DEPARTMENT OF THE ARMY
US ARMY DEFENSE AMMUNITION CENTER
1 C TREE ROAD
MCALESTER, OK 74501-9053

REPLY TO
ATTENTION OF

SOSAC-ESL (385)

28 NOV 2001

MEMORANDUM FOR U.S. Army Training and Doctrine Command (ATCS-S), Fort Monroe, VA 23651-1034

SUBJECT: Explosives Safety Submission (ESS) for Ordnance Removal Action at the Eastern Bypass, Fort McClellan, AL

1. References:

a. Memorandum, Department of Defense Explosives Safety Board (DDESB), DDESB-KO, 27 November 2001, SAB (enclosure 1).

b. Memorandum Defense Ammunition Center (DAC), SMAAC-ESL, undated, SAB (enclosure 2).

2. The DDESB correspondence, reference 1a, provides final approval for subject safety submission, and is provided for your information and use.

3. Request two copies of the final removal report be sent to this office; we will forward one to DDESB.

4. The POC is Ms. Jean Gallagher, SOSAC-ESL, DSN 956-8876, email address jean.gallagher@dac.army.mil.

FOR THE DIRECTOR:

Encl
as

JAMES R. GRAY
Chief, Ordnance Explosives
Environmental Division

CF:
Office of the Director of Army Safety (DACS-SF), 2211 S. Clark St., Room 980, Arlington, VA 22202
U.S. Army Garrison (ATZN-ENV), Fort McClellan, AL 36205-5000
U.S. Army Engineering and Support Center, Huntsville (CEHNC-OE), P.O. Box 1600, Huntsville, AL 35807-4301

DEPARTMENT OF DEFENSE EXPLOSIVES SAFETY BOARD
2461 EISENHOWER AVENUE
ALEXANDRIA VIRGINIA A 22331-0600

27 NOV 2001

DDESB-KO

MEMORANDUM FOR DIRECTOR, DEFENSE AMMUNITION CENTER
ATTENTION: SOSAC-ESL

SUBJECT: Explosives Safety Submission (ESS) for Ordnance Removal Action at the Eastern Bypass, Fort McClellan, AL

References: (a) DAC SMAAC-ESL (385[A]) Memorandum, 1 October 2001, Subject as above, with enclosure

(b) DoD 6055.9-STD, Ammunition and Explosives Safety Standards, July 1999

(c) DDESB-KT Memorandum, dated 5 July 2000, subj: Approved Changes to: Hazard Division 1.2 Criteria; HD 1.1 hazardous Fragment Distances; Criteria for Permissible Exposure to On-base Roads from HD 1.1 Airblast Overpressure and Definitions for "General Public" and "Installation Related Personnel"; and Expected Blast Load from an Earth-covered Magazine

(d) US Army Corps of Engineers Report HNC-ED-CS-S-98-7, August 1998, "Use of Sandbags or the Mitigation of Fragmentation and Blast Effects Due to Intentional Detonations of Munitions"

(e) DDESB-KO Memorandum, 31 October 2001, Subject: Site Plan and Final Safety Submission for Storage Facility for Ordnance and Explosives Disposal Support, Fort McClellan, AL

We have reviewed the subject ESS forwarded by reference (a) against the requirements of references (b) and (c). Based on our review and the information you provided, we approve the ESS for ordnance and explosives (OE) removal action at OE Areas 1, 2 and 3 of the Fort McClellan Eastern Bypass project. In summary:

a. The depth of OE clearance for each OE Area is as follows:

(1) OE Area 1- One foot below ground surface, as already accomplished.

(2) OE Area 2 - Clearance-to-depth with institutional/land use controls and construction support to respond to residual OE that may be found during construction of the Bypass. Clearance-to-depth is the excavation and removal of all sub-surface items geophysically detected that potentially could be OE.

