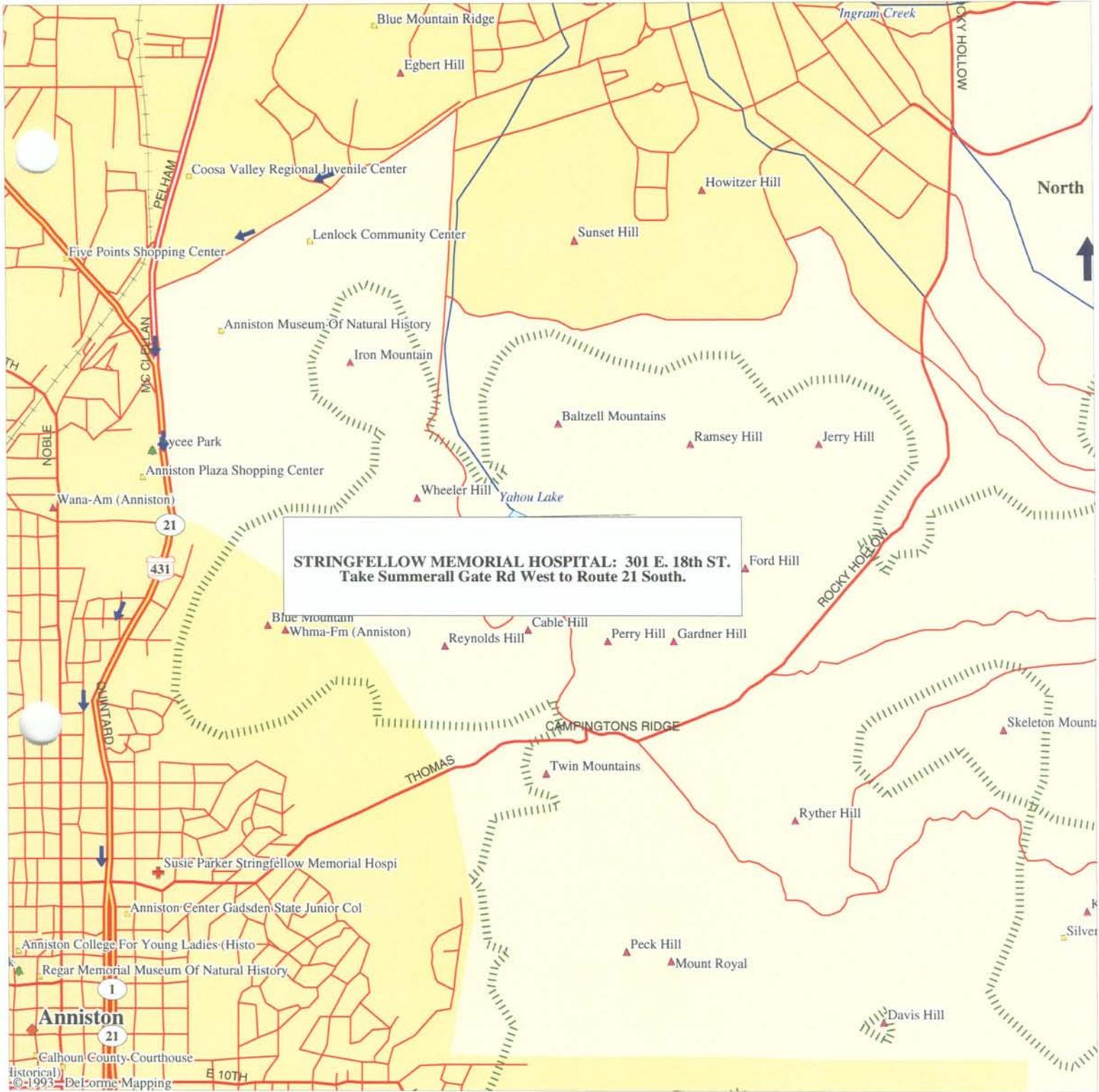
<b>AGENCY</b>	<b>TELEPHONE NUMBER</b>
Fire Department (from land-based line)	911
Military Police	256-848-5178
Stringfellow Memorial Hospital, Ambulance	256-235-8900

Patient First Health Care	256-835-4756
Dr. John Beard MD (ZAPATAENGINEERING Nalle Clinic Physician)	704-342-8000
Fort McClellan Range Control (24 hours)	256-848-4966/3344
CEHNC - Program Manager, Mr. David Skridulis	256-895-1468
Mary F. Richards, Vice President (ZAPATAENGINEERING)	704-358-8240
CHEMTREC (Hazardous Chemical Information Hotline)	1-800-424-9300
Poison Control Center	1-800-332-6632

**7.20.7 Stringfellow Memorial Hospital Directions**

To reach the Stringfellow Memorial Hospital from Fort McClellan, proceed with the following directions and Hospital Route Map (Figure 7-3):

Hospital Name	Hospital Address	Hospital Phone Number
Stringfellow Memorial Hospital	301 E. 18 <sup>th</sup> Street	256-235-8900



- LEGEND**
- State Route
  - Geo Feature
  - Hill
  - Hospital
  - Park
  - US Highway
  - Population Center
  - Street, Road
  - Major Street/Road
  - State Route
  - US Highway
  - Railroad
  - River
  - Open Water
  - Contours

Scale 1:31,250 (at center)

2000 Feet

1000 Meters

Figure 7-3 Hospital Route Map  
 Mag 14.00  
 Thu Dec 10 15:01:33 1998

- Proceed west on Summerall Gate Road to Route 21 / Quintard Avenue
- proceed south on Route 21 / Quintard Avenue to 18<sup>th</sup> Street, Anniston.

## **7.21 Logs, Reports, and Recordkeeping**

### **7.22 Daily Health and Safety Log**

The SSHO shall maintain a Safety Log of all safety-related site activity. The SSHO is responsible for ensuring that safety and health activities and events for the day are part of the log. The log shall include the minutes of the tailgate safety meeting. As a minimum the Safety Log shall include documentation for all accidents, near misses, results of daily site health and safety inspections, the reason for and duration of safety related "stop work" orders, and any other issues pertaining to site or personnel safety or health.

#### **7.22.1 Initial Health and Safety Briefing Log**

The SSHO is responsible for ensuring that the initial health and safety briefing for all individuals entering the site is documented (Attachment I of the SSHP).

#### **7.22.2 Visitor's Log**

The SSHO will be responsible for maintaining the visitor log, which will be used to record the entry and exit of all visitors, including Federal, state or local officials who visit the site. This log will reflect name, organization, date and time of visitor entry/exit.

Visitors will be briefed on:

- Contents of the ZAPATAENGINEERING SSHP
- Work Zones and restricted areas
- Site hazards and risks to include OE, heavy equipment operations, biological, heat/cold, and trip hazards
- Site PPE requirements
- Smoking, fire and OE safety requirements
- Site evacuation and emergency procedures

**ATTACHMENT I**

**FORMS**

**ZAPATAENGINEERING, P.A.**

**EXISTING SITE SAFETY PLAN ADDENDUM FORM**

**SITE NAME:**

**DATE OF ADDENDUM:**

**DATE OF PROPOSED NEW WORK:**

**ADDED ACTIVITIES AND HAZARD EVALUATION:**

**ADDED MONITORING ACTIVITIES:**

**LEVEL OF PROTECTION:    A        B        C        D(MOD)        D**

**CRITERIA FOR UPGRADE/DOWNGRADE:**

**PPE:**

**DECON:**

**TEAM MEMBERS:**

**RESPONSIBILITIES:**

**THE TERMS OF THE ORIGINAL SSHP SHALL BE EFFECTIVE EXCEPT AS NOTED ON THIS FORM. THE FOLLOWING ATTACHMENTS SHALL BE CONSIDERED AS INTEGRAL TO THE SSHP ADDENDUM:**

**PREPARED BY:**

**NAME, TITLE & DATE:**

**REVIEWED BY:**





**DAILY  
SAFETY MEETING SIGN-IN SHEET**

Project: Fort McClellan

Contract No: DACA87-95-D-0026-0006

Meeting Location: \_\_\_\_\_

Time: \_\_\_\_\_

*SUBJECT OF MEETING*

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*TRAINER SIGNATURE/TITLE*

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*ATTENDANCE*

DATE	PRINTED NAME	SIGNATURE

## SAFETY CHECKLIST FOR MOBILE CONSTRUCTION EQUIPMENT \*GENERAL REQUIREMENTS\*

Contract # and Title:

Equipment Name and Number:  
Owned/Rented/Leased?

Contractor:

Subcontractor:

Contract Inspector:

Date Inspected:

Gov't QA representative:

Date Reviewed:

Notes:

In accordance with SAD Regulations 385-1-1 and appropriate district safety regulations, this checklist shall be completed for all cranes, shovels, derricks, draglines, cranes equipped with pile drivers, pile drivers, pavers, scrapers, graders, pans, loaders, dump trucks, and similar heavy equipment. The appropriate supplemental checklists, identified below, must also be completed:

- 1666a-R: Cranes, Derricks, & Material Hoists
- 1666b-R: Rigging
- 1666c-R: Earth Drilling Equipment
- 1666d-R: Conveyors
- 1666e-R: Motor Vehicles and Aircraft

NOTE: Any machinery or mechanized equipment found by the contractor of the designated authority to be unsafe shall be deadlined and its use prohibited until all unsafe conditions have been corrected (16.A.03).

Corps of Engineers Safety and Health Requirements Manual EM-385-1-1, Oct 92, references are in parentheses - consult them for more specific guidance.

NOTE: The expected answer to all questions is yes or n/a. You must explain all 'no' answers

	yes	no	n/a
1. Are there records documenting the inspection and testing of all machinery/equipment on site? (16.A.01)			
2. Is the slow moving emblem used on all vehicles which by design move at 25 MPH or less on public roads? (08.A.04)			

SAD Form 1666-R  
Jan 94

Previous editions may be used for contracts  
referencing the '87 edition of EM 385-1-1

## SAFETY CHECKLIST: GENERAL REQUIREMENTS

	yes	no	n/a
3. Are all vehicles which will be parked or moving slower than normal traffic on haul roads equipped with a yellow flashing light or flashers visible from all directions? (16.A.12)			
4. Are vehicles and equipment operating in aircraft movement areas identified by a flag on a staff attached to and flying above the vehicle? (32.A.10)			
5. Are all tanks, containers, and pumping equipment, portable or stationary, used for flammable or combustible liquids, tested by a recognized authority? (09.B.10)			
6. Do all vehicles used to transport or dispense flammable or combustible liquids carry a fire extinguisher of not less than 20 B-C units? (09.B.03)			
7. Are all non-current carrying metallic parts of electrical equipment or equipment enclosures provided with a ground? (11.C.01)			
8. Are electrical cables in good condition? (11.A.03)			
9. Is all equipment to be operated on public roads provided with: (16.A.07) a. headlights? b. brake lights? c. tailgates? d. back-up lights? e. front and rear turn signals?			
10. Are seats and seat belt provided for the operator and each rider on equipment? (16.A.07 and 16.B.08)			
11. Is all equipment with windshields equipped with powered wipers and defogging or defrosting devices? (16.A.07)			
12. Is all mobile equipment equipped with adequate service brake systems and emergency brake systems? (16.A.07)			
13. Is there a record of manufacturer's approval of any modification of equipment which affects its capacity or safe operations? (16.A.18)			
14. If present, are steering or spinner knobs properly installed? (16.A.19)			
15. Are the following adequately guarded: (16.A.03) a. belts, gears, shafts, pulleys, sprockets, spindles, drums, flywheels, chains, and other reciprocating, rotating, or moving parts? b. uninsulated hot surfaces, including exhaust pipes? c. accessible charging skips?			
16. Are areas on equipment where employees walk or climb equipped with platforms, footwalks, steps, headholds, guardrails, toeboards and non-slip surfaces? (16.B.03)			
17. Are fuel tanks located to prevent fuel spills onto the engine, exhaust, or electrical equipment? (16.B.04)			
18. Is all self propelled equipment equipped with automatic, audible, reverse signal alarms? (16.B.01)			
19. Are exhaust and discharges located so as not to obstruct operator's view (16.B.05)			

# SAFETY CHECKLIST: GENERAL REQUIREMENTS

	yes	no	n/a
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20. Do all high rider industrial trucks have overhead guards which meet ANSI/ASME B56.1? (16.B.09)			
21. Do all long-bed end dump trailers used in off-road hauling have roll over warning devices? (16.B.15)			
22. Are falling object protective structures installed on the bulldozers, tractors, or similar equipment used in clearing or like operations			
23. Is rollover protection provided for: (16.B.12) a. crawler and rubber-tire tractors? b. off-the-road self-propelled pneumatic-tire earth movers? c. motor graders? d. water tank trucks having tank height less than the cab? e. other self-propelled construction equipment such as front-end loaders, backhoes, rollers, and compactors?			
24. Do all points requiring lubrication during operations have fittings that are guarded or located away from hazards? (16.B.13)			
25. Remarks (enter action taken)			
Contractor Inspector (Signature):			
Contractor QC/Safety Officer/Project Manager (Signature):			

# SAFETY CHECKLIST FOR MOTOR VEHICLES AND AIRCRAFT

Contract # and Title:

Equipment Name and Number:  
Owned/Rented/Leased?

