Final Action Memorandum

for the

M2 Parcel

Fort McClellan,
Anniston, Alabama

August 2000

Prepared by

U.S. Army Engineering and Support Center, Huntsville

ACTION MEMORANDUM

ORDNANCE AND EXPLOSIVES REMOVAL ACTION

M2 PARCEL

FORT MCCLELLAN

ANNISTON, ALABAMA

August 2000

I. PURPOSE: This decision document presents the selected action for the M2 Parcel at Fort McClellan (FMC) in Anniston, Alabama. In September of 1999, FMC was closed under the Base Realignment and Closure Act. This action is being taken under the Ordnance Response Program to address other environmental damage (such as the detection and disposal of unexploded ordnance (UXO) which creates a substantial endangerment to the public's safety. The decision process is consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR 300.120d, 40 CFR 300.415). Ordnance and Explosives (OE) response actions will be executed in compliance with 40 CFR Part 260 et al –Military Munitions Rule; the OE requirements of DoD 6055.9-STD; Army Regulation (AR) 385-61; AR 385-64; Department of the Army Pamphlet (DA Pam) 385-61; HQDA LTR 385-98-1 "Explosives Safety Policy for Real Property Containing Conventional Ordnance and Explosives'; and other applicable OE publications. All DoD and DA safety and health regulations and procedures will be complied with. The decision is based on the administrative record for the site including the Engineering Evaluation/Cost Analysis dated June 2000.

A. DoD and EPA Management principles for Implementing Response Actions at Closed, Transferring, and Transferred (CTT) Ranges

DoD is committed to promulgating the Range Rule as a framework for response actions at CTT military ranges. EPA is committed to assist in the development of this Rule. The legal authorities that support site-specific response actions at CTT ranges include, but are not limited to, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as delegated by Executive Order (E. O.) 12580 and the National Oil and Hazardous Substances Contingency Plan (NCP); the Defense Environmental Restoration Program (DERP); and the DoD Explosives Safety Board (DDESB). A process consistent with CERCLA and these management principles will be the preferred response mechanism used to address UXO at a CTT range. EPA and DoD further expect that where this process is followed, it would also meet any applicable RCRA corrective action requirements. These principles do not affect federal, state, and tribal regulatory or enforcement powers or authority concerning hazardous waste, hazardous substances, pollutants or contaminants, including imminent and substantial endangerment authorities; nor do they expand or constrict the waiver of sovereign immunity by the United States contained in any environmental law.

B. Response Activities under CERCLA

DoD Components may conduct CERCLA response actions to address explosives safety hazards, to include UXO, on CTT military ranges per the NCP. Response activities may include removal actions, remedial actions, or a combination of the two.

- DoD may conduct response actions to address human health, environmental, and explosives safety concerns on CTT ranges. Under certain circumstances, other federal and state agencies may also conduct response actions on CTT ranges.
- Removal action alternatives will be evaluated under the criteria set forth in the National Contingency Plan (NCP), particularly NCP §300.410 and §300.415.
- DoD Components will notify regulators and other stakeholders, as soon as possible and to the extent practicable, prior to beginning a removal action.

- Regulators and other stakeholders will be provided an opportunity for timely consultation, review, and comment on all phases of a removal response, except in the case of an emergency response taken because of an imminent and substantial endangerment to human health and the environment and consultation would be impracticable (see 10 USC 2705).

- Explosives Safety Submissions (ESS), prepared, submitted, and approved per DDESB requirements, are required for Time Critical Removal Actions, Non-Time Critical Removal Actions, and Remedial Actions involving explosives safety hazards, particularly UXO.

- The DoD Component will make available to the regulators, National Response Team, or Regional Response Team, upon request, a complete report, consistent with NCP §300.165, on the removal operation and the actions taken.

- Removal actions shall, to the extent practicable, contribute to the efficient performance of any anticipated long-term remedial action. If the DoD Component determines, in consultation with the regulators and based on these Management Principles and human health, environmental, and explosives safety concerns, that the removal action will not fully address the threat posed and remedial action may be required, the DoD Component will ensure an orderly transition from removal to remedial response activities.