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL # of pages ▸ 3

To J. Gallagher	From L. Sánchez
Dept./Agency USATCES	Phone # DSN 221-1373
Fax # (918)420-8503/8473	Fax # 221-6227

Printed on

(3) OE Area 3 - No further action (except as noted in subparagraph f below) based on the fact that there is no history of ordnance use in this area, as supported by the Engineering Evaluation/ Cost Analysis.

b. The most probable munition (MPM) established for OE Area 2 is a 37mm HE, MK II projectile.

c. The minimum separation distance (MSD)/exclusion zone for OE Area 2 is 1,181 feet. A reduced exclusion zone of 200 feet may be applied when using the sandbag procedures at reference (d). The MSD and exclusion zone are based on calculations for the 37 mm HE, MK II, as presented in Appendix A of the subject ESS.

d. Demolition explosives will be stored in two Bureau of Alcohol, Tobacco and Firearms type 2 aboveground box magazines. Based on the site plan approved via reference (e), DoD OE items that may need to be stored overnight or longer and are safe to move also must be stored in these magazines.

e. The following institutional/land use controls apply to OE Area 2 after clearance-to-depth: Provide Alabama Department of Transportation site workers and construction personnel an educational program addressing potential OE hazards during construction of the Eastern Bypass; post signs along the Bypass warning not to dig prior to notifying designated officials; and provide construction support to respond to residual OE that may be found during construction of the Bypass.

f. Property transfer documents for OE Areas 1 and 3 will include a deed notice intended to provide information on notification requirements in case an OE item is found. The deed notice is made necessary because of potential for residual OE items in these areas due to the less than perfect performance of detection equipment (OE Area 1) and the proximity to other OE areas (OE Area 3).

g. If a recovered OE item is identified as suspect chemical warfare material, 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. Intrusive activities may not resume until proper disposition of the item is accomplished.

h. OE related items certified as inert and free of explosives will be maintained in a secured area until sale of the material is completed. The site plan for this secured area was approved via reference (e).

If at any time in the future the Army determines that additional OE response action is necessary for OE Areas 1, 2 or 3, an updated ESS must be submitted to this office.

The point of contact for this action is Ms. Lydia E. Sanchez, Safety/Environmental Engineer, (703) 325-1373, DSN 221-1373, E-mail address Lydia.Sanchez@hqda.army.mil.

William E Wright

WILLIAM E. WRIGHT
Captain, USN
Chairman

cc:
DACS-SE
DALO-AMA

DEPARTMENT OF THE ARMY
US ARMY DEFENSE AMMUNITION CENTER
1 C TREE ROAD
MCALESTER, OK 74501-9053

REPLY TO
ATTENTION OF

SMAAC-ESL (385[A])

01 OCT 2001

MEMORANDUM FOR Department of Defense Explosives Safety Board (DDESB-KO),
2461 Eisenhower Avenue, Alexandria, VA 22331-0600

SUBJECT: Explosives Safety Submission (ESS) for Ordnance Removal Action at the Eastern Bypass, Fort McClellan, AL

1. References:

a. Memorandum w/ enclosures, Training and Doctrine Command (TRADOC) (ATCS-S), 22 Aug 2001, subject: Transmittal of Explosive Safety Submission for the Proposed Eastern Bypass at Fort McClellan, AL (enclosure).

b. DOD 6055.9-STD, DOD Ammunition and Explosives Safety Standards, July 1999.

c. AR 385-64, U.S. Army Explosives Safety Program, 28 November 1997.

d. Memorandum, Department of Defense Explosives Safety Board (DDESB), DDESB-KO, 21 November 1996, subject: Final Safety Submission.

2. This submission has been reviewed for compliance with DOD 6055.9-STD as implemented by AR 385-64. Based on the information provided, the proposal is acceptable from an explosives safety standpoint and Army approval is granted. It is provided for Department of Defense Explosives Safety Board (DDESB) review with our recommendation for approval to allow OE removal and transfer of the property.

3. The following information is provided to assist in your review.

a. Documented use of the Ft McClellan site for military training began in 1912, when the Alabama National Guard established a Field Artillery Range there. The installation has been used for a wide range of training activities, from artillery training to the Chemical Corps School. Ft McClellan was closed in September 1999 under the 1995 Base Realignment and Closure (BRAC) Act.

b. This safety submission addresses a section of Ft McClellan that will be transferred to the Alabama Department of Transportation for construction of the Eastern Bypass highway. This tract has been divided into 3 distinct subsections called OE Areas 1,2, and 3 (See Figure 3 of ESS).

c. OE Area 1 was used for infantry unit level training; it was not a designated impact area. The training/practice rounds fired there would all be expected to be found on or near the surface.

(1) A 1-foot clearance was conducted over all of OE Area 1 as part of the pre-construction support provided to the Alabama Department of Transportation. Limited Engineering Evaluation/Cost Analysis (EE/CA) sampling was also done here. No OE was found during these activities. Numerous OE scrap items were found, but none were deeper than 12 inches.

(2) As a result, it has been determined that a 1-ft clearance is adequate for OE Area 1 and no further removal action is necessary.

