U.S. Army Corps of Engineers
Wilmington District

Action Memorandum

For Site-Wide Institutional Controls

Former Camp Butner
Butner, North Carolina

February 2005

U.S. Army Corps of Engineers,
Wilminton District
69 Darlington Avenue
Wilmington, North Carolina 28402-1890

ACTION MEMORANDUM FOR SITE-WIDE INSTITUTIONAL CONTROLS FORMER CAMP BUTNER BUTNER, NORTH CAROLINA

FOREWORD

This Action Memorandum presents the selected removal action of Site-Wide Institutional Controls within the former Camp Butner, Butner, North Carolina. The U.S. Army Corps of Engineers (USACE) is the lead agency under the Defense Environmental Restoration Program (DERP) at the former Camp Butner Formerly Used Defense Site (FUDS), and has developed this Action Memorandum consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision document will be incorporated into the larger Administrative Record file for former Camp Butner, which is available for public view at both the South Branch of the Granville County Library at 1547 S. Campus Drive, Creedmoor, North Carolina as well as the Town of Butner Operations Center, 205C West E Street, Butner, North Carolina. This document, presenting a selected remedy with a initial capital cost estimate of $86,750 with annual maintenance cost of $11,500, is approved by the undersigned, pursuant to Memorandum, DAIM-ZA, September 9, 2003, Subject: Policies for Staffing and Approving Decision Documents (DDs), and to Engineer Regulation 200-3-1, Formerly Used Defense Sites (FUDS) Program Policy.

APPROVED:

Charles R. Alexander
Colonel, Corps of Engineers
Commanding

5/13/05
Date

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1.0 INTRODUCTION

The United States Army Corps of Engineers, Engineering and Support Center, Huntsville (USAESCH) issued a contract to Parsons for conducting an EE/CA at the former Camp Butner, Butner, North Carolina. In order to fulfill the contract requirements, Parsons conducted an EE/CA of five areas of interest (AOIs) located within the former Camp Butner, as designated in the Archives Search Report (ASR, USACE 1993, revised 1997 & 2003) and final Statement of Work (SOW, May 2000, revised 10 December 2001 & 16 August 2002). The results of the EE/CA investigation were presented in the Final EE/CA Report (Parsons, July 2004). This document specifically presents the Site-Wide Institutional Controls Xxxxx actions only selected for the former Camp Butner providing a management of residual risk via implementation of institutional controls strategies. The physical removal of explosives to eliminate ordnance hazards is addressed in area-specific Action Memoranda.

2.0 BACKGROUND

2.1 The former Camp Butner (the Camp) is a formerly used defense site (FUDS) located primarily in Granville County, North Carolina (75%) but does also include some parcels within Durham and Person Counties, North Carolina. For purposes of the ordnance and explosives (MEC) engineering evaluation/cost analysis (EE/CA) characterization study, the Camp comprises approximately 40,384 contiguous acres; however, 4750 acres currently under the jurisdiction of the North Carolina National Guard (NCNG) are used as active ranges and were excluded from the study. The present Town of Butner, formerly the facility cantonment area, resides within the site boundary. The site is located approximately 30 to 35 miles northeast of Raleigh-Durham, North Carolina along Interstate I-85 and west of the Town of Stem (Figure 1). The boundary of the site is loosely defined by the old Range Road, which makes a contiguous loop around the site although identified by multiple names and County designations. The northern and eastern boundary roughly follows Range Road (County Road 1126). County Road 1721 (continuation of Range Road into Person County) defines the western boundary and continues southward onto Cassam Road. The Southern Railroad defines the southeastern border (Figure 2).

2.2 The Camp was established as a result of the War Department acquiring the property from private land owners in 1942 for use as a training and cantonment facility during World War II. The Camp was designed to house up to 40,000 troops and was primarily established for the training of infantry divisions (including 78th, 89th, and 4th) and miscellaneous artillery and engineering units. There were approximately 15 ammunition training ranges, a grenade range, 1000-inch range, a gas chamber, and a flame-thrower training pad. In addition to infantry training, the facility was the location of the one of the Army's largest general and convalescent hospitals and the War Department's Army Redeployment Center. The ordnance used at the camp included rockets, mortars, grenades, and artillery rounds up to 240mm. UXO/MEC that may be encountered within the Camp include: 2.36-inch rockets (practice and high explosive

[HE]), rifle and hand grenades, 20mm through 155mm HE projectiles, 60mm and 81mm mortars, anti-personnel practice mines, and demolition items to include TNT.

