Final
Explosives Safety Submission
M2 Parcel Ordnance and Explosives Removal Action
Fort McClellan, Alabama

Delivery Order 0005
Contract Number DACA87-99-D-0010

U.S. Army Corps of Engineers
Engineering and Support Center, Huntsville

Prepared by

Foster Wheeler Environmental Corporation

11 July 2000

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1.0 INTRODUCTION

1.1 This Explosives Safety Submission (ESS) has been prepared for the M2 Parcel Ordnance and Explosives (OE) Removal Action at Fort McClellan, Alabama. The purpose of the action is to remove all OE (UXO and inert ordnance) within the 20-acre area defined as the M2 Parcel. This clearance is to be a final removal action prior to transfer of this property to the Joint Powers Authority (JPA) for possible commercial development.

1.2 This project is Delivery Order 0005, under contract DACA87-99-D-0010, Ordnance and Explosives Response at Fort McClellan, Alabama. Under the delivery order, a site-specific M2 Parcel OE Removal Action Work Plan (work plan) was prepared.

2.0 REASON FOR OE

2.1 Fort McClellan has been used for artillery training of troops and the National Guard as early as 1912 to present day. In 1941, McClellan became the site of the Chemical Corps Training Command. In 1962, the U.S. Army Combat Developments Command Chemical Biological-Radiological Agency moved to Fort McClellan. In 1973, the Chemical Corps School along with the U.S. Army Combat Developments Command Chemical Biological-Radiological Agency was moved to Edgewood Arsenal. In 1979, the U.S. Army Chemical Corps School re-established along with a training Brigade for Basic Training. In September of 1999 FMC was closed under the Base Realignment and Closure Act.

2.2 The M2 Parcel is an undocumented training area and based on previous investigations and studies conducted at Fort McClellan, OE is suspected to be present within the boundaries of the M2 Parcel.

3.0 AMOUNT AND TYPE OF OE

Previous investigations conducted in and around the M2 Parcel indicate that it was used primarily as a training area. Items suspected to have been used in this area may contain high explosives (HE) in addition to small explosive charges and incendiary material that could still function if the item is not expended. Based upon the type and use of OE at this site, all is anticipated to be encountered at depths of less than one foot unless disposed of in a burial pit. The suspected types of OE associated with the M2 Parcel are presented in Table 3-1. Ordnance penetration depths were calculated by Dr. Michelle Crull of CEHNC's Structural Branch. These depths were calculated using an equation developed by WES for fragment penetration prediction into soils ranging from clay to dry sand. This equation is provided in TM 5-855-1 dated November 1986. For the purpose of ordnance penetration analysis, the fragment is assumed to be the ordnance item. The ordnance is assumed to strike normal to the ground surface.

Table 3-1
Potential OE at M2 Parcel

MUNITION/COMPONENT	EXPLOSIVE/INCENDIARY HAZARD	CALCULATED PENETRATION DEPTH
M15 WP Hand Grenades	15 oz. White Phosphorus filler, detonating fuze, 13.5g tetryl burster	Surface
60mm practice mortars (M69)	None	4 inches
Rifle (Burning type) smoke grenades	Smoke filler, incendiary	4 inches
2.36 inch practice rocket	None	10 inches
Rocket propelled ground signals (slap flares)	Small explosive charge	3 inches
Surface trip flares (M48)	75 grain propelling charge, explosive	Surface
Practice hand grenades (MK II)	28.35 g black powder, explosive	Surface
Mine Activator, practice (M1)	Small explosive charge	Surface
Mine, anti-personnel, practice (M8)	11 g black powder, explosive	Surface

3.1 Most Probable Munition

The most probable munition (MPM) is the M15 WP Hand Grenade. Based on an assessment of the types of OE anticipated at the M2 Parcel, the worst explosive effects will be produced by the M15 WP Hand Grenade (see Attachment 1). If during the course of the investigation OE with a greater fragment range is discovered, the Q-D arc will be adjusted and an amendment to the plan submitted for approval.

4.0 START DATE

Site preparation activities (brush clearance, location surveys) were begun May 23, 2000. Geophysical survey investigations began June 5, 2000 and are scheduled for completion July 7, 2000. OE removal action will begin upon receipt of DDESB approval of the ESS.

5.0 FROSTLINE

The frostline is 6-inches. The planned clearance will be below the frostline.

6.0 CLEARANCE TECHNIQUES

6.1 Detection Methods

6.1.1 Visual observance plus conventional magnetometers will be used to detect OE during UXO escort for brush clearance and surveying teams and to confirm locations as safe for driving survey stakes into the ground.

6.1.2 Following brush clearance, the entire 20-acre cleared area will be investigated with geophysics using the Ultrasonic Ranging and Data System (USRADS) coupled with the EM-61 sensor to perform the geophysical surveys. This configuration of instruments was used during the demonstration test/prove-out at Fort McClellan and was found to be very effective for the type of soils, terrain and vegetative coverage at Fort McClellan.