SMAAC-ESL
SUBJECT: Explosives Safety Submission (ESS) for Ordnance Removal Action at the Eastern Bypass, Fort McClellan, AL

d. OE Area 2 contains documented impact and training areas. Site investigations and pre-construction support have found numerous OE items. The ESS proposed clearing this area to depth. To deal with the possibility of residual OE, an education program for site workers, signs, and construction support will also be provided.

e. OE Area 3 has no documented history of OE activities. A ground reconnaissance for the EE/CA found no OE in this area. As a result, no further action is necessary for OE Area 3.

f. The round with the greatest fragment distance that is expected to be found (Most Probable Munition) is the 37mm HE, Mk II projectile. The maximum fragment range of that round is the basis for the exclusion zone for intrusive activities (1181 feet).

g. All OE will be blown-in-place and sandbags will be used to mitigate the fragmentation and blast effect.

h. Demolition materiel (100 lbs HD 1.1) will be stored in a magazine in the Ammunition Supply Point (ASP) until the ASP is closed. Siting of this magazine was approved by your office 21 Nov 96 (ref 1d). The Alabama National Guard plans to relocate the ASP to Pelham Range; and then they will no longer store OE-support demolition materiel. A separate siting plan will be submitted for a new explosives storage facility. The proposed location for the new facility is shown on Figures 2 and 3 of the ESS.

4. The POC is Ms. Jean Gallagher, SMAAC-ESL, DSN 956-8876, email address jean.gallagher@dac.army.mil.

FOR THE DIRECTOR:

JAMES R. GRAY
Chief, Ordnance Explosives
Environmental Division

Encl
As

CF (wo/encl):
Office of the Director of Army Safety (DACS-SF), Chief of Staff, 2211 S. Clark Street., Room 980, Arlington, VA 22202
HQ U.S. Army Training and Doctrine Command (ATCS-S), Fort Monroe, VA 23651-5000
U.S. Army Garrison (ATZN-ENV), Fort McClellan, AL 36205-5000
U.S. Army Engineering and Support Center, Huntsville (CEHNC-OE), P.O. Box 1600, Huntsville, AL 35807-4301

DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
FORT MONROE, VIRGINIA 23651-5000

REPLY TO
ATTENTION OF

ATCS-S (385-64) 22 August 2001

MEMORANDUM FOR Director, U.S. Army Defense Ammunition Center, ATTN: SMAAC-ES, 1C Tree Road, McAlester, OK 74501-9053

SUBJECT: Transmittal of Explosive Safety Submission for the Proposed Eastern Bypass at Fort McClellan, Alabama

1. Reference memorandum, U.S. Army Garrison, Fort McClellan, ATZN-ENV, 20 July 2001, SAB (enclosure 1).

2. Attached document and enclosures forwarded for your review. Recommend approval.

3. Specific issues addressed in enclosure to enclosure 1 are addressed in electronic mail (enclosure 2).

4. Points of contact TRADOC Safety Office are Jack Kornfeld, DSN 680-2193 or commercial (757) 788-2193; Adam Janczewski, DSN 680-2845 or commercial (757) 788-2845. Point of contact TRADOC Environmental Office is Karen Barnes, DSN 680-5896 or commercial (757) 788-5896. Point of contact TRACOC BRAC Office is Robin Mills, DSN 680-3846 or commercial (757) 788-3846.

For John M Perrogno

2 Encl
as

GEORGE W. MORGAN
Director
TRADOC Safety, Occupational
Health, and Fire Safety

CF: ATBO-R, ATBO-GE

DEPARTMENT OF THE ARMY
U.S. ARMY GARRISON
FORT McCLELLAN, ALABAMA 36205-5000

REPLY TO
ATTENTION OF

JUL 20 2001

ATZN-ENV (1mm)

MEMORANDUM FOR Headquarters, U. S. Army Training and Doctrine Command
ATTN: ATBO-SE, Fort Monroe, Virginia 23651-5000

SUBJECT: Transmittal of Explosives Safety Submission for the Proposed Eastern Bypass at Fort McClellan, Alabama

1. The attached document titled *Final Conventional Explosives Safety Submission For Ordnance and Explosives Removal Action, Proposed Eastern Bypass, Fort McClellan, Alabama,* is provided for your review and approval. This document has been reviewed and concurred with by the U.S. Army Engineering and Support Center, Huntsville, Mandatory Center of Expertise for Ordnance and Explosives.