II. SITE CONDITIONS AND BACKGROUND: This is a non-time-critical removal action to minimize the threat to the public due to the potential presence of ordnance and explosives (OE).

A. Site Description

1. Removal Site Evaluation: 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.

The M2 Parcel consists of approximately 20 acres and is located on the western boundary of FMC just south of Summerall Gate Road. The M2 Parcel has been identified as part of a much larger undocumented training area for Ordnance and Explosives (OE). Although the full extent of the training area has not been delineated, other site investigations have determined that the potential presence of OE extends east from Summerall Gate along the proposed route of the Eastern Bypass as well as encompassing the M2 Parcel. Most of the potential OE items suspected to be on the M2 Parcel have small explosive hazards, no evidence of high explosives or Chemical Warfare Materiel have been associated with the M2 Parcel. The period and duration of training that was conducted in the M2 Parcel is unknown.

2. Physical Location: The former Fort McClellan (FMC) main post is bounded to the south and west by the City of Anniston and to the northwest by the City of Weaver and consists of 18,929 acres. Adjoining the former main post to the east is the Choccolocco Corridor, which connects the post to the Talladega National Forest.

The M2 Parcel is approximately 20 acres located 400 feet south-southeast of the Summerall Gate Road, east of the Anniston-Jacksonville highway and adjacent to the western Main Post boundary. The parcel is bounded to the south and east by a service road. A chain link fence extends along the southern parcel boundary.

3. Site Characteristics: FMC was closed under the Base Realignment and Closure Act in September 1999, but the public does have access to the site. Portions of FMC have been transferred, licensed, permitted or leased to other Federal and local agencies. While there is no official current use of the M2 Parcel, it is believed that the site may unofficially be accessed by hunters and hikers. It is anticipated that the future use of the M2 Parcel will be commercial, further increasing the accessibility of this site.

4. Release or Threatened Release to the Environment: The M2 Parcel has been identified as part of an undocumented training area for Ordnance and Explosives (OE). The potential OE that is suspected to be on the M2 Parcel and its associated hazards are identified in Table 1.1. No evidence of high explosives or Chemical Warfare Materiel has been associated with the M2 Parcel. The period and duration of training that was conducted in the M2 Parcel is unknown. However, the items that have been identified are representative of troop training and fighting using items to simulate a service item in weight design and ballistic properties. These items may be inert or have a small quantity of explosive filler, such as black powder used as a spotting charge (Table 1.1). Items may also contain incendiary material used for signaling and creating smoke screens, which were typical training activities. This creates a potential safety hazard on land that will be accessible to the public.

TABLE 1.1- Potential OE at M2 Parcel

MUNITION/COMPONENT	Explosive/Incendiary Hazard	Calculated Penetration Depth
WP Hand Grenades	15 oz. White Phosphorus filler, incendiary	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	28.35 g black powder,	Surface

(MK II)	explosive	
Mine Activator, practice (M1)	Small explosive charge	Surface
Mine, anti-personnel, practice (M8)	11 g black powder, explosive	Surface

The source media consists of OE training items that may still contain explosive spotting charges or incendiary material. The primary release mechanism was troop training in firing, throwing, and placement of these items. The secondary release mechanism was disposal of items through burial after training was completed. Transport pathways for OE for the M2 Parcel include frost heave and erosion which may bring subsurface items to the surface. Currently the site is not used and access is restricted; most of the site is undeveloped. The site is not currently maintained in any fashion. The only plausible receptor under the current land use is the recreational site user (hunters and hikers) who bypasses the existing controls and his exposure would be limited to encountering OE on the ground surface. The proposed land use receptor would be an office worker. However, with the proposed construction of an office building this would be limited to the initial construction workers only.

5. NPL Status: Fort McClellan is not on the National Priorities List.

6. Maps: Attached is a map indicating the M2 Parcel recommended for a non-time critical removal action for OE.

B. Other Actions to Date

1. Previous Actions: There have been no previous OE removal activities within the M2 Parcel. There have been several investigations in the area of the M2 Parcel, including an Archives Search Report, an Environmental Assessment, historical aerial photography investigation, geophysical

surveying, and ground reconnaissance. These investigations are discussed in Section 1.3 of the Engineering Evaluation/Cost Analysis for the M2 Parcel.