6.1.3 The site will be sub-divided into grids (typically 200 ft by 200 ft). Each grid will be surveyed. EM 61 Sensor data and navigation data will be compiled, analyzed and mapped to depict anomaly locations suspected of being OE. Target anomaly dig sheets will be prepared and UXO teams will dig each target anomaly. The geophysical data and target anomalies generated by Foster Wheeler will be truthed by comparison to the actual characteristics and locations of anomalies recovered.

6.1.4 The smallest item of interest expected at the M2 Parcel is the MK II practice hand grenade or the WP hand grenade (also the MPM) both of which are approximately 2-1/4 inches x 4-1/2 inches in size. Prior to beginning the investigations, a test was performed at the site to determine appropriate EM 61 instrument line spacing and station spacing to ensure adequate coverage and sample density for the detection of these and the other small targets of interest.

6.2 Recovery and Disposal

6.2.1 UXO and explosively-contaminated OE related materials will be disposed of daily. Demolition operations will begin when all nonessential personnel are out of the fragmentation zone of the ordnance being detonated. To the greatest extent possible, all items will be blown in place (BIP) to reduce the risk inherent in handling and movement. The Senior UXO Supervisor (SUXOS) and the Site-Safety Officer (UXOSO) will be on-site at all times during disposal operations. The operation will be performed under the direction and supervision of the SUXOS, who is charged with the responsibility to ensure that procedures contained in the work plan and referenced documents are followed. The Site-Safety Officer will monitor compliance with the safety measures contained in the work plan and associated documents, and in the event of noncompliance, is vested with the authority to stop or suspend operations.

6.2.2 Upon completion of disposal operations, the team's UXO Supervisor and one UXO Specialist will visually inspect each disposal shot. One of these persons will perform a visual inspection of the disposal site(s). The second person will stand by at a safe distance and be prepared to render assistance in the event of an emergency. Upon completion of this inspection and providing that there are no residual hazards, the SUXOS will authorize the resumption of site operations.

6.3 Quality Assurance/Quality Control (QA/QC) Plan

One hundred percent of the dig sheet estimates (size, location, depth) vs. the excavation results will be compared. If any of the target anomalies are not recovered during excavation activities, the interpretation geophysicist will re-evaluate the data and the anomaly will be relocated with geophysical instrumentation. Post-excavation (after UXO intrusive operations) QC procedures will also be performed to determine if geophysical target anomalies have been completely and successfully removed. Post excavation QC will be performed over five percent (minimum) of all grids after UXO intrusive operations.

6.3.1 CEHNC Quality Assurance Pass/Fail Criteria.

The pass/fail criteria for the final clearance of a site is established by CEHNC. In order to QA the digital geophysical detection and target selection process, CEHNC will require the contractor to validate the target selection process by excavating 100% of detected anomalies within the first two grids. A "failure" of the target selection process is defined to be any OE or OE look-alike, if within the project-defined size/depth parameters, that was not identified as a selected target but found during the QA process. If this occurs, the target selection parameters will be revised and validated on the next two grids. Once the target selection process has been validated, the additional number of targets selected for excavation to QA the target selection process will be reduced to 10%. In addition, to the 10% QA process, 5% of all grids will be mag and flagged by CEHNC to validate the detection process. A "failure" of the detection process is defined to be any OE or OE look-alike, if within the project-defined size/depth parameters, that was not detected during the geophysical mapping but found during the QA process. If this occurs the entire grid will be failed and must be re-mapped and cleared. Upon completion of the re-work, an additional QA/QC audit will by conducted by the responsible parties.

6.4 OE Scrap Explosive Hazards

UXO Clearance Teams will locate, identify and mark ordnance related materials where they are located. Clearly identifiable inert materials will be consolidated in designated locations on each marked grid. The leader of the UXO Removal Team will re-inspect the clearly inert items and mark each item as inert. These items will be separated into categories of like items, loaded into movable containers, and transported to the M2 Parcel on-site staging area. If an identified (specific type of munition) ordnance item cannot be determined to be free of explosive, it will be vented. If the item is not positively identified and may be a chemical munition no venting will be conducted and instructions in sec. 9.0 (Technical Support) will be followed for suspect recovered CWM.

6.4.1 In the staging area, the designated UXO technician will remove the items from the containers transported from the grids. He will re-inspect each item to assure that inert items are certifiably inert. The segregated items will be placed in lockable inert material containers. The designated UXO technician will maintain sole custody of the locked inert material containers. He will control access to the inspection and classification area to assure that no items other than those that are clearly inert will be added to these inert containers. Prior to sealing the containers the Foster Wheeler UXOQCS and the SUXOS will inspect the contents of each container and the UXOQCS will close, seal and mark the containers, prepare a certification of inspection and sign this certification.