Contractor:

Subcontractor:

Contract Inspector:

Date Inspected:

Gov't QA representative:

Date Reviewed:

Notes:

	yes	no	n/a
1. Does the equipment meet the general requirements section of this checklist			
2. Are records of safety inspections of all vehicles available? (18.A.02)			
3. Are all vehicles to be operated between sunset and sunrise equipped with: (18.A.04) a. 2 headlights? b. taillights and brake lights c. front and back turn signals? d. 3 emergency flares, reflective markers, or equivalent portable warning devices?			
4. Are vehicles equipped with service brakes and manually operated parking brakes? (18.A.05)			
5. Are service brakes on trailers and semitrailers controlled from the driver's seat of the prime mover? (18.A.05)			
6. Does the vehicle have: (18.A.06) a. a speedometer? b. a fuel gage? c. an audible warning device (horn)? d. a windshield & adequate windshield wiper? e. an operable defrosting and defogging device? f. an adequate rear view mirror? g. a cab, cab shield, and other protection to protect the driver from the elements and falling or shifting materials? h. non-slip surfaces on steps? i. a power-operated starting device?			
7. Is all glass safety glass and is all broken or cracked glass replaced? (18.A.07)			

## SAFETY CHECKLIST - MOTOR VEHICLES AND AIRCRAFT

	yes	no	n/a
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8. Do trailers meet the following: (18.A.08) <ul style="list-style-type: none"> <li>a. Are all towing devices adequate for the weight drawn?</li> <li>b. Are all towing devices properly mounted?</li> <li>c. Are locking devices or a double safety systems provided on every 5<sup>th</sup> wheel mechanism and tow bar arrangement to prevent accidental separation?</li> <li>d. Are trailers coupled with safety chains or cable to the towing vehicle?</li> <li>e. Are trailers equipped with power brakes equipped with a break-away device which will lock-up the brakes in the event the trailer separates from the towing vehicle?</li> </ul>			
9. Are all dump trucks: (18.A.10) <ul style="list-style-type: none"> <li>a. equipped with a holding device to prevent accidental lowering of the body?</li> <li>b. equipped with a hoist lever secured to prevent accidental starting or tripping?</li> <li>c. equipped with means to determine (from operator's position) if the dump box is lowered?</li> <li>d. equipped with trip handles for tailgates that allow the operator to be clear?</li> </ul>			
10. Are all buses, trucks and combinations of vehicles with carrying capacity of 1.5 tons or more, to be operated on public roads equipped with: (18.A.11) <ul style="list-style-type: none"> <li>a. one red flag (at least 12" square)?</li> <li>b. 3 reflective markers?</li> <li>c. 2 wheel chocks for each vehicle?</li> <li>d. at least one 1A:10B:C fire extinguisher?</li> <li>e. at least 2 properly rated fire extinguishers (for vehicles carrying flammable cargo)?</li> </ul>			
11. Is vehicle exhaust controlled so as not to present a hazard to personnel? (18.A.12)			
12. If needed are safety tire racks, cages, or equivalent protection available for split rims or rims equipped with locking rings or similar devices? (18.A.14)			
13. Are all rubber tired motor vehicles equipped with fenders or with mud flaps if the vehicle is not designed for fenders? (18.A.14)			
14. Are the following conditions met for all "All Terrain Vehicles" (ATV's): <ul style="list-style-type: none"> <li>a. Are gloves and approved motorcycle helmets with full face shield available?</li> <li>b. Do all ATVs have minimum of 4 wheels?</li> <li>c. Are all ATVs equipped with a warning signal device (horn)?</li> </ul>			
15. Are the following conditions met for all aircraft: (18.E) <ul style="list-style-type: none"> <li>a. Are all non-military aircraft registered, certified in the appropriate category, and maintained IAW the air worthiness standard of the Federal Aviation Administration?</li> <li>b. Are all non-military aircraft equipped with a two-way radio?</li> </ul>			

# SAFETY CHECKLIST - MOTOR VEHICLES AND AIRCRAFT

	yes	no	n/a
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16. Remarks (enter actions taken)

Contractor Inspector (Signature):

Contractor QC Safety Officer Project Manager (Signature):

**1 ACCIDENT CLASSIFICATION**

PERSONNEL CLASSIFICATION	INJURY/ILLNESS/FATAL	PROPERTY DAMAGE	MOTOR VEHICLE INVOLVED	DIVING
GOVERNMENT <input type="checkbox"/> CIVILIAN <input type="checkbox"/> MILITARY	<input type="checkbox"/>	<input type="checkbox"/> FIRE INVOLVED <input type="checkbox"/> OTHER	<input type="checkbox"/>	<input type="checkbox"/>
CONTRACTOR	<input type="checkbox"/>	<input type="checkbox"/> FIRE INVOLVED <input type="checkbox"/> OTHER	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> PUBLIC	<input type="checkbox"/> FATAL <input type="checkbox"/> OTHER	X	<input type="checkbox"/>	X

**2 PERSONAL DATA**

a. NAME (Last, First, MI) \_\_\_\_\_ b. AGE \_\_\_\_\_ c. SEX  MALE  FEMALE d. SOCIAL SECURITY NUMBER \_\_\_\_\_ e. GRADE \_\_\_\_\_

f. JOB SERIES/TITLE \_\_\_\_\_ g. DUTY STATUS AT TIME OF ACCIDENT  ON DUTY  TDY  OFF DUTY

h. EMPLOYMENT STATUS AT TIME OF ACCIDENT

ARMY ACTIVE     ARMY RESERVE     VOLUNTEER  
 PERMANENT     FOREIGN NATIONAL     SEASONAL  
 TEMPORARY     STUDENT  
 OTHER (Specify) \_\_\_\_\_

**3 GENERAL INFORMATION**

a. DATE OF ACCIDENT (month/day/year) \_\_\_\_\_ b. TIME OF ACCIDENT (Military time) \_\_\_\_\_ c. EXACT LOCATION OF ACCIDENT \_\_\_\_\_ d. CONTRACTOR'S NAME (1) PRIME (2) SUBCONTRACTOR \_\_\_\_\_

e. CONTRACT NUMBER \_\_\_\_\_ f. TYPE OF CONTRACT  CONSTRUCTION  SERVICE  A/E  DREDGE  OTHER (Specify) \_\_\_\_\_ g. HAZARDOUS/TOXIC WASTE ACTIVITY  SUPERFUND  DERP  IRP  OTHER (Specify) \_\_\_\_\_

**4 CONSTRUCTION ACTIVITIES ONLY (Fill in line and corresponding code number in box from list - see instructions)**

a. CONSTRUCTION ACTIVITY (CODE) # \_\_\_\_\_ b. TYPE OF CONSTRUCTION EQUIPMENT (CODE) # \_\_\_\_\_

**5 INJURY / ILLNESS INFORMATION (Include name on line and corresponding code number in box for items e, f & g - see instructions)**

SEVERITY OF ILLNESS / INJURY (CODE) # \_\_\_\_\_ b. ESTIMATED DAYS LOST \_\_\_\_\_ c. ESTIMATED DAYS HOSPITALIZED \_\_\_\_\_ d. ESTIMATED DAYS RESTRICTED DUTY \_\_\_\_\_

e. BODY PART AFFECTED (CODE) # \_\_\_\_\_ g. TYPE AND SOURCE OF INJURY/ILLNESS (CODE) # \_\_\_\_\_

PRIMARY \_\_\_\_\_ TYPE \_\_\_\_\_

SECONDARY \_\_\_\_\_ SOURCE \_\_\_\_\_

f. NATURE OF ILLNESS / INJURY (CODE) # \_\_\_\_\_

**6 PUBLIC FATALITY (Fill in line and corresponding code number in box - see instructions)**

a. ACTIVITY AT TIME OF ACCIDENT (CODE) # \_\_\_\_\_ b. PERSONAL FLOATATION DEVICE USED?  YES  NO  N/A

**7 MOTOR VEHICLE ACCIDENT**

a. TYPE OF VEHICLE	b. TYPE OF COLLISION	c. SEAT BELTS		
<input type="checkbox"/> PICKUP/VAN <input type="checkbox"/> AUTOMOBILE <input type="checkbox"/> TRUCK <input type="checkbox"/> OTHER (Specify) _____	<input type="checkbox"/> SIDE SWIPE <input type="checkbox"/> HEAD ON <input type="checkbox"/> REAR END <input type="checkbox"/> BROADSIDE <input type="checkbox"/> ROLL OVER <input type="checkbox"/> BACKING <input type="checkbox"/> OTHER (Specify) _____	USED	NOT USED	NOT AVAILABLE
		(1) FRONT SEAT		
		(2) REAR SEAT		

**8 PROPERTY/MATERIAL INVOLVED**

a. NAME OF ITEM	b. OWNERSHIP	c. \$ AMOUNT OF DAMAGE
(1) _____	_____	_____
(2) _____	_____	_____
(3) _____	_____	_____

**9 VESSEL / FLOATING PLANT ACCIDENT (Fill in line and corresponding code number in box from list - see instructions)**

a. TYPE OF VESSEL/FLOATING PLANT (CODE) # \_\_\_\_\_ b. TYPE OF COLLISION/MISHAP (CODE) # \_\_\_\_\_

**ACCIDENT DESCRIPTION (Use additional paper, if necessary)**

\_\_\_\_\_

a (Explain YES answers in item 13)

	YES	NO
DESIGN: Was design of facility, workplace or equipment a factor?	<input type="checkbox"/>	<input type="checkbox"/>
INSPECTION/MAINTENANCE: Were inspection & maintenance procedures a factor?	<input type="checkbox"/>	<input type="checkbox"/>
PERSON'S PHYSICAL CONDITION: In your opinion, was the physical condition of the person a factor?	<input type="checkbox"/>	<input type="checkbox"/>
OPERATING PROCEDURES: Were operating procedures a factor?	<input type="checkbox"/>	<input type="checkbox"/>
JOB PRACTICES: Were any job safety/health practices not followed when the accident occurred?	<input type="checkbox"/>	<input type="checkbox"/>
HUMAN FACTORS: Did any human factors such as, size or strength of person, etc., contribute to accident?	<input type="checkbox"/>	<input type="checkbox"/>
ENVIRONMENTAL FACTORS: Did heat, cold, dust, sun, glare, etc., contribute to the accident?	<input type="checkbox"/>	<input type="checkbox"/>

b. (CONTINUED)

	YES	NO
CHEMICAL AND PHYSICAL AGENT FACTORS: Did exposure to chemical agents, such as dust, fumes, mists, vapors or physical agents, such as, noise, radiation, etc., contribute to accident?	<input type="checkbox"/>	<input type="checkbox"/>
OFFICE FACTORS: Did office setting such as, lifting office furniture, carrying, stooping, etc., contribute to the accident?	<input type="checkbox"/>	<input type="checkbox"/>
SUPPORT FACTORS: Were inappropriate tools/resources provided to properly perform the activity/task?	<input type="checkbox"/>	<input type="checkbox"/>
PERSONAL PROTECTIVE EQUIPMENT: Did the improper selection, use or maintenance of personal protective equipment contribute to the accident?	<input type="checkbox"/>	<input type="checkbox"/>
DRUGS/ALCOHOL: In your opinion, was drugs or alcohol a factor to the accident?	<input type="checkbox"/>	<input type="checkbox"/>

b. WAS A WRITTEN JOB/ACTIVITY HAZARD ANALYSIS COMPLETED FOR TASK BEING PERFORMED AT TIME OF ACCIDENT?

YES (If yes, attach a copy.)  NO

12 TRAINING

a. WAS PERSON TRAINED TO PERFORM ACTIVITY/TASK? <input type="checkbox"/> YES <input type="checkbox"/> NO	b. TYPE OF TRAINING. <input type="checkbox"/> CLASSROOM <input type="checkbox"/> ON JOB	c. DATE OF MOST RECENT FORMAL TRAINING. ____/____/____ (Month) (Day) (Year)
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13 FULLY EXPLAIN WHAT ALLOWED OR CAUSED THE ACCIDENT; INCLUDE DIRECT AND INDIRECT CAUSES (See instruction for definition of direct and indirect causes) (Use additional paper, if necessary)

a. DIRECT CAUSE

b. INDIRECT CAUSE(S)

14 ACTION(S) TAKEN ANTICIPATED OR RECOMMENDED TO ELIMINATE CAUSE(S).

DESCRIBE FULLY

DATES FOR ACTIONS IDENTIFIED IN BLOCK 14.

a. BEGINNING (Month/Day/Year) ____/____/____	b. ANTICIPATED COMPLETION (Month/Day/Year) ____/____/____
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c. SIGNATURE AND TITLE OF SUPERVISOR COMPLETING REPORT CORPS _____ CONTRACTOR _____	d. DATE (Mo/Da/Yr) ____/____/____	e. ORGANIZATION IDENTIFIER (Div, Br, Sect)	f. OFFICE SYMBOL
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16 MANAGEMENT REVIEW (1st).

a.  CONCUR b.  NON CONCUR c. COMMENTS

SIGNATURE	TITLE	DATE
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17 MANAGEMENT REVIEW (2nd - Chief Operations, Construction, Engineering, etc.)

a.  CONCUR b.  NON CONCUR c. COMMENTS

SIGNATURE	TITLE	DATE
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18 SAFETY AND OCCUPATIONAL HEALTH OFFICE REVIEW

a.  CONCUR b.  NON CONCUR c. ADDITIONAL ACTIONS/COMMENTS.