2. Current Actions: Currently, an SI is being performed on the M2 Parcel for other hazardous contaminants. There are no activities related to OE occurring within the M2 Parcel. However, a contractor is performing an interim removal action for OE over the proposed footprint of the Eastern Bypass which lies just north of the M2 Parcel.

C. State and Local Authorities' Role

1. State and Local Actions to Date: For the ownership of Federal land to be transferred to the Anniston-Calhoun County Fort McClellan Development Joint Powers Authority, the ADEM and USEPA are reviewing and commenting on the Finding of Suitability to Transfer. The ADEM and USEPA are reviewing all actions to ensure that risks have been mitigated or minimized to a manageable level before ownership is transferred. The ADEM and US EPA are integral members of the Base Cleanup Team (BCT), providing regulatory oversight for this proposed removal action and will be afforded an opportunity to review and comment on all technical documents and plans that support Army actions.

2. Potential for Continued State/Local Response: Since the M2 Parcel is on Federal property, currently neither State nor local authorities respond to OE found at the site. After transfer of the property from Federal control, the Anniston police will respond first to any potential OE found at the site. The Anniston police will then be responsible for contacting the nearest EOD unit and securing the site until the EOD unit responds. The Anniston Police department is located at 1200 Gurnee Avenue, Anniston, AL and can be contacted by dialing 911 or (256)238-1800.

III. THREATS TO PUBLIC SAFETY AND ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to Public Safety: All previous investigations in and around the M2 Parcel indicate it was used for training with OE practice items and training aids. Any OE or ordnance related scrap that resulted from this activity would be expected to be located primarily on the ground surface or within the upper 2 feet of subsurface. This distribution of the OE increases the risk of individuals encountering OE.

Previous investigations adjacent to the M2 Parcel also indicate that a low density of OE would be expected to be located within the M2 Parcel. The geophysical data that was collected adjacent to the M2 Parcel indicates that there is a likelihood of OE within the parcel (approximately 100 to 200 subsurface anomalies per acre are estimated). Based upon other activities adjacent to the parcel, it is estimated that 10-20 % of potential anomalies are OE related. This creates a low risk of incidental hunters and hikers encountering OE. However, it is anticipated that future uses would include construction activities. This significantly increases the risk of encountering OE.

Risk from incidental contact with OE also depends on the condition of the OE item. If expended, these items have no explosive hazard associated with them. If unexpended, most of these items will have a small explosive hazard associated with it. In addition, unexpended items containing smoke or White Phosphorus are also an incendiary hazard. The most sensitive of these would be an item containing White Phosphorus which ignites immediately upon exposure to air. Although the risk of death to an individual due to detonation of one of these items is very low, there is a risk of serious injury to an individual who is in very close proximity to an item when detonated or ignited.

Currently, all hunters who obtain permits to hunt at FMC are required to attend safety training to increase awareness associated with the potential of encountering OE at FMC and the appropriate actions to take when this happens. This significantly lowers the risk of an OE accident for these individuals. However, other individuals who may access the M2 Parcel without authorization may be unaware of the potential OE and its associated hazards. Human nature is to closely examine an unfamiliar item in order to identify it. This increases the likelihood that someone may pick an item up to try to identify it. This increases the risk of detonation or ignition of an unexpended OE item in close proximity to an individual. Because the public may currently have access to the site and the

future use of the property will increase public accessibility to the site, the ordnance presents substantial endangerment to the public safety.

Under its current use, the M2 Parcel does not pose an imminent danger to public health and the environment requiring an emergency or time-critical removal action. However, the proposed future use of this property is commercial development. The potential for exposure to OE during this development may present substantial danger to public health and welfare. Thus, the U. S. Army proposes a non-time critical removal action at this site to reduce the risk of exposure to ordnance and explosives (OE). The National Oil and Hazardous Substance Pollution Contingency Plan (NCP) which was established in 1972 under the Clean Water Act and revised in February 1990, designated DoD as the removal response authority for incidents involving munitions. Applicable sections of the NCP for this action include 40 CFR 300.120d (DoD authorization) and 40 CFR 300.415 (Removal Action). Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) was enacted by Congress in 1980 and subsequently amended by SARA of 1986 and authorizes federal action to respond to the release or threatened release of hazardous substances into the environment that may present an imminent or substantial danger to the public health or welfare. Applicable sections of CERCLA for this action include 42 USC 9604.