2. The subject document must be reviewed by the U. S. Army Technical Center for Explosive Safety (USATCES) and approved by the Department of Defense Explosives Safety Board (DDESB). Request you perform your review at the same time as USATCES in order to expedite the review and approval process. An additional copy of the document is included for your transmittal to USATCES.

3. Both the Environmental Protection Agency (EPA), Region 4, and the Alabama Department of Environmental Management (ADEM), reviewed a draft version of the document and their comments were incorporated.

4. POC is Mr. Ron Levy, Fort McClellan BRAC Environmental Coordinator, (256)848-6853 or Ms. Suzanne Murdock, Technical Manager for the Huntsville Center Corps of Engineers, (256)895-1795.

Encl

GLYNN D. RYAN
Site Manager

CF:
Mr. Mike Moore, Fort McClellan Safety Officer (w/encl)

Encl 1

Kornfeld, Jack T

From: gwilliams@fwenc.com
Sent: Friday, September 21, 2001 7:08 PM
To: Kornfeld, Jack T
Cc: SNeill@fwenc.com; JMcIlrath@fwenc.com
Subject: Re: FW: Explosives Safety Submission (ESS) for the Proposed Eastern B ypass at Fomer Fort McClellan, Alabama

Mr Kornfeld,

Thank you for your prompt attention to this issue. Please find my responses to the comments in blue text below. If you have any questions or require further clarification, please call or email. I do not think that any of the comments below pose any serious impediment to the document being forwarded as is.

Best Regards

Greg Williams
Delivery Order Manager
Foster Wheeler Environmental Corporation
ph: (256) 820 7904 fax: (256) 820 6322

"Kornfeld, Jack T"
<jack.kornfeld@monroe .army.mil>
08/21/01 04:28 PM AST

To: 'williamsg' <gwilliams@fwenc.com>
cc:
Subject: FW: Explosives Safety Submission (ESS) for the Proposed Eastern B ypass at Fomer Fort McClellan, Alabama

Mr. Williams,
Per our FONECON today request you address the following items.
Best regards,
Jack T. Kornfeld
JACK T. KORNFELD
Range Safety
TRADOC Command Safety Office
DSN 680-2193
Coml (757) 788-2193
Fax DSN 680-2145
e-mail: kornfel1@monroe.army.mil
——Original Message——
From: Barnes, Karen L (Contractor)
Sent: Monday, August 20, 2001 11:34 AM
To: Kornfeld, Jack T
Cc: Mills, Robin D Ms; Cole, Francine; Holsinger, Nathan S; Blume-Weaver, Richard
Subject: Explosives Safety Submission (ESS) for the Proposed Eastern ypass at Fomer Fort McClellan, Alabama

Encl 2

Jack,

After reviewing the subject document, I have the following comments:

1. page 3, section 3, - There is notice within this section of the pre-construction clearance work to 12 inches for OE Area 1(section 3.3.2) and notice of work done in OE Area 3 (section 3.4). But, There is no notice given in this section regarding the pre-construction clearance of 12 inches in OE Area 2. Suggest Section 3.3.2 - Eastern Bypass Construction Support state what was performed and found in OE Area 2 (see 1st sentence of section 6.1.1).

Response: Please refer to Section 3.2 which states " EODT have demobilized operations after a clearance to 1 foot in support of pre-construction activities in OE Area 2." Recommendation that no further action be taken on this comment.

2. In section 6.1.2 is brush clearance being conducted on the entire area of OE 2 or just the remaining few girds where no magnetometers work has been done to 12 inches below grade? Suggest this be clarified in this section. Do we still need to do brush clearance on the section that has undergone a 12 inche pre-construction clearance?

Response: Currently brush clearance is complete over the entire OE Area 2 and the remaining piles of mulched brush are being spread by the sub-contractor. There is no standing brush remaining in OE Area 2 and the sub-contractor should be off site around 7 September. Recommendation that this comment is now made redundant by virtue of work complete and no further action be taken.

3. In section 6.1.4 is the entire section of OE 2 being sub-divided into grids (100 ft by 100 ft) or just the remaining few grides where no work (12inch below grade clearance) has been done? Suggest this be clarified in this section.