SIGNATURE	TITLE	DATE
-----------	-------	------

19 COMMAND APPROVAL

MENTS

COMMANDER SIGNATURE	DATE
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**GENERAL.** Complete a separate report for each person who was injured, caused, or contributed to the accident (excluding uninjured personnel and witnesses). Use of this form for reporting USACE employee first-aid type injuries not submitted to the Office of Workers' Compensation Programs (OWCP) shall be at the discretion of the FOA commander. Please type or print legibly. Appropriate items shall be marked with an "X" in box(es). If additional space is needed, provide information on a separate sheet and attach to the completed form. That these instructions are forwarded with the completed report to the designated management reviewers indicated in sections 16 and 17.

**INSTRUCTIONS FOR SECTION 1 – ACCIDENT CLASSIFICATION.** (Mark All Boxes That Are Applicable.)

- a. **GOVERNMENT.** Mark "CIVILIAN" box if accident involved government civilian employee; mark "MILITARY" box if accident involved U.S. military personnel.
  - (1) **INJURY/ILLNESS/FATALITY** – Mark if accident resulted in any government civilian employee injury, illness, or fatality that requires the submission of OWCP Forms CA-1 (injury), CA-2 (illness), or CA-6 (fatality) to OWCP; mark if accident resulted in military personnel lost-time or fatal injury or illness.
  - (2) **PROPERTY DAMAGE** – Mark the appropriate box if accident resulted in any damage of \$1000 or more to government property (including motor vehicles).
  - (3) **VEHICLE INVOLVED** – Mark if accident involved a motor vehicle, regardless of whether "INJURY/ILLNESS/FATALITY" or "PROPERTY DAMAGE" are marked.
  - (4) **DIVING ACTIVITY** – Mark if the accident involved an in-house USACE diving activity.
- b. **CONTRACTOR.**
  - (1) **INJURY/ILLNESS/FATALITY** – Mark if accident resulted in any contractor lost-time injury/illness or fatality.
  - (2) **PROPERTY DAMAGE** – Mark the appropriate box if accident resulted in any damage of \$1000 or more to contractor property (including motor vehicles).
  - (3) **VEHICLE INVOLVED** – Mark if accident involved a motor vehicle, regardless of whether "INJURY/ILLNESS/FATALITY" or "PROPERTY DAMAGE" are marked.
  - (4) **DIVING ACTIVITY** – Mark if the accident involved a USACE Contractor diving activity.
- c. **PUBLIC.**
  - (1) **INJURY/ILLNESS/FATALITY** – Mark if accident resulted in public fatality or permanent total disability. (The "OTHER" box will be marked when requested by the FOA to report an unusual non-fatal public accident that could result in claims against the government or as otherwise directed by the FOA Commander).
  - (2) **VOID SPACE** – Make no entry.
  - (3) **VEHICLE INVOLVED** – Mark if accident resulted in a fatality to a member of the public and involved a motor vehicle, regardless of whether "INJURY/ILLNESS/FATALITY" is marked.
  - (4) **VOID SPACE** – Make no entry.

**INSTRUCTIONS FOR SECTION 2 – PERSONAL DATA**

- a. **NAME** – (MANDATORY FOR GOVERNMENT ACCIDENTS. OPTIONAL AT THE DISCRETION OF THE FOA COMMANDER FOR CONTRACTOR AND PUBLIC ACCIDENTS). Enter last name, first name, middle initial of person involved.
- b. **AGE** – Enter age.
- c. **SEX** – Mark appropriate box.
- d. **SOCIAL SECURITY NUMBER** – (FOR GOVERNMENT PERSONNEL ONLY) Enter the social security number (or other personal identification number if no social security number issued).
- e. **GRADE** – (FOR GOVERNMENT PERSONNEL ONLY) Enter pay grade. Example: O-6; E-7; WG-8; WS-12; GS-11; etc.

- f. **JOB SERIES/TITLE** – For government civilian employees enter the pay plan, full series number, and job title, e.g. GS-0810/Civil Engineer. For military personnel enter the primary military occupational specialty (PMOS), e.g., 15A30 or 11G50. For contractor employees enter the job title assigned to the injured person, e.g. carpenter, laborer, surveyor, etc..
- g. **DUTY STATUS** – Mark the appropriate box.
  - (1) **ON DUTY** – Person was at duty station during duty hours or person was away from duty station during duty hours but on official business at time of the accident.
  - (2) **TDY** - Person was on official business, away from the duty station and with travel orders at time of accident. Line-of-duty investigation required.
  - (3) **OFF DUTY** - Person was not on official business at time of accident
- h. **EMPLOYMENT STATUS** – (FOR GOVERNMENT PERSONNEL ONLY) Mark the most appropriate box. If "OTHER" is marked, specify the employment status of the person.

**INSTRUCTION FOR SECTION 3 – GENERAL INFORMATION**

- a. **DATE OF ACCIDENT** – Enter the month, day, and year of accident.
- b. **TIME OF ACCIDENT** – Enter the local time of accident in military time. Example: 1430 hrs (not 2:30 p.m.).
- c. **EXACT LOCATION OF ACCIDENT** – Enter facts needed to locate the accident scene. (installation/project name, building number, street, direction and distance from closest landmark, etc..).
- d. **CONTRACTOR NAME**
  - (1) **PRIME** – Enter the exact name (title of firm) of the prime contractor.
  - (2) **SUBCONTRACTOR** – Enter the name of any subcontractor involved in the accident.
- e. **CONTRACT NUMBER** – Mark the appropriate box to identify if contract is civil works, military, or other; if "OTHER" is marked, specify contract appropriation on line provided. Enter complete contract number of prime contract, e.g., DACW 09-85-C-0100.
- f. **TYPE OF CONTRACT** – Mark appropriate box. A/E means architect/engineer. If "OTHER" is marked, specify type of contract on line provided.
- g. **HAZARDOUS/TOXIC WASTE ACTIVITY (HTW)** – Mark the box to identify the HTW activity being performed at the time of the accident. For Superfund, DERP, and Installation Restoration Program (IRP) HTW activities include accidents that occurred during inventory, predesign, design, and construction. For the purpose of accident reporting, DERP Formerly Used DoD Site (FUDS) activities and IRP activities will be treated separately. For Civil Works O&M HTW activities mark the "OTHER" box.

**INSTRUCTIONS FOR SECTION 4 – CONSTRUCTION ACTIVITIES**

- a. **CONSTRUCTION ACTIVITY** – Select the most appropriate construction activity being performed at time of accident from the list below. Enter the activity name and place the corresponding code number identified in the box.

**CONSTRUCTION ACTIVITY LIST**

- |                         |                            |
|-------------------------|----------------------------|
| 1. MOBILIZATION         | 14. ELECTRICAL             |
| 2. SITE PREPARATION     | 15. SCAFFOLDING/ACCESS     |
| 3. EXCAVATION/TRENCHING | 16. MECHANICAL             |
| 4. GRADING (EARTHWORK)  | 17. PAINTING               |
| 5. PIPING/UTILITIES     | 18. EQUIPMENT/MAINTENANCE  |
| 6. FOUNDATION           | 19. TUNNELING              |
| 7. FORMING              | 20. WAREHOUSING/STORAGE    |
| 8. CONCRETE PLACEMENT   | 21. PAVING                 |
| 9. STEEL ERECTION       | 22. FENCING                |
| 10. ROOFING             | 23. SIGNING                |
| 11. FRAMING             | 24. LANDSCAPING/IRRIGATION |
| 12. MASONRY             | 25. INSULATION             |
| 13. CARPENTRY           | 26. DEMOLITION             |

b. TYPE OF CONSTRUCTION EQUIPMENT — Select the equipment involved in the accident from the list below. Enter the name and place the corresponding code number identified in the box. If equipment is not included below, use code 24, "OTHER", and write in specific type of equipment.

**CONSTRUCTION EQUIPMENT**

- |                                    |                                |
|------------------------------------|--------------------------------|
| GRADER                             | 13. DUMP TRUCK (OFF HIGHWAY)   |
| DRAGLINE                           | 14. TRUCK (OTHER)              |
| 3. CRANE (ON VESSEL/BARGE)         | 15. FORKLIFT                   |
| 4. CRANE (TRACKED)                 | 16. BACKHOE                    |
| 5. CRANE (RUBBER TIRE)             | 17. FRONT-END LOADER           |
| 6. CRANE (VEHICLE MOUNTED)         | 18. PILE DRIVER                |
| 7. CRANE (TOWER)                   | 19. TRACTOR (UTILITY)          |
| 8. SHOVEL                          | 20. MANLIFT                    |
| 9. SCRAPER                         | 21. DOZER                      |
| 10. PUMP TRUCK (CONCRETE)          | 22. DRILL RIG                  |
| 11. TRUCK (CONCRETE/TRANSIT MIXER) | 23. COMPACTOR/VIBRATORY ROLLER |
| 12. DUMP TRUCK (HIGHWAY)           | 24. OTHER                      |

**INSTRUCTIONS FOR SECTION 5 — INJURY/ILLNESS INFORMATION**

a. SEVERITY OF INJURY / ILLNESS - Reference para 2-10 of USACE Suppl 1 to AR 385-40 and enter code and description from list below.

- |     |   |
|-----|---|
| NOI | NO INJURY                                       |
| FAT | FATALITY  |
| PTL | PERMANENT TOTAL DISABILITY                      |
| PPR | PERMANENT PARTIAL DISABILITY                    |
| LWD | LOST WORKDAY CASE INVOLVING DAYS AWAY FROM WORK |
| NLW | RECORDABLE CASE WITHOUT LOST WORKDAYS           |
| RFA | RECORDABLE FIRST AID CASE                       |
| NRI | NON-RECORDABLE INJURY                           |

b. ESTIMATED DAYS LOST — Enter the estimated number of workdays the person will lose from work.

ESTIMATED DAYS HOSPITALIZED — Enter the estimated number of workdays the person will be hospitalized.

d. ESTIMATED DAYS RESTRICTED DUTY — Enter the estimated number of workdays the person, as a result of the accident, will not be able to perform all of their regular duties.

e. BODY PART AFFECTED — Select the most appropriate primary and when applicable, secondary body part affected from the list below. Enter body part name on line and place the corresponding code letters identifying that body part in the box.

GENERAL BODY AREA	CODE	BODY PART NAME
ARM/WRIST	AB	ARM AND WRIST
	AS	ARM OR WRIST
TRUNK, EXTERNAL MUSCULATURE	B1	SINGLE BREAST
	B2	BOTH BREASTS
	B3	SINGLE TESTICLE
	B4	BOTH TESTICLES
	BA	ABDOMEN
	BC	CHEST
	BL	LOWER BACK
	BP	PENIS
	BS	SIDE
	BU	UPPER BACK
	BW	WAIST
	BZ	TRUNK OTHER
HEAD, INTERNAL	C1	SINGLE EAR INTERNAL
	C2	BOTH EARS INTERNAL
	C3	SINGLE EYE INTERNAL
	C4	BOTH EYES INTERNAL
	CB	BRAIN
	CC	CRANIAL BONES
	CD	TEETH
	CJ	JAW
	CL	THROAT, LARYNX
	CM	MOUTH

ELBOW

FINGER

TOE

HEAD, EXTERNAL

KNEE

LEG, HIP, ANKLE, BUTTOCK

HAND

FOOT

TRUNK, BONES

SHOULDER

THUMB

TRUNK, INTERNAL ORGANS

f. NATURE OF INJURY/ILLNESS - Select the most appropriate nature of injury / illness from the list below. This nature of injury / illness shall correspond to the primary body part selected in 5e, above. Enter the nature of injury / illness name on the line and place the corresponding CODE letters in the box provided.

CN	NOSE
CR	THROAT, OTHER
CT	TONGUE
CZ	HEAD OTHER INTERNAL
EB	BOTH ELBOWS
ES	SINGLE ELBOW
F1	FIRST FINGER
F2	BOTH FIRST FINGERS
F3	SECOND FINGER
F4	BOTH SECOND FINGERS
F5	THIRD FINGER
F6	BOTH THIRD FINGERS
F7	FOURTH FINGER
F8	BOTH FOURTH FINGERS
G1	GREAT TOE
G2	BOTH GREAT TOES
G3	TOE OTHER
G4	TOES OTHER
H1	EYE EXTERNAL
H2	BOTH EYES EXTERNAL
H3	EAR EXTERNAL
H4	BOTH EARS EXTERNAL
HC	CHIN
HF	FACE
HK	NECK/THROAT
HM	MOUTH/LIPS
HN	NOSE
HS	SCALP
KB	BOTH KNEES
KS	KNEE
LB	BOTH LEGS/HIPS/ ANKLES/BUTTOCKS
LS	SINGLE LEG/HIP ANKLE/BUTTOCK
MB	BOTH HANDS
MS	SINGLE HAND
PB	BOTH FEET
PS	SINGLE FOOT
R1	SINGLE COLLAR BONE
R2	BOTH COLLAR BONES
R3	SHOULDER BLADE
R4	BOTH SHOULDER BLADES
RB	RIB
RS	STERNUM (BREAST BONE)
RV	VERTEBRAE (SPINE, DISC)
RZ	TRUNK BONES OTHER
SB	BOTH SHOULDERS
SS	SINGLE SHOULDER
TB	BOTH THUMBS
TS	SINGLE THUMB
V1	LUNG, SINGLE
V2	LUNGS, BOTH
V3	KIDNEY, SINGLE
V4	KIDNEYS, BOTH
VH	HEART
VL	LIVER
VR	REPRODUCTIVE ORGANS
VS	STOMACH
VV	INTESTINES
VZ	TRUNK, INTERNAL, OTHER

• The injury or condition selected below must be caused by a specific incident or event which occurred during a single work day or shift.