B. Threats to the Environment: Accidental detonation of ordnance has little impact on the environment unless fires are started.

IV. ENDANGERMENT DETERMINATION: Since the public will have access to the site and there are no administrative controls to ensure their safety, the ordnance presents substantial endangerment to the public safety.

V. PROPOSED ACTIONS AND ESTIMATED COSTS: The following four alternatives were considered for the M2 Parcel:

- No Further Action
- Land Use Controls

- Construction Support
- Surface and Subsurface Clearance of OE with Land Use Controls (LUC)

The "No Further Action" alternative may leave undiscovered OE in the environment that would pose an undetermined but definite risk to the public. "Land Use Controls" consists of various public awareness components including printed media, an ad-hoc committee, classroom education, visual media, and exhibits/displays, as well as policy modifications by subsequent owners and deed notices. The alternative does not include OE removal except when the public discovers it. The "Construction Support" alternative, would entail providing surface and subsurface clearance of OE in support of planned construction activities. The clearance would be limited to areas where intrusive activities are necessary to complete construction. Clearance activities would not be scheduled until a construction design was available. UXO qualified personnel would use metal detection devices to ensure that any OE items that may exist above or below the ground surface in areas where intrusive construction activities were planned were detected. Any OE located during the sweep would be inspected to ensure its stability and disposed of in accordance with an approved detailed work plan.

The "Surface and Subsurface Clearance of OE with Land Use Controls" alternative includes the surface and subsurface clearance of OE items to depth with LUCs. LUCs in the form of education of site workers on the potential OE hazards that may be associated with the property and identification of proper notifications to take if any OE is encountered are considered essential for all property of this nature. It was concluded that the only alternative that provides sufficient protection to public safety and the environment, complies with applicable or relevant and appropriate requirements (ARARs), and provides both long term and short term effectiveness is the "Surface and Subsurface Clearance of OE with Land Use Controls" alternative.

A. Proposed Actions

1. Proposed Action Description: The recommended removal action for the M2 Parcel is a surface and subsurface clearance to depth with Land Use Controls. It consists of detection/location phase and a removal phase. The detection/location phase may consist of the use of an instrument capable

of detecting metallic and other dense objects to locate surface and potential subsurface OE or the geophysical mapping of the site to detect and identify, through digital output, the location of subsurface anomalies. Surface anomalies will be removed or destroyed in place. Detected subsurface objects, suspected of being OE, will be excavated and destroyed in place or removed and destroyed at a central location. OE related scrap will be removed, inspected, certified safe, and turned over to the local Defense Reutilization Marketing Organization (DRMO) or a local scrap dealer. All disturbed sites (excavations and detonations) will be returned to their original condition, which may include reseeding and replacing natural ground cover as necessary. Physical controls such as sand bags will be used to minimize disturbances caused by detonations.

Upon completion of the removal action, its effectiveness will be evaluated for the site. Due to the diverse nature of OE related activities at the site, the risk to the public may not be completely eliminated, even though it will be significantly reduced. It is anticipated that the Land Use Controls will reduce any residual risk. LUCs in the form of education of site workers on the potential OE hazards that may be associated with the property and identification of proper notifications to take if any OE is encountered are recommended. Any Land Use Controls will be in accordance with the Land Use Control Implementation Plan (LUCIP).

2. Contribution to Remedial Performance: OE presents a possible safety hazard to humans and the environment. Removal of surface and subsurface OE will significantly increase public safety for the site. If at any time information indicates that a residual risk from OE remains at the site, the site will be reevaluated and other actions conducted if required to ensure the public safety.