6.4.2 A Requisition and Turn-In Form, DD Form 1348-1A, will be completed for each container of material proposed for sale or disposal. The form will be completed as a container is filled, and as items are individually inspected to assure that no danger of detonation or explosion remains. Copies of the form will be attached to the container, provided with the bill of lading for shipment, and in the project files. The forms will be used as the principal tool for maintaining accountability for materials and for inspection to assure that the items are in fact safe for unlimited release to the public.

6.4.3 The personnel certifying and verifying the inspection shall certify on the form, as follows:

> "This certifies and verifies that the AEDA residue, Range Residue and/or Explosive Contaminated property listed has been 100 percent properly inspected and to the best of our knowledge and belief, are inert and/or free of explosives or related material."

6.4.4 Residue will be maintained in a secure area until sale can be completed. Containers of materials will be locked and sealed to assure that no uninspected items are added to the containers. Offers for sale will include the "Dangerous Property" Clause stipulated by DoD Memorandum dated 15 May 1998.

7.0 ALTERNATE TECHNIQUES

There are no alternate techniques planned for destruction of OE onsite. The onsite method selected to destroy OE is detonation.

8.0 OFFSITE DESTRUCTION

Offsite disposal will not be used to destroy OE recovered at the M2 Parcel.

9.0 TECHNICAL SUPPORT

Foster Wheeler Environmental and subcontractor USA Environmental will provide the technical support required during the removal action. If recovered OE is identified as Chemical Warfare Material (CWM) all intrusive activities will cease, the site will be evacuated in an upwind

direction, and secured. The CEHNC Safety Representative and Fort McClellan Transition Force Operations will be notified and disposition instructions requested.

10.0 LAND USE RESTRICTIONS

The M2 Parcel is planned for release outside DoD. The Final Engineering Evaluation/Cost Analysis (EE/CA) (CEHNC, May 2000) recommended the alternative of Surface and Subsurface Clearance to Depth with Land Use Controls (LUCs) for the M2 Parcel. Clearance to Depth means the excavation and removal of all anomalies which could potentially be OE, regardless of depth. LUCs in the form of education of construction workers and property owners by the Department of the Army on the potential OE hazards that may be associated with the property and identification of proper notifications to take if any OE is encountered were proposed in the M2 Parcel EE/CA and were concurred with by the EPA and Alabama Department of Environmental Management. It is currently proposed that this information be placed as a covenant in the deed. It will be the property owners' responsibility to notify the Army when training of construction workers is required. This may consist of a safety briefing which could be provided by an individual or through pre-prepared materials such as video tapes or handouts. This will also inform property owners of the past use of the site and the proper notifications to take in the event that a suspect item is encountered. The LUCs for the M2 Parcel will be defined in a Land Use Control Implementation Plan. Although it is anticipated that the removal action may serve as the final remedy for this site, there is no assurance that it will be 100% effective. If during the removal action or after the removal action, information indicates that residual OE may remain that impacts the proposed use of the property, the proposed LUCs will need to be reevaluated and possibly revised to ensure the safety of the public. In the event that residual OE is determined to remain on the site and it is not technologically feasible to remove, post removal action risk management activities and long-term monitoring may be required. This would require a revision to the explosives safety submission and to the proposed LUCs which is currently not anticipated.

11.0 PUBLIC INVOLVEMENT

Public involvement is gained through the Engineering Evaluation/Cost Analysis (EE/CA) process. An EE/CA was prepared to identify, evaluate, and recommend an action for the removal of OE from the M2 Parcel. A formal 30 day comment period on the draft EE/CA followed by a public meeting has been conducted. The EECA was revised to incorporate comments from the public and regulatory agencies. A draft Action Memorandum has been prepared, selecting the most appropriate removal action alternative presented in the EE/CA, and is currently being reviewed by the regulatory agencies. A BRAC Cleanup Team (BCT) and a Restoration Advisory Board (RAB) also participates in the public process at Fort McClellan.

12.0 Maps

12.1 Regional Map

Figure 12-1 shows the location of the M2 Parcel site along the western boundary of Fort McClellan, Anniston, Alabama.

12.2 Site Map

12.2.1 OE Areas

Figure 12-2 shows the M2 Parcel and its boundaries. To the immediate west of the site is Highway 21, a major throughway in the area. Land bordering the highway, across from the M2 Parcel site, is undeveloped and has no inhabited buildings. Bordering the M2 Parcel on the north is the corridor for a planned highway (Eastern Bypass) through the area. This area is also slated for future OE removal action. To the east of the site is a wooded area. To the south, two public buildings (Museum of Natural History and the Museum of World History) are located, approximately 120 feet and 150 feet from the site boundary, respectively. The QD for the site is shown as an exclusion zone (dashed line) paralleling the site boundaries. The approved exclusion zone is 200 feet on all sides of the M2 Parcel (see sec. 13.1).

12.2.2 Removal Depth

The planned OE removal depth is "Clearance to Depth" meaning the excavation and removal of all anomalies which could potentially be OE, regardless of depth. It is anticipated that all OE in the M2 Parcel resulting from its intended use will be within the top 12 inches based on the calculated penetration depths and site specific sampling data. However, if OE items were disposed of through burial, they may be encountered at greater depths. These types of burials will generally have less than 2 feet of soil covering and are easily detected due to the larger geophysical signature generated in comparison to the signature generated by single items.