2.3 The Camp was declared excess by the War Department in 1947 and property dispersal initiated. Much of the property was sold back to the original owners, however, some parcels included provisions in the property deed restricting land use to 'surface use only'.

2.4 Dedudding operations were conducted in selected areas in 1947 and continued through 1950. The Recapitulation Dedudding Report presented in the ASR stated that 1366 UXO/MEC items had been discovered and destroyed by the completion of dedudding operations. Six areas (designated A-F) were identified during dedudding inspections as warranting land restrictions to 'surface use only' due to the numerous amounts of HE duds found (Figure 3). Periodic inspections of the six areas with land restrictions continued between 1958 and 1969. During the inspections and removal of ordnance from the restricted areas other property owners identified ordnance for disposal that had been found in unrestricted areas. Table 1 lists the type of ordnance items found during the annual/semiannual inspections of restricted areas (as well as general findings within unrestricted areas) at the former Camp Butner Site:

TABLE 1
FORMER CAMP BUTNER
ANNUAL INSPECTION (DEDUDDING) FINDINGS
(1958 – 1969)

AREA RESTRICTED TO 'SURFACE USE ONLY'	TYPE OF UXO RECOVERED
Area A	Rifle grenade, 2.36-inch rockets, 37mm, 40mm, 81mm mortar, 105mm, 155mm, and 240mm projectiles
Area B	2.36-inch rockets and 81mm mortars
Area C	81mm mortars, 37mm, 105mm, 155mm, and 240mm projectiles
Area D	2.36-inch rocket, 37mm and 40mm projectiles
Area E	2.36-inch rocket
Area F	No findings reported
Other "Unrestricted" Areas	Hand grenades, 37mm, 40mm, 60mm, 81mm, 105mm, and 155mm projectiles and 2.36-inch rockets

2.5 Although much of the site remains rural, unbridled residential development is occurring along artery roads and near Lake Butner. Current residential development is encroaching in areas to the south and stretching north along the eastern boundary of the site. Sprawling development will continue to be experienced in these regions due to migration from Durham and Wake Counties. The cause of the development is the proximity to the growing Raleigh-Durham area. Many large family-owned tracts previously idle or used for agricultural purposes for 50 years are now being converted to single family subdivisions. As growth and residential development continue throughout the region, land used for agriculture and forestry will consequently diminish. Several U.S. Army Corps of Engineers (USACE) tracts in the southern portion of the site,

specifically the 2300-acre Waterfowl Impoundment Reserve and Falls Lake State Park, are protected from residential development.

2.6 The USACE Rock Island District conducted a records search and reconnaissance of the project site in September 1993. The findings are documented in the Archives Search Report (ASR, USACE 1993/1997) and ASR Supplement (USACE, 2003). The former Camp was subdivided into six areas, as depicted on Figure 1 (Areas 1: Cantonment Area And Vicinity, Area 2: Ammunition Storage Area and Dump, Area 3: Grenade Training Ranges, Area 4: Ammunition Training Ranges and Impact Areas, Area 5: Remaining Land, and Area 6: NCNG (not investigated) for evaluating purposes based on former land use, terrain, and visual site inspection. Areas 1 and 4 were classified as having "confirmed" ordnance present. Areas 2 and 3 were classified as "potential" for ordnance presence. Area 5 was identified as "uncontaminated" and Area 6 was not assessed. Based on these recommendations the EE/CA investigation was initiated. Area 5 was included in the EE/CA investigation (in accordance with the project SOW) in order to confirm/disprove the ASR classification.

2.7 An EE/CA was conducted at the former Camp Butner to characterize the presence of MEC, analyze risk management alternatives, and recommend feasible MEC risk reduction alternatives for five of the six AOIs identified in the ASR. The EE/CA investigation results indicated the presence of UXO in several areas. As a result, the original AOI boundaries were modified in order to facilitate the appropriate selection of munitions response alternatives. Old AOIs 1 through 4 were combined and resectored to form nine AOIs including Area 1A (Flamethrower Range), Area 4 Proper, Area 4A, Area 4B, Area 4C, Area 4D, Area 4E, and Lakeview Subdivision (Figure 3). Area 5 was not changed. The re-sectored AOI boundaries were based on UXO type, UXO distribution, and current and near future land use.