GENERAL NATURE CATEGORY	CODE	NATURE OF INJURY NAME
*TRAUMATIC INJURY OR DISABILITY	TA	AMPUTATION
	TB	BACK STRAIN.
	TC	CONTUSION; BRUISE; ABRASION
	TD	DISLOCATION
	TF	FRACTURE
	TH	HERNIA
	TK	CONCUSSION
	TL	LACERATION, CUT
	TP	PUNCTURE
	TS	STRAIN, MULTIPLE
	TU	BURN, SCALD, SUNBURN
	TI	TRAUMATIC SKIN DISEASES/ CONDITIONS INCLUDING DERMATITIS
	TR	TRAUMATIC RESPIRATORY DISEASE
	TQ	TRAUMATIC FOOD POISONING
	TW	TRAUMATIC TUBERCULOSIS
	TX	TRAUMATIC VIROLOGICAL/ INFECTIVE/PARASITIC DISEASE
	T1	TRAUMATIC CEREBRAL VASCULAR CONDITION/STROKE
T2	TRAUMATIC HEARING LOSS	
T3	TRAUMATIC HEART CONDITION	
T4	TRAUMATIC MENTAL DISORDER, STRESS, NERVOUS CONDITION	
T8	TRAUMATIC INJURY — OTHER (EXCEPT DISEASE, ILLNESS)	

\*\*A nontraumatic physiological harm or loss of capacity produced by systemic infection; continued or repeated stress or strain; exposure to toxins, poisons, fumes, etc.; or other continued and repeated exposures to conditions of the work environment over a long period of time. For practical purposes, an occupational illness/disease or disability is any reported condition which does not meet the definition of traumatic injury or disability as described above.

GENERAL NATURE CATEGORY	CODE	NATURE OF INJURY NAME
**NON-TRAUMATIC ILLNESS/DISEASE OR DISABILITY		
RESPIRATORY DISEASE	RA	ASBESTOSIS
	RB	BRONCHITIS
	RE	EMPHYSEMA
	RP	PNEUMOCONIOSIS
	RS	SILICOSIS
	R9	RESPIRATORY DISEASE, OTHER
VIROLOGICAL, INFECTIVE & PARASITIC DISEASES	VB	BRUCELOSIS
	VC	COCCIDIOMYCOSIS
	VF	FOOD POISONING
	VH	HEPATITIS
	VM	MALARIA
	VS	STAPHYLOCOCCUS
	VT	TUBERCULOSIS
	V9	VIROLOGICAL/INFECTIVE/ PARASITIC — OTHER
	DISABILITY, OCCUPATIONAL	DA
DB		BACK STRAIN, BACK SPRAIN
DC		CEREBRAL VASCULAR CONDITION; STROKE
DD		ENDEMIC DISEASE (OTHER THAN CODE TYPES R&S)
DE		EFFECT OF ENVIRONMENTAL CONDITION
DH		HEARING LOSS
DK		HEART CONDITION
DM		MENTAL DISORDER, EMOTIONAL STRESS NERVOUS CONDITION
DR		RADIATION
DS		STRAIN, MULTIPLE
DU		ULCER
DV		OTHER VASCULAR CONDITIONS
D9		DISABILITY, OTHER

**GENERAL NATURE CATEGORY**      **NATURE OF INJURY CODE NAME**

SKIN DISEASE OR CONDITION	SB	BIOLOGICAL
	SC	CHEMICAL
	S9	DERMATITIS, UNCLASSIFIED

g. **TYPE AND SOURCE OF INJURY/ILLNESS (CAUSE)** - Type and Source Codes are used to describe what caused the incident. The Type Code stands for an ACTION and the Source Code for an OBJECT or SUBSTANCE. Together, they form a brief description of how the incident occurred. Where there are two different sources, code the initiating source of the incident (see example 1, below). Examples.

(1) An employee tripped on carpet and struck his head on a desk.  
TYPE: 210 (fell on same level)      SOURCE: 0110 (walking/working surface)

NOTE: This example would NOT be coded 120 (struck against) and 0140 (furniture).

(2) A Park Ranger contracted dermatitis from contact with poison ivy/oak.  
TYPE: 510 (contact)      SOURCE: 0920 (plant)

(3) A lock and dam mechanic punctured his finger with a metal sliver while grinding a turbine blade.  
TYPE: 410 (punctured by)      SOURCE: 0830 (metal)

(4) An employee was driving a government vehicle when it was struck by another vehicle..  
TYPE: 800 (traveling in)      SOURCE: 0421 (government-owned vehicle, as driver)

NOTE: The Type Code 800, "Traveling In" is different from the other type codes in that its function is not to identify factors contributing to the injury or fatality, but rather to collect data on the type of vehicle the employee was operating or traveling in at the time of the incident.

Select the most appropriate TYPE and SOURCE identifier from the list below and enter the name on the line and the corresponding code in the appropriate box.

CODE	TYPE OF INJURY NAME
	STRUCK
0110	STRUCK BY
0111	STRUCK BY FALLING OBJECT
0120	STRUCK AGAINST
	FELL, SLIPPED, TRIPPED
0210	FELL ON SAME LEVEL
0220	FELL ON DIFFERENT LEVEL
0230	SLIPPED, TRIPPED (NO FALL)
	CAUGHT
0310	CAUGHT ON
0320	CAUGHT IN
0330	CAUGHT BETWEEN
	PUNCTURED, LACERATED
0410	PUNCTURED BY
0420	CUT BY
0430	STUNG BY
0440	BITTEN BY
	CONTACTED
0510	CONTACTED WITH (INJURED PERSON MOVING)
0520	CONTACTED BY (OBJECT WAS MOVING)
	EXERTED
0610	LIFTED, STRAINED BY (SINGLE ACTION)
0620	STRESSED BY (REPEATED ACTION)
	EXPOSED
0710	INHALED
0720	INGESTED
0730	ABSORBED
0740	EXPOSED TO
0800	TRAVELING IN
CODE	SOURCE OF INJURY NAME
0100	BUILDING OR WORKING AREA
0110	WALKING/WORKING SURFACE (FLOOR, STREET, SIDEWALKS, ETC)
0120	STAIRS, STEPS
0130	LADDER
0140	FURNITURE, FURNISHINGS, OFFICE EQUIPMENT
0150	BOILER, PRESSURE VESSEL
0160	EQUIPMENT LAYOUT (ERGONOMIC)
0170	WINDOWS, DOORS
0180	ELECTRICITY

CODE	SOURCE OF INJURY NAME
0200	ENVIRONMENTAL CONDITION
0210	TEMPERATURE EXTREME (INDOOR)
0220	WEATHER (ICE, RAIN, HEAT, ETC.)
0230	FIRE, FLAME, SMOKE (NOT TOBACCO)
0240	NOISE
0250	RADIATION
0260	LIGHT
0270	VENTILATION
0271	TOBACCO SMOKE
0280	STRESS (EMOTIONAL)
0290	CONFINED SPACE
0300	MACHINE OR TOOL
0310	HAND TOOL (POWERED: SAW, GRINDER, ETC.)
0320	HAND TOOL (NONPOWERED)
0330	MECHANICAL POWER TRANSMISSION APPARATUS
0340	GUARD, SHIELD (FIXED, MOVEABLE, INTERLOCK)
0350	VIDEO DISPLAY TERMINAL
0360	PUMP, COMPRESSOR, AIR PRESSURE TOOL
0370	HEATING EQUIPMENT
0380	WELDING EQUIPMENT
0400	VEHICLE
0411	AS DRIVER OF PRIVATELY OWNED/RENTAL VEHICLE
0412	AS PASSENGER OF PRIVATELY OWNED/RENTAL VEHICLE
0421	DRIVER OF GOVERNMENT VEHICLE
0422	PASSENGER OF GOVERNMENT VEHICLE
0430	COMMON CARRIER (AIRLINE, BUS, ETC.)
0440	AIRCRAFT (NOT COMMERCIAL)
0450	BOAT, SHIP, BARGE
0500	MATERIAL HANDLING EQUIPMENT
0510	EARTHMOVER (TRACTOR, BACKHOE, ETC.)
0520	CONVEYOR (FOR MATERIAL AND EQUIPMENT)
0530	ELEVATOR, ESCALATOR, PERSONNEL HOIST
0540	HOIST, SLING CHAIN, JACK
0550	CRANE
0551	FORKLIFT
0560	HANDTRUCK, DOLLY
0600	DUST, VAPOR, ETC.
0610	DUST (SILICA, COAL, ETC.)
0620	FIBERS
0621	ASBESTOS
0630	GASES
0631	CARBON MONOXIDE
0640	MIST, STEAM, VAPOR, FUME
0641	WELDING FUMES
0650	PARTICLES (UNIDENTIFIED)
0700	CHEMICAL, PLASTIC, ETC.
0711	DRY CHEMICAL—CORROSIVE
0712	DRY CHEMICAL—TOXIC
0713	DRY CHEMICAL—EXPLOSIVE
0714	DRY CHEMICAL—FLAMMABLE
0721	LIQUID CHEMICAL—CORROSIVE
0722	LIQUID CHEMICAL—TOXIC
0723	LIQUID CHEMICAL—EXPLOSIVE
0724	LIQUID CHEMICAL—FLAMMABLE
0730	PLASTIC
0740	WATER
0750	MEDICINE
0800	INANIMATE OBJECT
0810	BOX, BARREL, ETC.
0820	PAPER
0830	METAL ITEM, MINERAL
0831	NEEDLE
0840	GLASS
0850	SCRAP, TRASH
0860	WOOD
0870	FOOD
0880	CLOTHING, APPAREL, SHOES
0900	ANIMATE OBJECT
0911	DOG
0912	OTHER ANIMAL
0920	PLANT
0930	INSECT
0940	HUMAN (VIOLENCE)
0950	HUMAN (COMMUNICABLE DISEASE)
0960	BACTERIA, VIRUS (NOT HUMAN CONTACT)

CODE	SOURCE OF INJURY NAME
1000	PERSONAL PROTECTIVE EQUIPMENT
1010	PROTECTIVE CLOTHING, SHOES, GLASSES, GOGGLES
1020	RESPIRATOR, MASK
1021	DIVING EQUIPMENT
1030	SAFETY BELT, HARNESS
1040	PARACHUTE

## INSTRUCTIONS FOR SECTION 6 — PUBLIC FATALITY

- a. **ACTIVITY AT TIME OF ACCIDENT** — Select the activity being performed at the time of the accident from the list below. Enter the activity name on the line and the corresponding number in the box. If the activity performed is not identified on the list, select from the most appropriate primary activity area (water related, non-water related or other activity), the code number for "Other", and write in the activity being performed at the time of the accident.

### WATER RELATED RECREATION

- |                                   |  |
|-----------------------------------|--|
| 1. Sailing                        | 9. Swimming/designated area                          |
| 2. Boating—powered                | 10. Swimming/other area                              |
| 3. Boating—unpowered              | 11. Underwater activities (skin diving, scuba, etc.) |
| 4. Water skiing                   | 12. Wading   |
| 5. Fishing from boat              | 13. Attempted rescue                                 |
| 6. Fishing from bank dock or pier | 14. Hunting from boat                                |
| 7. Fishing while wading           | 15. Other  |
| 8. Swimming/supervised area       |  |

### NON-WATER RELATED RECREATION

- |  |   |
|--|---|
| 16. Hiking and walking                   | 23. Sports/summer (baseball, football, etc.)            |
| 17. Climbing (general)                   | 24. Sports/winter (skiing, sledding, snowmobiling etc.) |
| 18. Camping/picnicking authorized area   | 25. Cycling (bicycle, motorcycle, scooter)              |
| 19. Camping/picnicking unauthorized area | 26. Gliding   |
| 20. Guided tours                         | 27. Parachuting   |
| 21. Hunting                              | 28. Other non-water related                             |
| 22. Playground equipment                 |   |

### OTHER ACTIVITIES

- |  |                                  |
|--|----------------------------------|
| 29. Unlawful acts (fights, nts, vandalism, etc.) | 33. Sleeping                     |
| 30. Food preparation/serving                     | 34. Pedestrian struck by vehicle |
| 31. Food consumption                             | 35. Pedestrian other acts        |
| 32. Housekeeping                                 | 36. Suicide                      |
|  | 37. "Other" activities           |

- b. **PERSONAL FLOTATION DEVICE USED** — If fatality was water-related was the victim wearing a person flotation device? Mark the appropriate box.

## INSTRUCTIONS FOR SECTION 7 — MOTOR VEHICLE ACCIDENT

- a. **TYPE OF VEHICLE** — Mark appropriate box for each vehicle involved. If more than one vehicle of the same type is involved, mark both halves of the appropriate box. USACE vehicle(s) involved shall be marked in left half of appropriate box.
- b. **TYPE OF COLLISION** — Mark appropriate box.
- c. **SEAT BELT** — Mark appropriate box.