12.2.3 Magazines

12.2.3.1 Magazines planned for storage of demolition explosives are located in the Fort McClellan Ammunition Supply Point (ASP). Figure 12-1 shows the location of the ASP relative to the site. See section 13.2 below for additional details.

12.2.3.2 Transportation of OE and donor explosives will comply with all federal, state, and local regulations. Permits are not required under CERCLA for on-site or on federal installations for transportation of explosives or conventional OE. For transportation of OE and explosives to disposal site, USA Environmental will comply with the following:

- Initiating explosives, such as blasting caps, will remain separated at all times. Blasting caps may be transported in the same vehicle as long as they are in a separate container and secured away from other items;
- Compatibility requirements will be observed;
- Only UXO Technicians III and above may be issued and transport explosive materials. The receiving party shall sign the receipt documents for accountability;
- Operators transporting explosives will have a valid drivers license;
- Drivers will comply with posted speed limits but will not exceed a safe and reasonable for conditions. Vehicles transporting explosives off-road will not exceed 25 MPH;
- Personnel will not ride in the cargo compartment with explosives or OE.

12.2.3.3 Explosives will be transported in closed vehicles whenever possible. The load shall be well braced and, except when in closed vehicles, covered with a fire-resistant tarpaulin or in an appropriate shipping container.

- Vehicles transporting donor explosives or OE will be inspected daily, and will be properly placarded;
- Vehicle engine will not be running when loading/unloading explosives;
- Beds of vehicles will have either a wooden bed liner, dunnage, or sand bags to protect the explosives from contact with the metal bed and fittings; and
- Vehicles transporting explosives will have a first aid kit, two 10 BC rated fire extinguishers, and communications capability.

12.2.4 Demolition Areas

All demolitions will be accomplished within the M2 Parcel site. There is no other planned or established demolition area.

12.2.5 Site Use

The planned future use of this site is commercial.

12.3 Q-D Maps

See figure 12-2.