2.8 During the EE/CA investigation, findings made by a property owner at the Lakeview Subdivision resulted in the allocation of sampling grids at this location. Based on the intrusive results, which included the demolition of a 37mm projectile, a Time Critical Removal Action (TCRA) was conducted to a depth of six inches at the 26-acre Lakeview Subdivision. A second TCRA was also conducted prior to finalization of the EE/CA report. The second TCRA included a small omission area from the first TCRA plus a parcel within Area 4C. The parcel in Area 4C was selected as a result of property owner findings of several heavy artillery items. Selected anomalies identified during a digital subsurface mapping were investigated to depth.

3.0 STATEMENT OF BASIS AND PURPOSE

3.1 The purpose of this EE/CA Action Memorandum is to present the selected Site-Site-Wide IC munitions response actions selected for the Camp. The basis for the selection of the Site-Wide response actions was in accordance with the DERP FUDS and relevant U.S. Army regulations and guidance for MEC programs. Based on the results of the completed EE/CA, which included a qualitative baseline risk evaluation and comparative analysis of potential munitions response actions, the most appropriate alternative was selected for each of the nine subareas. As a result of the comprehensive

evaluation of alternatives, Site-Wide IC was selected as the most appropriate and sole munitions response action for Area 5. This selection was primarily driven by the absence of significant hazardous ordnance-related contamination within this AOI. For Area 4D, Area 4E, and Area 4 (proper) Site-Wide IC was also selected in tandem with a residential removal action component. To ensure public safety associated within the AOIs (excluding Area 5), a two-acre subsurface removal action around each existing homestead is also selected. This selection was primarily driven by the lack of complete public exposure pathways present throughout much of the AOIs. Mechanisms will be developed for requesting UXO construction support for new residential dwellings. Recurring reviews will be conducted on 5 year intervals to ensure the selected response alternative remains appropriate.

3.2 For the balance of the nine AOIs (Area 1A, Area 4A, Area 4B, Area 4C, and Lakeview) removal actions were selected with Site-Wide IC intended to be an effective complement to the removal actions. Separate Action Memoranda have been prepared for the removal action sites.

3.3 The Final EE/CA Report describes the potential response alternatives that were evaluated for each of the AOIs within the site and presents the recommended munitions response alternative. As stated previously, Site-Wide IC strategies have been selected for the four individual sites and subsequently expanded to cover the entire site. The North Carolina Department of Environment and Natural Resources (NCDENR) and the U.S. Environmental Protection Agency (EPA) have been actively involved in the project and both agencies reviewed the EE/CA Report and subdocuments. Comments were received and addressed during multiple teleconferences and project team meetings held at NCDENR offices in Raleigh, North Carolina. Following comment resolution, NCDENR concurs with the EE/CA selected alternatives detailed in the Final EE/CA Report. All EPA comments were addressed and the agency has indicated they have no further comments.

3.4 The process for munitions response action selection is documented in the Administrative Record for the site. The project Administrative Record, which includes the ASR and other pertinent project documents, is maintained at two locations. The records are available for public access at the South Branch of the Granville County Library at 1547 S. Campus Drive, Creedmoor, North Carolina as well as the Town of Butner Operations Center, 205C West E Street, Butner, North Carolina.

4.0 PROJECT JUSTIFICATION

4.1 A variety of ordnance items were recovered within the AOIs during the EE/CA field investigation conducted at the former Camp Butner to include 13 UXO. The presence of UXO was confirmed in all AOIs with the exception of Area 5. UXO recovered during the EE/CA investigation at the former Camp Butner Site included one 155mm projectile, two 105mm projectiles, a 57mm projectile, three 2.36-inch bazooka rockets, three 37mm projectiles, Mk II hand grenade, M52-series nose fuze, and M1 practice mine with spotting charge and fuze. Additionally, 6 UXO were recovered during

the TCRA at the Lakeview Subdivision. No UXO was identified during the second TCRA although significant quantities of ordnance scrap were recovered. Ordnance scrap was found in all nine of the AOIs. All of the recovered ordnance items were consistent with the historical usage of the former Camp Butner.

4.2 The data collected during the EE/CA field investigation was used to perform a qualitative risk evaluation for assessing the MEC risk to public safety and the environment at the former Camp Butner. The qualitative risk analysis was completed based on the USAESCH MEC Risk Impact Assessment (MECRIA) evaluation tool. Results of the evaluation concluded that the overall explosive public safety risk in Area 5 is low indicating no imminent and substantial endangerment to public safety, welfare, and the environment. In Area 4D, Area 4E, and Area 4 (proper) the risk was characterized as low to moderate. For Area 1A (flamethrower range) the risk was characterized as moderate to high. For Area 4A, Area 4B, Area 4C, and Lakeview Subdivision (37mm HE projectile), where UXO presence was confirmed during the EE/CA and public exposure pathways are potentially complete, the overall explosive public safety risk was considered high. Public access to the entire site is basically unrestricted.