## INSTRUCTIONS FOR SECTION 8 — PROPERTY/MATERIAL INVOLVED

- a. **NAME OF ITEM** — Describe all property involved in accident. Property/material involved means material which is damaged or whose use or misuse contributed to the accident. Include the name, type, model; also include the National Stock Number (NSN) whenever applicable.
- b. **OWNERSHIP** — Enter ownership for each item listed. (Enter one of the following: USACE; OTHER GOVERNMENT; CONTRACTOR; PRIVATE)
- c. **\$ AMOUNT OF DAMAGE** — Enter the total estimated dollar amount of damage (parts and labor), if any.

## INSTRUCTIONS FOR SECTION 9—VESSEL/ FLOATING PLANT ACCIDENT

- a. **TYPE OF VESSEL/FLOATING PLANT**—Select the most appropriate vessel/floating plant from list below. Enter name and place corresponding number in box. If item is not listed below, enter item number for "OTHER" and write in specific type of vessel/floating plant.

### VESSEL/FLOATING PLANTS

- |                        |                            |
|------------------------|----------------------------|
| 1. ROW BOAT            | 7. DREDGE/DIPPER           |
| 2. SAIL BOAT           | 8. DREDGE/CLAMSHELL BUCKET |
| 3. MOTOR BOAT          | 9. DREDGE/PIPE LINE        |
| 4. BARGE               | 10. DREDGE/DUST PAN        |
| 5. DREDGE/HOPPER       | 11. TUG BOAT               |
| 6. DREDGE/SIDE CASTING | 12. OTHER                  |

- b. **COLLISION/MISHAP**—Select from the list below the object(s) that contributed to the accident or were damaged in the accident.

### COLLISION/MISHAP

- |                             |                       |
|-----------------------------|-----------------------|
| 1. COLLISION W/OTHER VESSEL | 7. HAULAGE UNIT       |
| 2. UPPER GUIDE WALL         | 8. BREAKING TOW       |
| 3. UPPER LOCK GATES         | 9. TOW BREAKING UP    |
| 4. LOCK WALL                | 10. SWEEP DOWN ON DAM |
| 5. LOWER LOCK GATES         | 11. BUOY/DOLPHIN/CELL |
| 6. LOWER GUIDE WALL         | 12. WHARF OR DOCK     |
|                             | 13. OTHER             |

## INSTRUCTIONS FOR SECTION 10—ACCIDENT DESCRIPTION

**DESCRIBE ACCIDENT**—Fully describe the accident. Give the sequence of events that describe what happened leading up to and including the accident. Fully identify personnel and equipment involved and their role(s) in the accident. Ensure that relationships between personnel and equipment are clearly specified. Continue on blank sheets if necessary and attach to this report.

## INSTRUCTIONS FOR SECTION 11—CAUSAL FACTORS

- a. Review thoroughly. Answer each question by marking the appropriate block. If any answer is yes, explain in item 13 below. Consider, as a minimum, the following:

- (1) **DESIGN**—Did inadequacies associated with the building or work site play a role? Would an improved design or layout of the equipment or facilities reduce the likelihood of similar accidents? Were the tools or other equipment designed and intended for the task at hand?
- (2) **INSPECTION/MAINTENANCE**—Did inadequately or improperly maintained equipment, tools, workplace, etc. create or worsen any hazards that contributed to the accident? Would better equipment, facility, work site or work activity inspections have helped avoid the accident?
- (3) **PERSON'S PHYSICAL CONDITION**—Do you feel that the accident would probably not have occurred if the employee was in "good" physical condition? If the person involved in the accident had been in better physical condition, would the accident have been less severe or avoided altogether? Was over exertion a factor?
- (4) **OPERATING PROCEDURES**—Did a lack of or inadequacy within established operating procedures contribute to the accident? Did any aspect of the procedures introduce any hazard to, or increase the risk associated with the work process? Would establishment or improvement of operating procedures reduce the likelihood of similar accidents?
- (5) **JOB PRACTICES**—Were any of the provisions of the Safety and Health Requirements Manual (EM 385-1-1) violated? Was the task being accomplished in a manner which was not in compliance with an established job hazard analysis or activity hazard analysis? Did any established job practice (including EM 385-1-1) fail to adequately address the task or work process? Would better job practices improve the safety of the task?

- (6) **HUMAN FACTORS**—Was the person under undue stress (either internal or external to the job)? Did the task tend toward overloading the capabilities of the person; i.e., did the job require tracking and reacting to many external inputs such as displays, alarms, or signals? Did the arrangement of the workplace tend to interfere with efficient task performance? Did the task require reach, strength, endurance, agility, etc., at or beyond the capabilities of the employee? Was the work environment ill-adapted to the person? Did the person need more training, experience, or practice in doing the task? Was the person inadequately rested to perform safely?

- (7) **ENVIRONMENTAL FACTORS**—Did any factors such as moisture, humidity, rain, snow, sleet, hail, ice, fog, cold, heat, sun, temperature changes, wind, tides, floods, currents, dust, mud, glare, pressure changes, lightning, etc., play a part in the accident?

- (8) **CHEMICAL AND PHYSICAL AGENT FACTORS**—Did exposure to chemical agents (either single shift exposure or long-term exposure) such as dusts, fibers (asbestos, etc.), silica, gases (carbon monoxide, chlorine, etc.), mists, steam, vapors, fumes, smoke, other particulates, liquid or dry chemicals that are corrosive, toxic, explosive or flammable, by-products of combustion or physical agents such as noise, ionizing radiation, non-ionizing radiation (UV radiation created during welding, etc.) contribute to the accident/incident?

- (9) **OFFICE FACTORS**—Did the fact that the accident occurred in an office setting or to an office worker have a bearing on its cause? For example, office workers tend to have less experience and training in performing tasks such as lifting office furniture. Did physical hazards within the office environment contribute to the hazard?

- (10) **SUPPORT FACTORS**—Was the person using an improper tool for the job? Was inadequate time available or utilized to safely accomplish the task? Were less than adequate personnel resources (in terms of employee skills, number of workers, and adequate supervision) available to get the job done properly? Was funding available, utilized, and adequate to provide proper tools, equipment, personnel, site preparation, etc?

- (11) **PERSONAL PROTECTIVE EQUIPMENT**—Did the person fail to use appropriate personal protective equipment (gloves, eye protection, hard-toed shoes, respirator, etc.) for the task or environment? Did protective equipment provided or worn fail to provide adequate protection from the hazard(s)? Did lack of or inadequate maintenance of protective gear contribute to the accident?

- (12) **DRUGS/ALCOHOL**—Is there any reason to believe the person's mental or physical capabilities, judgement, etc., were impaired or altered by the use of drugs or alcohol? Consider the effects of prescription medicine and over the counter medications as well as illicit drug use. Consider the effect of drug or alcohol induced "hangovers".

- b. **WRITTEN JOB/ACTIVITY HAZARD ANALYSIS**—Was a written Job/Activity Hazard Analysis completed for the task being performed at the time of the accident? Mark the appropriate box. If one was performed, attach a copy of the analysis to the report.

## INSTRUCTIONS FOR SECTION 12—TRAINING

- a. **WAS PERSON TRAINED TO PERFORM ACTIVITY/TASK?**—For the purpose of this section "trained" means the person has been provided the necessary information (either formal and/or on-the-job (OJT) training) to competently perform the activity/task in a safe and healthful manner.
- b. **TYPE OF TRAINING**—Mark the appropriate box that best indicates the type of training; (classroom or on-the-job) that the injured person received before the accident happened.
- c. **DATE OF MOST RECENT TRAINING**—Enter the month, day, and year of the last formal training completed that covered the activity-task being performed at the time of the accident.

## INSTRUCTIONS FOR SECTION 13—CAUSES

- a. **DIRECT CAUSES**—The direct cause is that single factor which most directly lead to the accident. See examples below.
- b. **INDIRECT CAUSES**—Indirect causes are those factors which contributed to but did not directly initiate the occurrence of the accident.

Examples for section 13:

- a. Employee was dismantling scaffold and fell 12 feet from unguarded opening.  
*Direct cause:* failure to provide fall protection at elevation.  
*Indirect causes:* failure to enforce USACE safety requirements; improper training/motivation of employee (possibility that employee was not knowledgeable of USACE fall protection requirements or was lax in his attitude towards safety); failure to ensure provision of positive fall protection whenever elevated; failure to address fall protection during scaffold dismantling in phase hazard analysis.
- b. Private citizen had stopped his vehicle at intersection for red light when vehicle was struck in rear by USACE vehicle. (note USACE vehicle was in proper/safe working condition).  
*Direct cause:* failure of USACE driver to maintain control of and stop USACE vehicle within safe distance.  
*Indirect cause:* Failure of employee to pay attention to driving (defensive driving).

## INSTRUCTIONS FOR SECTION 14—ACTION TO ELIMINATE CAUSE(S)

**DESCRIPTION**—Fully describe all the actions taken, anticipated, and recommended to eliminate the cause(s) and prevent reoccurrence of similar accidents/illnesses. Continue on blank sheets of paper if necessary to fully explain and attach to the completed report form.

## INSTRUCTIONS FOR SECTION 15—DATES FOR ACTION

- a. **BEGIN DATE**—Enter the date when the corrective action(s) identified in Section 14 will begin.
- b. **COMPLETE DATE**—Enter the date when the corrective action(s) identified in Section 14 will be completed.
- c. **TITLE AND SIGNATURE**—Enter the title and signature of supervisor completing the accident report. For a GOVERNMENT employee accident/illness the immediate supervisor will complete and sign the report. For PUBLIC accidents the USACE Project Manager/Area Engineer responsible for the USACE property where the accident happened shall complete and sign the report. For CONTRACTOR accidents the Contractor's project manager shall complete and sign the report and provide to the USACE supervisor responsible for oversight of that contractor activity. This USACE Supervisor shall also sign the report. Upon entering the information required in 15.d, 15.e and 15.f below, the responsible USACE supervisor shall forward the report for management review as indicated in Section 16.
- d. **DATE SIGNED**—Enter the month, day, and year that the report was signed by the responsible supervisor.
- e. **ORGANIZATION NAME**—For GOVERNMENT employee accidents enter the USACE organization name (Division, Branch, Section, etc.) of the injured employee. For PUBLIC accidents enter the USACE organization name for the person identified in block 15.c. For CONTRACTOR accidents enter the USACE organization name for the USACE office responsible for providing contract administration oversight.

- f. **OFFICE SYMBOL**—Enter the latest complete USACE Office Symbol for the USACE organization identified in block 15.e.

## INSTRUCTIONS FOR SECTION 16—MANAGEMENT REVIEW (1st)

**1ST REVIEW**—Each USACE FOA shall determine who will provide 1st management review. The responsible USACE supervisor in section 15.c shall forward the completed report to the USACE office designated as the 1st Reviewer by the FOA. Upon receipt, the Chief of the Office shall review the completed report, mark the appropriate box, provide substantive comments, sign, date, and forward to the FOA Staff Chief (2nd review) for review and comment.

## INSTRUCTIONS FOR SECTION 17—MANAGEMENT REVIEW (2nd)

**2ND REVIEW**—The FOA Staff Chief (i.e., FOA Chief of Construction, Operations, Engineering, Planning, etc.) shall mark the appropriate box, review the completed report, provide substantive comments, sign, date, and return to the FOA Safety and Occupational Health Office.

## INSTRUCTIONS FOR SECTION 18—SAFETY AND OCCUPATIONAL HEALTH REVIEW

**3RD REVIEW**—The FOA Safety and Occupational Health Office shall review the completed report, mark the appropriate box, ensure that any inadequacies, discrepancies, etc. are rectified by the responsible supervisor and management reviewers, provide substantive comments, sign, date and forward to the FOA Commander for review, comment, and signature.

## INSTRUCTION FOR SECTION 19—COMMAND APPROVAL

**4TH REVIEW**—The FOA Commander shall (to include the person designated Acting Commander in his absence) review the completed report, comment if required, sign, date, and forward the report to the FOA Safety and Occupational Health Office. Signature authority shall not be delegated.

**ATTACHMENT II**  
**TRAINING CERTIFICATIONS**



ecology and environment, inc.

Acknowledges that

*Suzie Cantor*

has successfully completed the

## 40-HOUR BASIC HEALTH AND SAFETY TRAINING COURSE

*Thomas L. Smith*

THOMAS L. SMITH  
TRAINING MANAGER

*Douglas P. Schuessler*

DOUGLAS P. SCHUESSLER  
TRAINING COORDINATOR

*January 30, 1984*

DATE

This course has been approved by the  
United States Environmental Protection Agency  
for workers on hazardous waste sites.