3. Description of Alternative Technologies Several technologies for detection, navigation, and data processing were evaluated during a field demonstration at Fort McClellan in 1999. These included EM 61's and 858 cesium vapor magnetometers in a variety of transport configurations for detection. The following systems were evaluated for navigation: USRADS 2200, USRADS 2300, Horizontal Laser Fan-beam, and fiducials. Four different systems were used for data processing including MTADS-DAS, UX Detect, U-Hunter, and proprietary software. The most effective combination of systems proved to be an EM 61 using USRADS 2200 for navigation and UX-Detect for gridding geophysical data and proprietary software for section of anomalies for investigation.

This resulted in a Probability of identification of targets of 98% with a false positive ration of 2.12:1 and a mean radial error of 1.44 feet for positioning accuracy.

4. EE/CA: The EE/CA for the M2 Parcel, dated June 2000, includes a discussion of alternative actions. Regulatory and public comments have been received and currently being resolved. No comments opposing the recommended action have been received.

5. Applicable or Relevant and Appropriate Requirements (ARARs): This removal action will be accomplished in accordance with the ARARs identified in the M2 Parcel EE/CA Section 2.5.

6. Project Schedule: The removal action is planned for fiscal year 2000 and is estimated to take approximately 4-6 weeks of field work.

B. Estimated Costs. All cleanup costs will be funded by the Department of Defense. Estimated costs are:

Removal Action Cost	$ 125,000-$160,000

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN: Delayed or no action will result in continued public exposure to possible OE and will delay the proposed transfer of property.

VII. OUTSTANDING POLICY ISSUES: The Land Use Controls proposed for the M2 Parcel and their proposed implementation will be addressed in the Land Use Control Implementation Plan (LUCIP). This document is currently in internal draft form and has not undergone regulatory review.

VIII. ENFORCEMENT: The Department of Defense (DoD) has responsibility for the OE removal action at this site. The U. S. Army proposes a non-time critical removal action to reduce the risk of exposure to ordnance and explosives (OE) at the M2 Parcel. This action will be will be executed in compliance with 40 CFR Part 260 et al –Military Munitions Rule; the OE requirements of DoD 6055.9-STD; Army Regulation (AR) 385-61; AR 385-64; Department of the Army Pamphlet (DA Pam) 385-61; and HQDA LTR 385-98-1 "Explosives Safety Policy for Real Property Containing Conventional Ordnance and Explosives". Legal authorities governing OE response actions include:

Defense Environmental Restoration Program (DERP) was established by Congress in 1986 under Chapter 160 of SARA. DERP directed the Secretary of Defense to "carry out a program of environmental restoration" at facilities under the jurisdiction of the Secretary of Defense.

National Oil and Hazardous Substance Pollution Contingency Plan (NCP) which was established in 1972 under the Clean Water Act and revised in February 1990, designated DoD as the removal response authority for incidents involving munitions. Applicable sections of the NCP for this Engineering Evaluation/Cost Analysis (EE/CA) include 40 CFR 300.120d (DoD authorization) and 40 CFR 300.415 (Removal Action).

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) was enacted by Congress in 1980 and subsequently amended by SARA of 1986 and authorizes federal action to respond to the release or threatened release of hazardous substances into the environment that may present an imminent or substantial danger to the public health or welfare. Applicable sections of CERCLA for this Engineering evaluation/Cost Analysis (EE/CA) include 42 USC 9604.

The Land Use Control Implementation Plan (LUCIP) will contain all Land Use Controls (LUCs) for the M2 Parcel. The LUCs are enforceable via the M2 Parcel Site Investigation (SI) Decision Document or this Action Memorandum. The LUCIP will be finalized upon completion of the Removal Action Report and the M2 SI Report.

IX. RECOMMENDATION: This decision document represents the selected OE removal action, surface and subsurface clearance with Land Use Controls, for the M2 Parcel at Fort McClellan in Anniston, Alabama, developed consistent with requirements found in CERCLA as amended and the NCP. This decision is based on the administrative record for this site.

The proposed removal action is necessary for the intended use of the subject property and to reduce the current risk to public safety. Its approval is recommended. The total projected ceiling if approved will be $ 160,000.