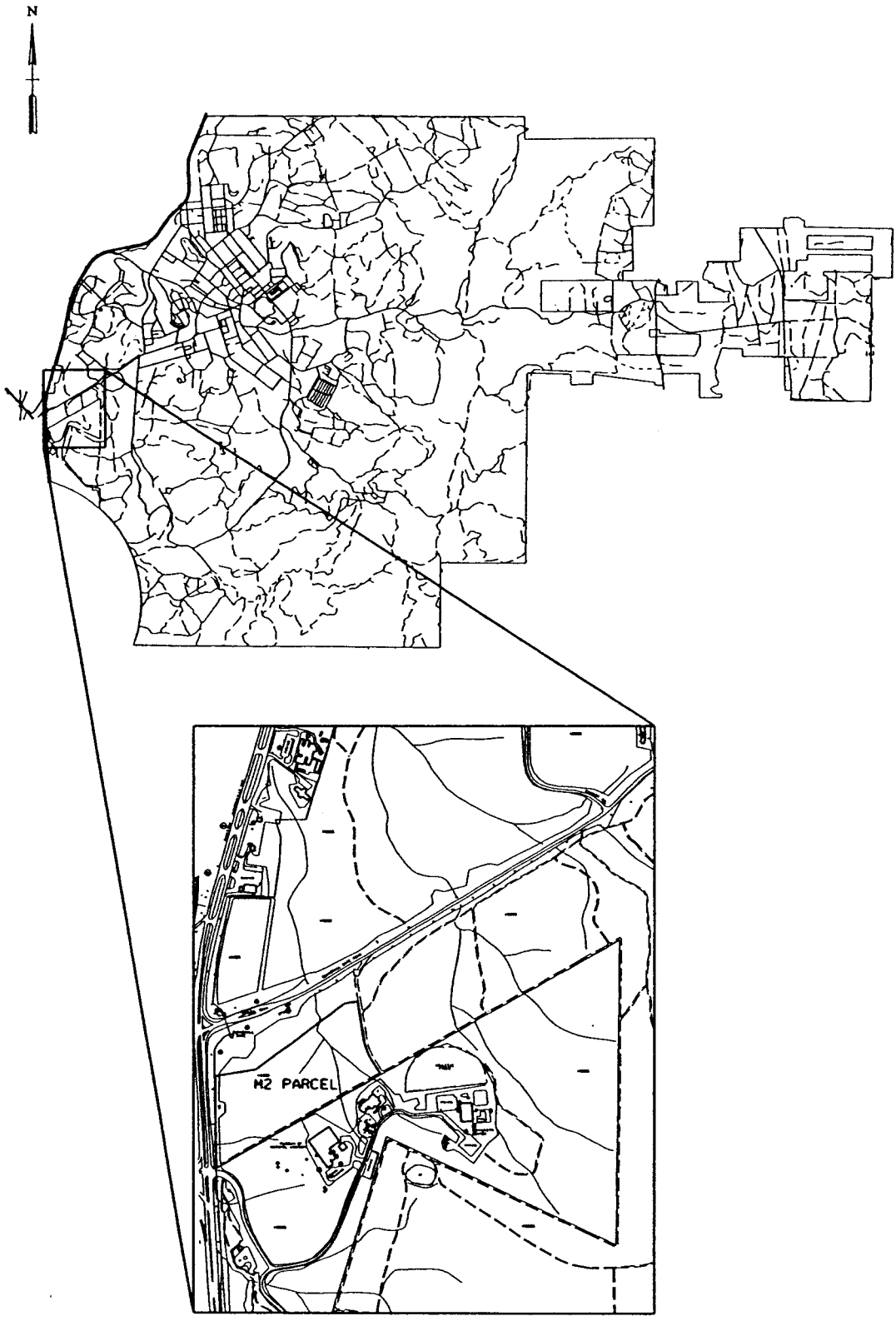

Figure 12-1

US ARMY ENGINEERING & SUPPORT CENTER HUNTSVILLE, ALABAMA			PROJECT TITLE: FT. McCLELLAN DRAWING TITLE: VICINITY MAP	
CONTRACT #:	PROJECT #:		DRAWN BY: TLS	SCALE: NTS

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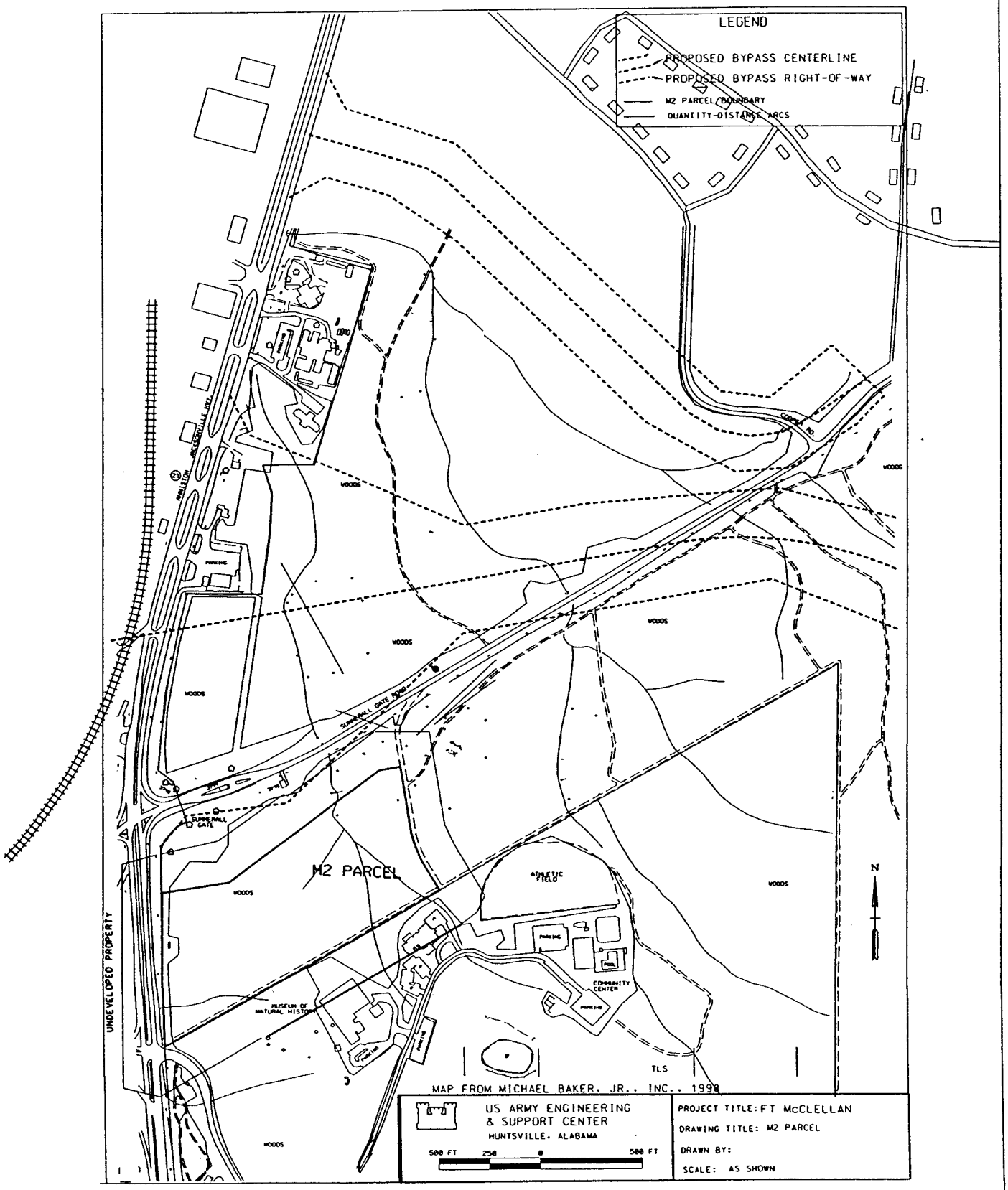
LEGEND
PROPOSED BYPASS CENTERLINE
PROPOSED BYPASS RIGHT-OF-WAY
M2 PARCEL BOUNDARY
QUANTITY-DISTANCE ARCS
M2 PARCEL
UNDEVELOPED PROPERTY
WOODS
SUMMERALL GATE ROAD
SUMMERALL GATE
ATHLETIC FIELD
COMMUNITY CENTER
MUSEUM OF NATURAL HISTORY
PARKING
POOL
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MAP FROM MICHAEL BAKER, JR., INC., 1998
US ARMY ENGINEERING & SUPPORT CENTER
HUNTSVILLE, ALABAMA
500 FT 250 0 500 FT
PROJECT TITLE: FT McCLELLAN
DRAWING TITLE: M2 PARCEL
DRAWN BY:
SCALE: AS SHOWN