# S&ME, Inc.

9751 Southern Pine Boulevard (28273)  
Post Office Box 7668  
Charlotte, NC 28241-7668  
Telephone: 704.523.4726

## CERTIFICATE OF ATTENDANCE AND SUCCESSFUL COMPLETION

### HEALTH AND SAFETY IN HAZARDOUS WASTE OPERATIONS REFRESHER TRAINING

October 2 and 3, 1997

This is to certify that

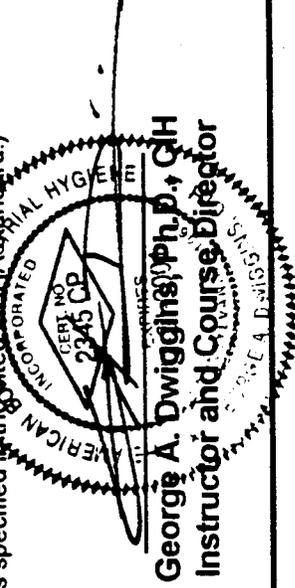
**Suzy Cantor-McKinney**  
233-94-5304

attended a refresher training session on health and safety in hazardous waste operations,  
presented by S&ME, Inc. in Charlotte, North Carolina on October 2 and 3, 1997.

(Off-site initial and refresher training sessions are not a substitute for site-specific and task-specific training required under 29 CFR 1910.120. Employers must ensure that their employees receive training applicable to their particular job and their particular workplace. Topics in which employees must be knowledgeable include site hazards, proper work practices, required personal protective equipment, and others specified in the OSHA standard.)

Certificate No. HW97100304

**SEAL IS GREEN ON THE ORIGINAL  
CERTIFICATE.**





This certifies that  
SUZY CANTOR-MCKINNEY  
has completed the requirements for  
ADULT CPR  
sponsored by

**GREATER CAROLINAS CHAPTER**

Date completed  
1-6-98

A handwritten signature in cursive script, appearing to read "Norman R. Ayers".

Chairman, American Red Cross

Instructor's Signature

A handwritten signature in cursive script, appearing to read "L. Bennett".

Holder's Signature

The American Red Cross recognizes this training as valid  
for one year from completion date.

Cert. 653212 (Jan. 1993)





This certifies that

*SUZANNE CATOR-MCKINNEY*

has completed the requirements for

**ADULT CPR**  
sponsored by

**GREATER CAROLINAS CHAPTER**

Date completed

*1-22-96*



This certifies that

*Suzanne Cator-McKinney*

has completed the

**STANDARD FIRST AID**

course of instruction sponsored by

**GREATER CAROLINAS CHAPTER**

Date course completed

*1-23-96*

# ALL-PRO

## OCCUPATIONAL TRAINERS

*certify to all that*

# YOLANDA A. HUBBARD

*Has successfully completed the requirements of*

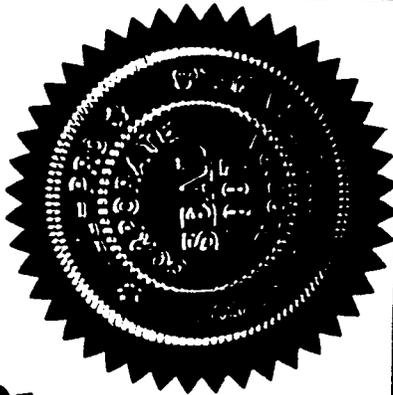
## 40 HOUR HAZWOPER

*In accordance with 29CFR1910.120(e)(3)*

  
Instructor

Date: November 21, 1997  
City or Metropolitan Area of class attended: Charlotte, NC  
Student ID#: 971121499

  
President: ALL-PRO Occupational Trainers, Inc.



Arboretum: 344-2050  
Cherryville: (704) 435-1100  
Huntersville: 344-2070  
Lawyers Road: 344-2200  
Matthews Specialty Clinic: 344-2020



Matthews Township Parkway: 344-  
Moores Chapel Road: 344-2150  
Randolph Road: 342-8130  
South Pineville-Matthews Rd.: 344-2-  
University: 344-2170

# Corporate Health Services

## Results of Medical Examination / Physician's Written Opinion

Employee Name Yolanda Williams Company Zapata Engineering  
Date of Exam 6/19/98 Job Title \_\_\_\_\_  
Exam Type:  Preplacement  Work-related injury  Non-work related injury  OSHA Recordable  
 Return to Work  Medical Surveillance  Respirator fitness  
 Other \_\_\_\_\_

For work-related conditions: DIAGNOSIS \_\_\_\_\_ TREATMENT: Rx Meds PT Other \_\_\_\_\_

Based on the result of today's medical examination (which is not intended to be comprehensive but is limited to the exam type indicated above) this employee:

- 1) Is medically qualified to perform all essential duties of the indicated job without accommodation.
- 2) Is medically qualified to perform essential duties of the indicated job but may need accommodation for those limitations which are checked:
  - Eye glasses required
  - Decreased color vision
  - Decreased depth perception
  - Decreased general vision
  - Decreased speech/communication (hearing)
  - Unable to reach overhead
  - Unable to lift overhead
  - Must wear orthopedic splint/cast
  - Limited crawling (repetitive/any)
  - Limited bending (repetitive/any)
  - Limited kneeling (repetitive/any)
  - Should not be exposed to \_\_\_\_\_ (chemical)
  - Should not wear respirator except for emergency evacuation of self
  - Cause of limitations work related  Yes  No
  - Date of return to work \_\_\_\_\_
  - Other \_\_\_\_\_
- 3) May wear properly-fitted respirator for essential duties.  Yes  No  Not examined  
Prescription eyewear to accommodate respirator.  Yes  No  
Respirator limitations \_\_\_\_\_
- 4) Based upon significant risk of substantial harm to self or other, employee **CANNOT** perform essential duties if indicated position.
- 5) Medical opinion deferred pending further testing, specialist opinion, test results, etc. Please contact us by \_\_\_\_\_ date to review employee status.

The above medical recommendations are:  Temporary - effective until \_\_\_\_\_ date of next examination  
 Permanent (until next regularly scheduled health surveillance)  
 Physical exam results are preliminary, based on hands physical examination. Final results to follow when lab, x-ray, etc. are complete.

The employee have been informed of the results of the evaluation. Examination meets OSHA-mandated standards. Please contact physician if you have any questions.

Printed Providers Name \_\_\_\_\_ Physicians Signature John A. Beard MD  
Company contacted/faxed: \_\_\_\_\_ Nurse's initials \_\_\_\_\_ Name of Contact \_\_\_\_\_ P.A. Signature \_\_\_\_\_ Date 6/19/98

## RESPIRATOR FIT-TEST AND TRAINING COMPLETION FORM

LOCATION: ZAPATA ENGINEERING

1. I understand why respiratory protection is needed and where and when it should be used.
2. I know how to use this respirator properly.
3. I know how to clean and inspect this respirator.
4. I understand the limitations and restrictions of the respirators I will be using.
5. I wore this respiratory equipment in normal air and checked the face-piece fit.
6. I wore this respiratory equipment in a test atmosphere generated by smoke or other means.
7. I understand that a good gas-tight face seal cannot be achieved with obstruction such as facial hair or glasses (with full face mask).
8. I understand that I must perform a fit check each time I don my respirator.

SELECTED RESPIRATOR TYPE /MODEL NO/SIZE North / 7700 / M

NAME (PRINT/SIGN) OF EMPLOYEE YOLANDA A. HUBBARD, Yolanda A Hubbard

NAME (PRINT/SIGN) OF TRAINER CRYSTAL SILWEN, Crystal Silwell

NAME (PRINT/SIGN) OF FIT-TEST PROVIDER CRYSTAL SILWEN / Crystal Silwell

DATE OF FIT-TEST 6/19/98

TESTING AGENT: BANANA OIL IRRITANT SMOKE



This certifies that  
YOLANDA HUBBARD  
has completed the requirements for  
**STANDARD FIRST AID**  
sponsored by  
GREATER CAROLINAS CHAPTER

Date completed  
9-5-96



This certifies that  
YOLANDA HUBBARD  
has completed the requirements for  
**ADULT CPR**  
sponsored by  
GREATER CAROLINAS CHAPTER

Date completed  
9-5-96



This certifies that

Yolanda Hubbard  
has completed the requirements for

**ADULT CPR**  
sponsored by

**GREATER CAROLINAS CHAPTER**

Date completed

11/25/97



Naval School, Civil Engineer Corps Officers  
Port Hueneme, California

## Certificate of Graduation

*This Certifies That*

**JOHN A. SOYAK**

*Successfully Completed*

**HAZARDOUS WASTE ANNUAL REFRESHER COURSE #12  
A-493-0081**

**Meets review training requirements of 40 CFR 262.34, 264.16, 265.16;  
29 CFR 1910.120(p)(7), (q)(6)(i); and 49 CFR 172.700 (Job - specific)**

HELD AT HONOLULU, HI

12-13 FEBRUARY 1998

DATE

**T. J. TANNER  
CAPTAIN, CEC, USN  
COMMANDING OFFICER**

**ENGINEERING-SCIENCE  
CERTIFICATE OF TRAINING**

This Certifies That

**John Soyak**

Has Successfully Completed a 40 Hour Course of Instruction in

**HAZARDOUS WASTE OPERATIONS**

In Accordance with 29CFR Part 1910.120

Prepared and Conducted By

**ENGINEERING-SCIENCE INCORPORATED**  
Pasadena, California

**JULY 18-22, 1988**

**DATES OF INSTRUCTION**

*Edward J. ...*  
**COORDINATOR/INSTRUCTOR**

JOHN A. SOYAK, MSPH, CIH  
1204 Starmount Lane  
Bel Air, Maryland 21015-5616  
410-838-2731

MEDICAL CERTIFICATION

Date of Medical Examination: 4-30-98  
(Month/Day/Year)

Name: JOHN A. SOYAK  
(First) (MI) (Last)

Social Security Number: 373-40-5405

Type of Medical Examination: Initial  Annual   
Exit  Other

Medical Protocol: Hazardous Waste Site Worker  Asbestos Worker   
Other RCRA SITE WORKER  
(Specify)

I have reviewed the results of the above individual's personal medical history, occupational health history, physical examination, and laboratory tests. The medical examination was performed in accordance with the requirements of the Occupational Safety and Health Administration's (OSHA) standards and the individual was found to be:

- Hazardous Site Worker [29 CFR 1910.120(f)]  
 Qualified to perform work at hazardous waste sites  
 Not qualified to perform work at hazardous waste sites
- Asbestos Worker [29 CFR 1910.1001(l), 29 CFR 1926.58(m) and Appendix D]  
 Qualified to perform asbestos work  
 Not qualified to perform asbestos work
- Respiratory Protection Devices [29 CFR 1910.134(b)(10)]  
 Qualified to work using respiratory protection  
 Not qualified to work using respiratory protection

My medical evaluation was based on the following information:

- OSHA standards and applicable appendices
- Description of the individual's duties
- Knowledge of the individual's potential exposures and anticipated levels
- Description of personal protective equipment used and frequency
- Information from previous medical examinations

I have examined the individual's medical results as to whether the individual has any detected medical conditions which would place the individual at increased risk of material impairment of health from performing assigned duties. Based upon my review, I certify that the employee:

Has no medical contraindications for full performance of duties

Has medical limitations that restrict full performance of assigned duties. Describe work limitations, i.e., lifting, hearing loss, vision, etc.:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Is medically unqualified to perform assigned duties. Describe medical disqualification(s):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

I have informed the employee of the results of this medical examination and any medical conditions(s) which requires further examination or treatment. These medical records shall be maintained in accordance with 29 CFR 1910.20.

Name of Physician:

BERNARD BLANKENHORN  
(Please Print: First MI Last)

Signature of Physician:

[Signature] 4-30-98

Address of Physician:

1321 ALPINE AVE SUITE A  
ANN ARBOR MI 48106  
\_\_\_\_\_  
\_\_\_\_\_

Telephone Number:

919-575-6111

**USA ENVIRONMENTAL**

**JAMES G. WALDEN****SENIOR UXO SUPERVISOR**

Date Completed Basic EOD School: June 1971

I have never been removed from an EOD/UXO assignment for personnel reliability

Other Pertinent Training:

**HAZWOPER**

---

**EOD/UXO Assignments:**

Jun 71 - Aug 73	EOD Technician, TAD Assignment, Ft. Huachuca, AZ. EOD team member providing range support to the military intelligence school. Involved in one major range clearance.
Nov 73 - Mar 77	EOD Technician, 40th EOD, Camp Shelby, MS. EOD team member providing support to large National Guard training area. Performed range clearance operations after each camp.
Apr 77 - Mar 78	EOD Technician, 8th EOD, Republic of Korea. EOD team member on major demolition operation, destroying over forty tons of ordnance.
Apr 78 - May 84	EOD Team Leader, 13th EOD, Ft. Gillem, GA. Provided EOD support to northern half of the state of Georgia, including training at Ft Gordon, GA. Provided support to National Guard training in Puerto Rico.
Jun 84 - Jun 87	EOD Supervisor, 547th EODCT, Ft. Gillem, GA. Provided training and operational support to EOD units throughout the Southeastern US and the Panama Canal Zone.
Jul 87 - Dec 89	EOD Operations NCO, FORSCOM HQ, Ft. McPherson, GA. Provided operational and training guidance to 54 EOD units within Forces Command. Member of the Intermediate Nuclear Force Treaty verification team.
Jan 90 - Jun 92	Detachment NCO, 50th EOD, Granite City, IL. Responsible for EOD support in the southern half of Illinois, Indiana and the city of St. Louis, MO. Area expanded to the entire area of both states during Desert Storm. Supported range clearance operations at Ft. McCoy, WI.
Feb 93 - Jan 96	Sergeant Major, EOD Training Department, Redstone Arsenal, AL. Supervised six branch NCOICs responsible for eighty personnel and 300 students annually. Reviewed and revised programs of instruction and lesson plans. Member of the commandant's environmental compliance council.
Jul 96 - Jul 96	UXO Technician, CMS Environmental, Inc. Performed duties as UXO Specialist at Camp Bullis, TX for surface and subsurface OE investigation of a small arms range.
May 98 - May 98	UXO Technician, CMS Environmental, Inc. Senior UXO Supervisor on OE subsurface clearance project on the Explosive Proficiency Range at the FAA Technical Facility, Atlantic City International Airport, NJ.
Mar 96 - Present	UXO Technician, UXO Staff Officer, CMS Environmental, Inc. Perform site visits, prepare work plans and final reports for customer review and acceptance. Provide technical input to remediation contract proposal preparations.