Signature

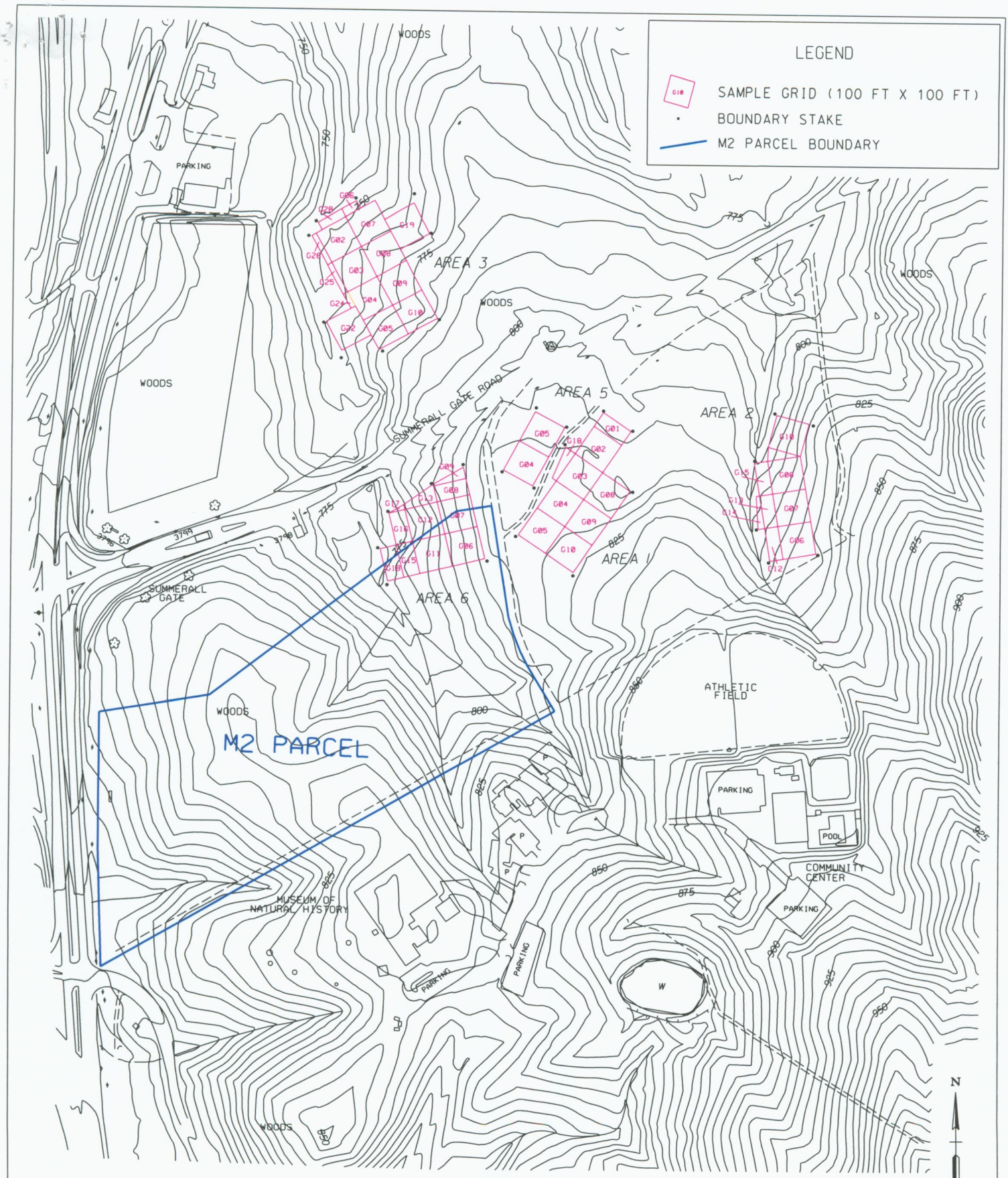
Glynn D Ryan

Glynn D. Ryan

BRAC Site Manager

Date

4 August 2000



MAP FROM MICHAEL BAKER, JR., INC., 1998

US ARMY ENGINEERING & SUPPORT CENTER
HUNTSVILLE, ALABAMA

PROJECT TITLE: FT. McCLELLAN

DRAWING TITLE: M2 PARCEL MAP

CONTRACT #:	PROJECT #:		DRAWN BY: TLS	SCALE: AS SHOWN	FIGURE 1