Figure 12-2

13.0 QUANTITY-DISTANCE (QD)

13.1 OE Areas

An exclusion zone equivalent to a Minimum Separation Distance (MSD) of 200 feet will be observed around the M2 Parcel site during intrusive operations (excavation, detonation). Evacuation of the public buildings south of the southern border (Museum of Natural History and the Museum of World History) and temporary rerouting of vehicle traffic along the western border will be required when performing intrusive operations along these borders. The MPM for the M2 Parcel is the M15 white phosphorus hand grenade, which has a maximum fragment range of 517 feet. The 1 in 600 (one hazardous fragment/600 square feet) for this item is an MSD of 200 feet. The only evidence that this item may be present within the M2 Parcel was the discovery of the remains of a WP grenade top found approximately 300 feet north of the M2 Parcel. However, approximately 30 acres of grids have been cleared in this area and no other evidence of WP was discovered. The MSD for the M2 Parcel was reduced to 200 feet, the reduced distance being based on the 1 in 600 feet for the M15 white phosphorous hand grenade (see Attachment 2). An MSD of 200 ft will be observed between UXO teams). If any munition, other than those identified in Table 3-1 Potential OE at M2 Parcel, is discovered, all intrusive work will cease and the MSD and/or engineering controls will be reevaluated.

13.2 Magazines

Fort McClellan has an Ammunition Supply Point (ASP) operated by the Alabama National Guard (ANG). Figure 12-1 shows the location of the ASP. Within the ASP, Magazine 10 will be provided Foster Wheeler Environmental to store explosives required for the M2 Parcel project. The table below lists the items that will be stored in the magazine along with the corresponding Hazard Class. To separate the detonators and detonator assemblies, sandbags will be stacked around the detonators to a height that exceeds line-of-sight between the detonators and other explosives. Physical custody will be maintained by the ANG. Foster Wheeler Environmental will perform weekly inventories and maintain all records of usage. The explosives material will be purchased by Foster Wheeler Environmental for the use of Foster Wheeler Environmental. The magazine is approved and licensed by the DDESB. Explosive Storage Limits and License certificates for the magazine including QD's are included in Attachment 3. No recovered UXO will be stored in the magazine. All recovered UXO will be disposed of at the M2 Parcel site.

Demolition Materials

Demolition Materials	Hazard Class
Detonators,Electric	1.4b
Detonator Assemblies, NE, SL-14	1.1b
Detonator Assemblies, NE, EZTL, 30'	1.4b
Booster, Cast, 3/4lbs. 12lu	1.1d
Detonation Cord, 50 grain	1.4d
Detonation Cord, 80 grain	1.1d
Demo, C-4 bulk	1.1d
NONEL Lead-in Line	1.4s
Perforators, 13 grams	1.4s
Perforators, 19 grams	1.4s

Note: The estimated net explosive weight for 1.1 materials will be 100 pounds.

13.3 Planned or Established Demolition Areas

OE will be disposed of in place where it is encountered. Minimum separation distances will be 200 ft for separation of UXO teams. The MSD for the public has been established as 200 ft. If any munition, other than those identified in Table 3-1 (Potential OE at M2 Parcel), is discovered, all intrusive work will cease and the MSD and/or engineering controls will be reevaluated.