# GMG WORKCARE

## HEALTH STATUS MEDICAL REPORT

Employer Copy

TYPE OF EXAMINATION: Periodic Examination

EMPLOYEE:	Walden, James	COMPANY:	CMS, Inc
SSN:	278-50-6024	POSITION:	Not Indicated
DATE OF EXAM:	04/21/98	LOCATION:	
EXPIRATION DATE:	04/21/99	SITE:	Fort Ord

The following recommendations are based on a review of one or all of the following: a base history questionnaire, supporting diagnostic tests, physical examination, and the essential functions of the position applied for or occupied by the individual named above.

	<u>Yes</u>	<u>No</u>	<u>Undecided</u>
Has the employee any detected medical conditions that would increase his/her risk of material health impairment from occupational exposure in accordance with 29 CFR §1910.120?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does the employee have any limitations in the use of respirators in accordance with 29 CFR §1910.134?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### STATUS

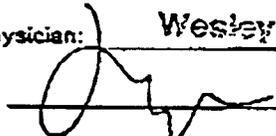
1.  **QUALIFIED** The examination indicates no significant medical condition. Employee can be assigned any work consistent with skills and training.
2.  **QUALIFIED - WITH LIMITATIONS** The examination indicates that a medical condition currently exists that limits work assignments on the following basis:
3.  **NOT QUALIFIED**
4.  **DEFERRED** The examination indicated that additional information is necessary. The employee has been given the following instructions.

### COMMENTS:

*Negative Drug Screen*

I have reviewed the medical data of the above named employee, and informed the employee of the results of the medical examination and any medical conditions that require follow-up examination or treatment.

Name of Physician: Wesley P Chan, M.D. Date: 04/24/98

Signature: 

333 S. Aniba Drive, Suite 600, Orange, CA 92668  
(714) 878-7488 - (800) 455-6155 - FAX (714) 456-2154

# Naval School Explosive Ordnance Disposal



This certifies that

PRIVATE FIRST CLASS JAMES G. WALDEN, 278-50-6024, USA

having successfully completed the prescribed course of study  
for BASIC Explosive Ordnance Disposal 431-55D20  
is awarded this  
Certificate  
this 21ST day of JUNE A.D. 1971

D. H. MOODY, CDR, USN

COMMANDING OFFICER



NSW-NAVORDSTA-1540/2

# Certificate of Training

This certifies that

*James G. Walden*

has successfully completed the training  
program requirements for

40 Hour OSHA Training for Hazardous Waste Operations - 29 CFR 1910.120 (e)(9)

Tampa, Florida

Awarded on this 8 day of May 19 96



*Robert M. Walden*  
CMS Environmental, Inc.

# CERTIFICATE OF COMPLETION

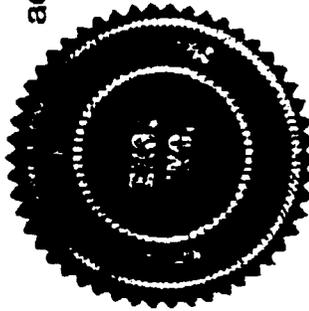
This certifies that

**James Walden**

completed the requirements for 29 CFR 1910.120

**8 Hour**

**Hazardous Waste Operations & Emergency Response  
Supervisor/Refresher**



achieving Level C competency on the 25th day of May, 1998.

*Kenneth T. Weber*  
Kenneth T. Weber

Expiration Date: 5/25/98 EHS, Inc. 4001 40<sup>th</sup> Way South, St. Petersburg, Florida 33711 (813) 865-0773 Certificate No: 278-50-6024

**GEORGE R. SPENCER****SITE SAFETY OFFICER**

Mr. Spencer has never been removed from an EOD/UXO assignment for personal reliability.

Years with CMS Environmental, Inc. 5.5

Date Completed Basic EOD School: June 1976

Other Pertinent Training: 40-Hour Hazardous Materials Training, 8-Hour Refresher

**EOD/UXO Assignments:**

Jun 76 - Jul 79	EOD Technician, Lieutenant Commander of 143 Ordnance Detachment (EOD), Seneca Army Depot, NY. Responsible for EOD response on the installation, 25 counties in New York State, and nine counties in Pennsylvania.
Jul 81 - Jul 84	EOD Technician, Captain. EOD Officer and Range Control Officer, Kwajalein Missile Range, Marshall Islands. Responsible for ordnance recovery and disposal of a major World War II battle area.
Jul 84 - Aug 86	EOD Technician, Major. Commander of the 542 <sup>nd</sup> Ordnance Detachment (EODCC), Fort Dix, NJ. Responsible for EDO response and ten EOD units spread out over nine states.
Jul 87 - Jul 89	EOD Technician, Major. Military Safety Manager for Ordnance Corps and EOD. Responsible for liaison, accident analysis, and development of accident prevent programs for the Ordnance Corps and EOD.
Jul 89 - Sep 90	EOD Technician, Major. Chief, Training Division, EOD Center for Training and Technology, Redstone Arsenal, AL. Responsible for Phase 3 training of Army EOD personnel and refresher and nuclear training of Army EOD units.
Sep 90 - May 91	EOD Technician, Major. Acting Director of EOD Center for Training and Technology, Redstone Arsenal, AL. Responsible for all activities of the EOD Center.
Jun 91 - Dec 92	UXO Technician, GS-11. UXO contract Safety Specialist, U.S. Army Corps of Engineers, Huntsville Division. Responsible for UXO contract safety oversight on OE contracts.
Jan 92 - Aug 93	UXO Technician. UXO Supervisor/Safety Officer, CMS, Inc. UXO sweep/clearance team, remediation team. Responsible for clearance and safety of post Desert Storm American Sector of Kuwait. Performed surface and subsurface clearance and disposal of all types of munitions over a 3,200 square kilometer area.
Nov 93 - Dec 93	UXO Technician. UXO Specialist, CMS, Inc. Performed subsurface OE location of a planned six mile utility corridor.
Jan 94 - Feb 94	UXO Technician. UXO Supervisor, CMS, Inc. Performed surface and subsurface clearance of an 18 mile corridor through the Navy's Chocolate Mountain Bombing Range, CA.
Mar 94 - Sep 94	UXO Technician, UXO Supervisor, CMS, Inc. Remediation Team Leader Kuwait. Performed surface and subsurface clearance and disposal of all types of munitions over a 3,200 square kilometer area.
Sep 94 - Present	UXO Technician, Quality Control (QC) and Safety Manager, CMS Environmental, Inc. (CMS). Responsible for development and implementation of CMS' QC and Safety Programs and OE contracts site inspections.

SC&A

# **The New England Consortium**

*(Partially supported by the National Institute of Environmental Health Sciences)*

This is to certify that

**John E. Foley**

Certificate #10034

has successfully completed the

## **8-Hour Hazardous Waste Worker Health and Safety Refresher Course**

**November 20, 1997 at Lowell, MA**

conducted in conjunction with

ConnectiCOSH

MassCOSH

New Hampshire COSH

RiCOSH

Western MassCOSH

Work Environment Program at the University of Massachusetts Lowell

Signed: 

Next Refresher Due - November, 1998

**Environmental Safety Service Training**  
 63 Arizona Avenue  
 Holden, MA 01520  
**Certificate of Training**

John E. Foley

Has successfully completed a 40 Hours        course in

Health & Safety for Hazardous Waste Site Activities OSHA 29 CFR 1910.120

Personal Protective Equipment Level   C  

*Edward R. Seidler*

Edward R. Seidler

April 19, 1995

Date

Certificate No.   95-193



PHYSICIAN'S STATEMENT

FOR EMPLOYEE OR APPLICANT OF S. COHEN & ASSOCIATES

TYPE OF EXAM: Annual

DATE OF EXAM: 5/13/98

FOLEY, JOHN

Rojcewicz, Judith, MD      LOC URG: -  
Unit# 0516042      W E      Adm 05/13/98  
ACCT# 21581236      DOB 10/09/59  
Sex M - 38

SOCIAL SECURITY NO.: 019-50-3931

S:

Undergone a physical examination per OSHA (29 CFR 1910.120) and been found medically:

- Qualified for hazardous waste site work.
- Not qualified for hazardous waste site work.

Undergone a physical examination as per OSHA (29 CFR 1910.134 (b)) and been found medically:

- Qualified to use a respirator.
- Not qualified to use a respirator.

PHYSICIAN'S SIGNATURE:

*Judith Rojcewicz, MD*

PRINTED NAME OF PHYSICIAN:

Judith Rojcewicz MD

PHYSICIAN'S ADDRESS:

Saints Memorial Walk In  
270 Pawtucket St Lowell, MA 01854

PHYSICIAN'S TELEPHONE NO:

978-446-1608

PHYSICIAN'S STATE LICENSE NUMBER:

MA 53500

OSHA 1910.120 (f) (4) states that the physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of material impairment of the employee's health from work in hazardous operations or emergency response, or from respirator use.

OSHA 1910.134 (b) (10) states that persons should not be assigned to tasks requiring the use of respirators unless it has been determined that they are physically able to perform the work and use the equipment. The local physician shall determine what health and physical conditions are pertinent. The respirator user's medical status should be reviewed periodically (for instance, annually).

\*If it is the opinion of the examining physician that an examinee is unqualified to perform hazardous waste site work or to wear a respirator, the physician should append a further report to this statement which details reasons for the opinion.

# The New England Consortium

(Partially supported by the National Institute of Environmental Health Sciences)

This is to certify that

**Brian Coolidge**

Certificate #10223

has successfully completed the

## 40-Hour Hazardous Waste Site Personnel Basic Health and Safety Course

on

**March 16-20, 1998**  
at Lowell, MA

conducted in conjunction with

ConnectiCOSH

MassCOSH

New Hampshire COSH

RiCOSH

Western MassCOSH

Work Environment Program at the University of Massachusetts Lowell

Signed: \_\_\_\_\_



Continuing Education Units 4

Refresher Due - March, 1999

May-12-98 10:02 Fenoy W. Butler

(301) 584-0357

PHYSICIAN'S STATEMENT

FOR EMPLOYEE OR APPLICANT OF ORDREM INTERNATIONAL, LLC

TYPE OF EXAM: Annual

DATE OF EXAMINATION: 5/11/98

NAME:

Last Coolidge

First Brian M. III

DATE OF BIRTH: 7/16/73

SOCIAL SECURITY NO: 027-50-3058

THE INDIVIDUAL NAMED ABOVE HAS:

Undergone a physical examination per OSHA (29 CFR 1910.120) and been found medically:

- Qualified for hazardous waste site work.
- Not qualified for hazardous waste site work.

Undergone a physical examination as per OSHA (29 CFR 1910.134 (b)) and been found medically:

- Qualified to use a respirator.
- Not qualified to use a respirator.

PHYSICIAN'S SIGNATURE:

*Randall L. Waterman, MD*

PRINTED NAME OF PHYSICIAN:

Randall L. Waterman, MD

PHYSICIAN'S ADDRESS:

1 Parkway, Haverhill, MA A

PHYSICIAN'S TELEPHONE NO:

978-521-3250

PHYSICIAN'S STATE LICENSE NUMBER:

76509 MD

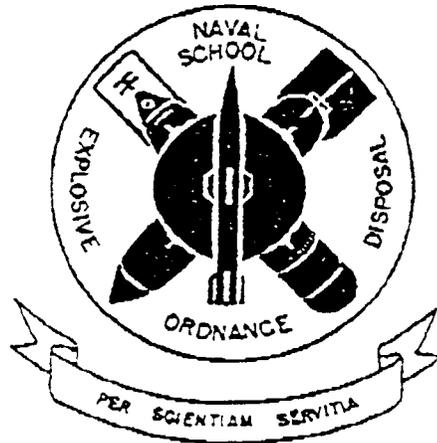
OSHA 1910.120(f)(4) states that the physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of "serious impairment of the employee's health from work in hazardous operations or using any response, or from respirator use."

OSHA 1910.134 (b) (10) states that persons should not be assigned to tasks requiring the use of respirators unless it has been determined that they are physically able to perform the work and use the equipment. The local physician shall determine what health and physical conditions are pertinent. The respirator user's medical status should be reviewed periodically (for instance, annually).

\* If it is the opinion of the examining physician that an examinee is unqualified to perform hazardous waste site work or to wear a respirator, the physician should append a further report to this statement which details reasons for the opinion.