Response: It is confirmed that the entire OE Area 2 is being sub-divided into 100' x 100' grids in order to enable the entire area to be geophysically mapped. Recommendation: The first sentence in Section 6.1.2 states: " Following brush clearance, the OE Area 2 area will be investigated with geophysics using ..." A slip sheet can be issued to the 20 addressees adding the word "entire" before "OE Area 2" and "sub-divided into 100' x 100' grids and" before "investigated" in this sentence if deemed necessary during the backcheck. Await backcheck response before issuing slip sheet.

4. To my understanding level, a mag and flag process was performed before the 12 inche pre-construction work was done and the mag and flag equipment is capable of dectecting beyond 12 inches. Why was the dectection level not set at a greater dectection range doing this pre-construction work? This may have eliminated the need to do geophysical work on the entire OE 2 area if data was e already collected on anomalies that were present or not present below 12 inches.

Response: The mag, flag and dig process that was carried out by EODT was the 12 inch clearance. The detectors used by that contractor consisted of

the Schonstedt and the Whites. The Schonstedt is a flux gate magnetometer which detects all ferrous materials. The area has highly magnetic soils and the Schonstedt was not found to be extremely effective due to it ringing off continuously in some areas due to the 'hot rocks'. The contractor then used the Whites All Metals detector which uses a Frequency Domain operating system. This detector does not have a deep detection depth and the search pattern is conical below the head which means that at the head it may be nine inches but as it gets deeper, it reduces in area down to a point. Although it is open to conjecture, this detector would not reliably detect items deeper than 12 inches.

Recommendation: No further action.

Karen L. Barnes
J.M. WALER ASSOCIATES, INC
Providing Environmental Management Support to Headquarter TRADOC
Fort Monroe, Virginia
(757) 788-5896
(757) 788-2362 - fax

ADEM

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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DIRECTOR

DON SIEGELMAN
GOVERNOR

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Groundwater: 270-5631
Field Operations: 272-8131
Laboratory: 277-6718
Mining: 394-4326
Education/Outreach: 394-4383

RCVD OCT 15 01 AM 10:15

October 9, 2001

Ronald M. Levy
BRAC Environmental Coordinator
Environmental Office, 291 Jimmy Parks Blvd.
US Army Garrison
Fort McClellan, Alabama 36205

RE: **ADEM Review and Concurrence:** *Final Conventional Explosives Safety Submission, Ordnance Explosives (OE) Removal Action for the Eastern Bypass* dated June 2001, Fort McClellan, Calhoun County, Alabama

Dear Mr. Levy:

The Alabama Department of Environmental Management (ADEM or the Department) has reviewed the subject *Final Conventional Explosives Safety Submission Ordnance Explosives (OE) Removal Action for the Eastern Bypass* dated June 2001 for Fort McClellan. ADEM agrees with the minimum separation distances based on the most probable munition (MPM) calculated for the installation. However, if certain ranges overlap and are viewed as one combined range, it appears that the MPM should be considered the 37 millimeter Mk II at 1181 feet. Based on our review, we concur with the submittal and offer no further comments for Army review.

For any questions or concerns regarding this matter please contact Mr. Philip Stroud at 334-270-5646 or via email at pns@adem.state.al.us.

Sincerely,

Stephen A. Cobb, Chief
Hazardous Waste Branch
Land Division

SAC/ps

cc: Mr. Doyle Brittain/EPA Region 4
Mr. Ellis Pope/USA COE, Mobile District
Mr. Jim Grassiano/ADEM
Mr. Mark Harrison/ADEM

File: ADEM Land Division/Hazardous Waste Branch/Fort McClellan, Correspondence, 2001

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

May 15, 2001

EMAIL & HAND DELIVERY

4WD-FFB

Mr. Ron Levy
BRAC Environmental Coordinator
U.S. Army Garrison/Transition Force
Environmental Office
291 Jimmy Parks Boulevard
Fort McClellan, AL 36205-5000

SUBJ: Draft Conventional Explosives Safety Submission; Ordnance and Explosives (OE) Removal Action Eastern Bypass
Fort McClellan

Dear Mr. Levy:

The Environmental Protection Agency (EPA) has reviewed the subject document. Based upon the information provided to EPA and as agreed upon in the May 10, 2001, On Board Review, EPA agrees with and approves the subject document. Thank you for your cooperation. If you have any questions, please call me at (404) 562-8549.

Sincerely,

Doyle T. Brittain
Senior Remedial Project Manager

cc: Lisa Kingsbury, Ft. McClellan
Jeanne A. Yacoub, IT
Ellis Pope, USA/COE
Phil Stroud, ADEM
Daniel Copeland, CEHNC-OE-DC