13.4 Foot Print Areas

13.4.1 Blow in Place

Exclusion zones will be the MSD of 200 ft along all borders. The potential for public exposure is greatest along the western and southern borders, both of which are fenced, however, the public is within the 200 ft exclusion zones along these borders. Evacuation of the public buildings south of the southern border (Museum of Natural History and the Museum of World History) and temporary rerouting of vehicle traffic along the western border will be required when performing intrusive operations along these borders. If any munition, other than those identified in Table 3-1 (Potential OE at M2 Parcel), is discovered, all intrusive work will cease and the MSD and/or engineering controls will be reevaluated. If it becomes necessary to blow in place, sandbags will be required:

Required sandbag thickness = 12 inches with a 6-inch standoff between the round and the sandbags
Sandbag throw distance = 25 feet
Minimum exclusion zone = 200 feet

The required sandbag thickness and the sandbag throw distance were calculated IAW CEHNC-ED-CS-S-98-7 (approved by DDESB 2 March 1999). The minimum exclusion zone is based upon the largest of the throw distance or 200 feet or the k328 distance for the total NEW (munition plus donor charge). A copy of CEHNC-ED-CS-S-98-7, "Use of Sandbags for Mitigation of Fragmentation and Blast Effects Due to Intentional Detonation of Munitions" must be kept available onsite.

13.4.2 Collection Points

Collection Points will not be used, except for temporary storage of ordnance related scrap.

13.4.3 In-Grid Consolidated Shots

Consolidated shots will not be used as all OE items will be blown in place.

14.0 REFERENCES

1. U.S. Army Engineering and Support Center, Huntsville (CEHNC), May 2000. Final Engineering Evaluation/Cost Analysis Report for the M2 Parcel, Fort McClellan, Anniston, Alabama.

2. U.S. Army Corps of Engineers (USACE), St. Louis District, 1999. Archives Search Report Findings, Fort McClellan, Anniston, Alabama.

3. U.S. Army Corps of Engineers (USACE), St. Louis District, 1999. Archives Search Report Conclusions and Recommendations, Fort McClellan, Anniston, Alabama.

4. Foster Wheeler Environmental Corporation (FWENC), March, 2000. Draft General Site-Wide Work Plan for Ordnance and Explosives Response at Fort McClellan, Alabama. Prepared for the U.S. Army Engineering and Support Center, Huntsville.

5. Foster Wheeler Environmental Corporation (FWENC), April, 2000. Draft M2 Parcel Ordnance and Explosives Removal Action Work Plan, Fort McClellan, Alabama Prepared for the U.S. Army Engineering and Support Center, Huntsville.

ATTACHMENT 1

CEHNC Memorandum-Minimum Separation Distances

Minimum Separation Distances
Ft. McClellan, M2 Parcel
M15 WP Hand Grenade
30 June 2000

REQUESTED BY: Valerie Clinkenbeard
PREPARED BY: Michelle Crull, PhD, PE

This form shows calculated distances only. It does not constitute approval. Concurrence of CEHNC-OE-S is required to determine the applicable distance for a specific site.

In accordance with (IAW) OE Center of Expertise Interim Guidance Document 00-01, use of the range to no more than 1 hazardous fragment/600 sq ft as the minimum separation distance for accidental detonations requires written justification, a risk analysis, calculation of this distance by CEHNC-ED-CS-S, and concurrence of CEHNC-OE-S.

CALCULATIONS FOR UNINTENTIONAL DETONATIONS

Maximum Fragment Range = 517 ft
Range to No More Than 1 Hazardous Fragment/600 sq ft = 200 ft
Range to 0.9 psi Overpressure = 17 ft

IAW OE Center of Expertise Interim Guidance Document 00-01, the minimum separation distance for intentional detonations may not be less than the default distance provided in DoD 6055.9-STD or the maximum fragment range or the K328 overpressure distance.

CALCULATIONS FOR INTENTIONAL DETONATIONS

Maximum Fragment Range = 517 ft
K328 Overpressure Range = 111 ft

The primary fragmentation characteristics used in the calculation of the values listed above were computed IAW CEHNC-ED-CS-S-98-1. The maximum fragment range was calculated using the maximum weight fragment and the initial velocity from these characteristics in the computer software TRAJ. The range to no more than 1 hazardous fragment/600 sq ft was calculated IAW CEHNC-ED-CS-S-98-2.

SIGNATURES:

Michelle Crull 6/30/00
Subject Matter Expert

Michelle Crull 6/30/00
acting CEHNC-ED-CS-S Branch Chief

ATTACHMENT 2

CEHNC Memorandum-Reduction of Minimum Separation Distance

DEPARTMENT OF THE ARMY
HUNTSVILLE CENTER, CORPS OF ENGINEERS
P.O. BOX 1600
HUNTSVILLE, ALABAMA 35807-4301

REPLY TO
ATTENTION OF

CEHNC-OE-S (200-1c)

30 June 2000

MEMORANDUM FOR CEHNC-OE-DC (Mr. David Skridulis)

SUBJECT: Contract DACA 87-99-D-0010, Task Order 05, Ordnance and Explosives Removal Action, M2 Parcel, Fort McClellan, Anniston, Alabama - Reduction of Minimum Separation Distance (MSD)

1. References:

a. Memorandum, CEHNC-OE-CX, 2 March 2000, Interim Guidance Document 00-01.

b. Memorandum, CEHNC-OE-DC, 13 April 2000, SAB (Encl).

2. Your request to reduce the MSD at the M2 Parcel at Fort McClellan to 200 feet is approved. The reduced distance is based on the M15 White Phosphorus Hand Grenade range to no more than 1 hazardous fragment/600 square feet.