ORDREM INTERNATIONAL, LLC

# Naval School Explosive Ordnance Disposal



This certifies that

FIRST LIEUTENANT GEORGE R. SPENCER, JR., 048-32-5190, USA

having successfully completed the prescribed course of study

at EASTO Explosive Ordnance Disposal LE-73-9924

is awarded this

Certificate

on 11TH day of JUNE A.D. 1976

D. L. SCHATBLE, CDR, USN

COMMANDING OFFICER

# Training Certificate

Presented to

George Spencer

Has successfully completed a training course for

40 Hour OSHA Training for Hazardous Waste Operations - 29 CFR 1910.120 (e)(g)

at

Tampa, Florida

Presented this 12 day of January 1994

*Ken Miller*  
Signature

CMS, Incorporated

Reform 1400

© Copyright Reforms 1993

# CERTIFICATE OF COMPLETION

This certifies that

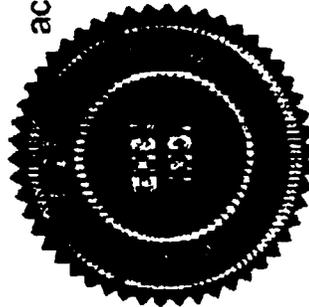
**George Spencer**

completed the requirements for 29 CFR 1910.120

**8 Hour**

**Hazardous Waste Operations & Emergency Response  
Supervisor/Refresher**

achieving Level C competency on the 6th day of April, 1998.



*Kenneth T. Weber*  
Kenneth T. Weber

Expiration Date: 4/6/99 EHS-C, Inc. 4001 40<sup>th</sup> Way South, St. Petersburg, Florida 33711 (813) 865-0773 Certificate No. 048-32-5180

# GMG WORKCARE™

## HEALTH STATUS MEDICAL REPORT

Employer Copy

TYPE OF EXAMINATION: Periodic Examination

EMPLOYEE: Spencer, George  
SSN: 048-32-5190  
DATE OF EXAM: 04/20/98  
EXPIRATION DATE: 04/20/99

COMPANY: CMS, Inc  
POSITION: Safety Manager  
LOCATION:  
SITE: Tampa

The following recommendations are based on a review of one or all of the following: a base history questionnaire, supporting diagnostic tests, physical examination, and the essential functions of the position applied for or occupied by the individual named above.

	<u>Yes</u>	<u>No</u>	<u>Undecided</u>
Has the employee any detected medical conditions that would increase his/her risk of material health impairment from occupational exposure in accordance with 29 CFR §1910.120?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does the employee have any limitations in the use of respirators in accordance with 29 CFR §1910.134?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### STATUS

1.  **QUALIFIED** The examination indicates no significant medical condition. Employee can be assigned any work consistent with skills and training.
2.  **QUALIFIED - WITH LIMITATIONS** The examination indicates that a medical condition currently exists that limits work assignments on the following basis:
3.  **NOT QUALIFIED**
4.  **DEFERRED** The examination indicated that additional information is necessary. The employee has been given the following instructions.

### COMMENTS:

*Negative Drug Screen*

I have reviewed the medical data of the above named employee, and informed the employee of the results of the medical examination and any medical conditions that require follow-up examination or treatment.

Name of Physician: Wesley P Chan, M.D. Date: 04/27/98

Signature: \_\_\_\_\_

REFERENCES  
FOR  
EASTERN BYPASS EE/CA  
AT  
FORT MCCLELLAN, ALABAMA

September 1998

Prepared for:  
US ARMY ENGINEERING AND SUPPORT CENTER  
HUNTSVILLE

Prepared by:  
ZAPATAENGINEERING, PA  
1100 KENILWORTH AVENUE  
CHARLOTTE, NORTH CAROLINA 28204  
PHONE (704) 358-8240

## 8.0 REFERENCES

Barge, Waggoner, Sumner and Cannon Inc. 1998. *Draft Environmental Assessment Anniston East Bypass*. Prepared for the Alabama Department of Transportation and the US Department of Transportation.

Oak Ridge National Laboratory. 1998. *Historical Aerial Photography Investigation of the Fort McClellan East By-Pass Study Area*. Prepared for the US Army Engineering and Support Center, Huntsville.

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US Army Corps of Engineers. 1998. *Archives Search Report Conclusions and Recommendations Fort McClellan, Anniston, Alabama*. US Department of Defense Base Realignment and Closure Ordnance, Ammunition and Explosives.

ZAPATAENGINEERING, P.A. 1998. *Ground Reconnaissance Trip Report*. Prepared for the US Army Engineering and Support Center, Huntsville.

**APPENDIX A**

**GROUND RECONNAISSANCE REPORT**

EASTERN BYPASS  
ENGINEERING EVALUATION/  
COST ANALYSIS

FORT MCCLELLAN  
FORT MCCLELLAN, ALABAMA

Contract No. DACA87-95-D-0026

GROUND RECONNAISSANCE  
TRIP REPORT

AUGUST 24-28, 1998

Prepared for:

US ARMY ENGINEERING AND SUPPORT CENTER  
4820 University Square  
Huntsville, Alabama 35816-1822

Prepared by:

ZAPATA ENGINEERING, P.A.  
1100 KENILWORTH AVENUE  
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PHONE (704) 358-8240

*Trip Report*

*Fort McClellan*

*Ground Reconnaissance*

1. **DATE:** 24 - 28 August 1998

2. **LOCATION:** Fort McClellan, Calhoun County, Alabama

3. **PURPOSE:** Ground Reconnaissance

4. **PROJECT TEAM MEMBERS:**

- Dave Cosans - ZAPATA ENGINEERING, P.A.
- Ed Komak - USA Environmental, Inc.
- Jae Yun - USA Environmental, Inc.
- Thad Stripling - US Army Engineering and Support Center

5. **NARRATIVE:**

**DAY 1** - On August 24, 1998, the Project Team met with the US Army Engineering and Support Center representative, Thad Stripling, to form the Reconnaissance Group. The Group contacted SFC Tolbird, Fort McClellan Range Control, to discuss the Eastern Bypass EE/CA project and coordinate ground reconnaissance activities with base operations. This was extremely important as the Base was under a security alert. The group obtained a base map and instructions to sign in and out daily at Range Control. Range Control provided the Group with hand-held radio daily to maintain contact with Range Control, as necessary. Specialist Cook of the Fort McClellan Range Control traveled with the Group to help correlate landmarks with features on the maps.

During a brief meeting, the Group reviewed site safety and health considerations. In addition, the Group developed a ground reconnaissance plan to investigate as much as possible of the non-impact area of the proposed bypass within the allotted time. A copy of the Abbreviated Site Safety and Health Plan and Safety Briefing Sheet is included in Appendix A.

**DAY 2** - On August 25, 1998, the Reconnaissance Group initiated the non-intrusive ground reconnaissance in the northwest portion of the proposed bypass area. The entire proposed bypass and area of investigation is shown in *Figure 1* of Appendix B. Subsequent Figures in Appendix B illustrate the routes followed daily during the ground reconnaissance. The area covered on August 25 is presented in *Figure 2*, and includes the approximate route traversed by the Group, locations of areas suspected to contain ordnance, and potential geophysical prove-out areas.

Various equipment was used to facilitate the identification of areas with an elevated risk of containing ordnance. A magnetometer was used by Ed Komak, a GPS system was operated by Jae Yun, and David Cosans recorded the activities with a camcorder and 35mm camera.

An existing monument, located along Summerall Gate Road, was used to setup the Global Positioning Satellite (GPS) system. The Reconnaissance Group entered the woods via an unpaved road north of Summerall Gate Road. The Group proceeded through a small clearing, represented by a rectangle on *Figure 2*, thought to be a potential location for conducting the geophysical prove-out. This area may not be large enough, however, as an ideal area for conducting the prove-out should be approximately 200 x 200 feet. Subsequent investigations during the reconnaissance failed to identify any cleared areas of this dimension.

An area believed to be the location of anomaly No. 37, as indicated on *Anomalies from Interpretation of Historical Aerial Photography: 1937-1994*, was rigorously searched. The magnetometer readings indicated evidence of subsurface metallic objects. The Reconnaissance Group encountered an expended, simulator, explosive booby-trap flash - M117. Several areas north of Summerall Gate Road, represented by circles on *Figure 2*, have been identified as possible future sample locations. Attempts to use the GPS system to record specific locations were unsuccessful. The Group determined that the canopy of vegetation caused interference with the proper operation of the GPS system. Locating areas of interest for investigation at a later time was performed by post-processing the GPS data, marking of trees, and correlating physical topography with map topography.

The Reconnaissance Group continued northeast and spread out to within shouting distance of each other, covering the area east towards a road leading to a residential area, encompassing Training Area 10. Two (2) additional areas were marked for further investigation. These areas exhibited depressions in the ground that may be indicative of fox holes rather than impact craters. Magnetometer readings indicated subsurface anomalies. Surface debris found in this area included metal cans, tires, and a foil-backed chewing gum wrapper. Indicative of the magnetometer's sensitivity, the chewing gum wrapper set off the instrument. Visible examination of this area points to signs of training activities rather than ordnance target or impact areas.

The Group proceeded to explore south of Summerall Gate Road. Additional signs of training were evident, including:

- unknown smoke dispenser spheres,
- expended signal, illumination ground, parachute White Star M127A1 and aluminum launching tube,
- mine, anti-tank practice, heavy M20 with smoke charge, M45 primer in the M604 fuze;
- M1 practice activator in the secondary fuze well,
- fox holes, and

- unexpended cartridge 5.56 caliber blanks.

These areas are marked as potential sample locations on *Figure 2*. An additional clearing, marked with a rectangle on *Figure 2*, may serve as a geophysical prove-out area.

**DAY 3** - On August 26, 1998, the Reconnaissance Group covered the southern-most portion of the proposed bypass area. A replacement GPS system was to be delivered later that day, so an area least likely to contain ordnance was selected for initial evaluation to minimize the immediate need for the GPS. The magnetometer was not used due to its extreme sensitivity, which was deemed to be a distraction. Visual signs of impact depressions became the primary means for locating high risk areas for further investigation. The approximate paths through the investigation area and location for possible future investigation are shown in *Figure 3*.

A fire break leading from Iron Mountain Road to the southern perimeter of the proposed bypass area, marked by power lines, was explored first. The Reconnaissance Group spread out 4 persons-wide and walked the west side of the fire break. An area with suspicious indentations, located approximately 50 feet off the road, was marked by wrapping tape on a tree adjacent to the road. The foot of the fire break to the east was also within the proposed bypass area. From the foot of this fire break, the Group headed east up a steep slope, then circled north then west, back across the fire break, and finally south to the power lines. No evidence of ordnance was found. Lastly, the Reconnaissance Group drove up a fire break to the peak of Mt. Royal. The Group proceeded along the ridge line, due north-northeast. After emerging from the woods on Iron Mountain Road, the Group re-entered the woods heading north-northwest. A simulation charge was found south of the designated mess area.

**DAY 4** - On August 27, 1998, the area abutting and south of the known impact area was evaluated by the Reconnaissance Group, as indicated on *Figure 4*. From Iron Mountain Road, the group walked up the east face of Reynolds Hill to its peak, turning southeast. Signs of training were evident on the peak, such as abandoned canteens and Pierced Steel Planking (PSP) used for construction of bunkers. The Group exited the woods through an area that may be considered for geophysical prove-out and is shown with a rectangle on *Figure 4*. Another pass through this area was made by ascending Cable Hill from the south.

The Reconnaissance Group traveled further south to search the western edge of the proposed bypass area. A fire break was traversed. The group then walked south-southeast up to the peaks of Twin Mountain. The Group descended in a southeasterly direction from the peak and continued the search toward to the designated mess area. Northwest of the bunkers, opposite the mess area, further investigation was deemed to be necessary based on visual evidence of training activities. The approximate location is indicated with a circle on *Figure 4*.

Team members from USA Environmental attempted to return to previously marked locations with the GPS system for positioning, but incurred additional technical difficulties.

**DAY 5** - On August 28, 1998, the Reconnaissance Group walked the remaining areas along the eastern portion of the proposed bypass. From the proposed Iron Mountain interchange, south of Yahou Lake, the Group walked southeast up Perry Hill, turning south near the peak. An expended M18 Smoke Grenade was found in this area.

From the intersection at Iron Mountain and the fire break which was evaluated on Day 2, the Reconnaissance Group headed north on the last leg of the investigation. Additional illumination rounds were found across Iron Mountain Road, northeast of the designated mess area.

Team members from USA Environmental resolved the problem with the GPS equipment and revisited several areas for data collection, as illustrated on *Figures 6 and 7*.

Upon completion of the ground reconnaissance, field supplies to be used during the next phase of investigation were taken to the Base Environmental Office for storage.

#### *CONCLUSION*

The ground reconnaissance effort did not reveal evidence of ordnance contamination. The most likely locations for placement of sample grids will be in areas north and south of Summerall Gate Road, which revealed evidence of extensive training activities. Several areas were identified as possible locations for conducting the geophysical prove-out, all of which will require additional clearing.

Representatives of CEHNC indicated that a known chemical demonstration area may be considered for placement of sampling grids. Through the ground reconnaissance efforts, it was determined that this area was located beyond our area of investigation.

The project work plans, currently under development, will fully describe the findings of the ground reconnaissance, and the locations identified for geophysical prove-out and placement of the sample grids.