3. Should any other munition be discovered, all intrusive work will cease, and the MSD will be reevaluated.

4. If you have any questions, please call Mr. Greg Bayuga, OE Safety Group, at 256-895-1596.

FOR THE DIRECTOR OF
ORDNANCE AND EXPLOSIVES:

Wayne Galloway

WAYNE H. GALLOWAY
Chief, Safety Group
for Ordnance and Explosives

CEHNC-OE-DC

30 June 2000

MEMORANDUM FOR CEHNC-OE-S (Mr. Wayne Galloway)

SUBJECT: Contract DACA87-99-D-0010, Task Order 05, Ordnance and Explosives Removal Action, M2 Parcel, Fort McClellan, Anniston, Alabama - Reduction of Minimum Separation Distance

1. Reference CEHNC-OE-CX Interim Guidance Document 98-08.

2. Request approval to reduce the minimum separation distance for subject project to the "1 in 600" distance for normal OE operations.

3. The most probable munition (MPM) for the M2 Parcel is the M15 White Phosphorus Hand Grenade. The maximum fragment range for this item is 517 feet. The 1 in 600 distance for this item would be a minimum separation distance of 200 feet (See Attachment). The only evidence that this ordnance item may be present within the M2 Parcel was the remains of the top of a WP grenade was found approximately 300 feet north of the M2 Parcel. However, approximately 30 acres of grids have been cleared in this area and no other evidence of WP has been identified.

4. The M2 Parcel consists of twenty acres of wooded property that is part of an OE training area. The M2 Parcel is bordered on the west by Highway 21, a four lane highway which is the main thoroughfare for the city of Anniston, and on the south by an occupied commercial facility. In order to maintain the 200 feet MSD for clearance of grids located on the west and south boundaries, traffic will have to be halted on Highway 21 to the west of the M2 Parcel and the facility would have to be evacuated to the south of the M2 Parcel.

5. At any time an OE item is identified at the site which would change the assumptions made from the existing information, all operations will be halted until the MPM and MSD have been reevaluated and approved by the appropriate agencies.

6. If you have any questions please the Project Engineer, Valerie Clinkenbeard at 5-1622.

Valerie Clinkenbeard
Project Engineer, Ed-Cs-G

Concurrence: _____
Wayne Galloway
CEHNC-OE Safety Chief

Date: 30 June 2000

ATTACHMENT 3

Ammunition Supply Point

Explosive Storage Limits and License

EXPLOSIVE STORAGE LIMITS & LICENSE

(For use of this form, see NGR 385-10, DA PAM 385-64)

1. EXPLOSIVES STORAGE LOCATION (Include Facility Name & State)	2. DATE PREPARED
AMMUNITION SUPPLY POINT, FT MCCLELLAN, ALABAMA	03/01/2000
3a. Structure type: NON STANDARD EARTH COVERED MAGAZINE #10 BLDG 4412	3b. Site type: AMMUNITION SUPPLY POINT
3c. Drawing & Revision #:	4. LICENSE # (Issued by certifier)

5. HAZARD CLASS	6. TARGET ON WHICH REQD DISTANCE IS BASED	7. TYPE DISTANCE	8. QUANTITY DISTANCE SEPARATION		9. MAXIMUM ALLOWABLE NET EXPLOSIVE WEIGHT IN POUNDS
			ACTUAL FEET a.	REQUIRED FEET b.	
1.1	BLDG 4420	INTRALINE	280	280	3764
(18)1.2					NONE
(12)1.2					NONE
(08)1.2					NONE
(04)1.2	BLDG 4420	INTERMAGAZINE	280	200	CAPACITY
1.3	BLDG 4420	INTERMAGAZINE	280	100	CAPACITY
1.4	BLDG 4420	INTERMAGAZINE	280	50	CAPACITY

10a REMARKS

ANNUAL REVIEW OF EXISTING FACILITIES. NO CHANGES HAVE BEEN MADE.

10b DDESB APPROVAL DATE:

10c Inhabited Building & Public Traffic Route data (If not identified above)

	DESCRIBE EXPOSED SITE		DESCRIBE EXPOSED SITE
IBD:> 6560 FT	INSTALLATION BOUNDRY	PTR:> 5740 FT	U.S. HIGHWAY 21

11. PREPARED / REVIEWED BY

SIGNATURE _____ TITLE QASS

QUALITY ASSURANCE SPECIALIST AMMUNITION SURVEILLANCE DATE: 4-4-2000

12. MAPS / DISTANCES / DESIGN VERIFIED & REVIEWED BY:

_____ DATE: _____

FACILITIES ENGINEER

13. APPROVED BY

_____ DATE: 4-4-2000

SITE COMMANDER

14. CERTIFIED BY:

_____ DATE: 4-14-2000

STATE SAFETY MANAGER

NGB Form 385-64-1 (T) 29 Oct 1999 8 1/2 X 11