5.0 ALTERNATIVES CONSIDERED

A non-time-critical removal action (NTCRA) was developed and evaluated to address the public safety risks associated with residual MEC within the Camp. Several munitions response action alternatives were considered for each of the AOIs investigated. The munitions response action alternatives considered were:

- No DoD Action Indicated (NDAI);
- Institutional Controls (ICs);
- Surface Clearance of MEC; and
- Clearance of MEC to Depth.

6.0 HIGHLIGHTS OF COMMUNITY PARTICIPATION

6.1 During the former Camp Butner EE/CA project, public meetings were conducted during project planning and Work Plan development through preparation of the Final EE/CA Report and recommendations. The first Public Meeting was conducted on May 22, 2001 at the Butner-Stem Elementary School as part of the Technical Project Planning (TPP) process. A second Public Meeting was held at the Town of Butner Operations Building (as were all subsequent meetings) on June 26, 2001 to kickoff the field investigation. Additional Public Meetings were held on April 2, 2002, October 29, 2003 (TCRA only), and November 13, 2003. The public participation process was coordinated with NCDENR.

6.2 A Public Meeting was held December 16, 2003 at the Town of Butner Operations Building located at 205-C West "E" Street to present the conclusions and recommendations of the Draft Final EE/CA to the public and to address any public concern. The meeting marked the beginning of the thirty-day period for public comment

which expired (after extension) on January 30, 2004. No public concerns pertaining to the EE/CA recommendations were identified during the meeting nor were any received during the review period. All the requirements for public involvement have been met. A follow-up Public Meeting was held on May 25, 2004 to update the public on the status of the EE/CA and TCRA projects, present groundwater survey information, and kick off the formation of the Restoration Advisory Board (RAB). The RAB will include members of the community, regulatory officials, and CESAW and will make priority recommendations to the USACE for implementation of the EE/CA recommended removal actions.

7.0 COORDINATION SUMMARY

7.1 Project activities for the former Camp Butner EE/CA have been coordinated with the USAESCH, CESAW, NCDENR, EPA, various State of North Carolina agencies, and local (Granville, Person, and Durham County and Town of Butner) government officials. Project Work Plans were reviewed by USAESCH and CESAW with the review and development of the EE/CA Report including NCDENR and EPA. Project documents were made available to project stakeholders and property owners/public via the project website (www.projecthost.com) and the Administrative Record.

7.2 The initial Technical Project Planning (TPP) coordination meeting was conducted in conjunction with the project kickoff Public Meeting on January 10, 2001 to formally introduce the primary project stakeholders to the EE/CA process and solicit input and comment for development of the project WP. Representatives from the NCNG, NCDENR, Town of Butner, Emergency Responders, County Officials, and several State agencies were in attendance. Subsequent TPP meetings were held in conjunction with Public Meetings on June 26, 2001 and April 2, 2002. The culmination of these meetings was project team concurrence on the Final project WP.

7.3 The Draft Final EE/CA was made available to public review initially for a 30-day period in December 16, 2003 and it was opened for comments during the public meetings. During the Work Plan preparation stage the appropriate regulatory bodies including the State Historical Preservation Officer (SHPO) and the U.S. Fish and Wildlife Service were contacted to ensure that historical features, endangered species, and sensitive habitats were not adversely affected by MEC survey and clearance activities.

7.4 The lead regulatory agency, NCDENR, reviewed several versions of the Draft Final EE/CA. Comments received from NCDENR were addressed and resolved via multiple project team meetings held via teleconference as well as in their offices in Raleigh, North Carolina. The Project Delivery Team met with NCDENR before the public meetings in order to ensure concurrence with the recommended munitions response actions. The NCDENR concurs with the recommendations of the Final EE/CA (July 2004). All EPA comments were addressed and the agency has indicated they have no further comments.

Key contacts for state officials included:

State Regulatory Agency – NCDENR

Marti Morgan, P.E. Project Manager
Arthur Shacter, Superfund Section, Division of Waste Management
Dave Lown, Chief of Federal Remediation Branch, Superfund

Federal Regulatory Agency – U.S. EPA

Doug Maddox, EPA HQ, Federal Facilities Restoration and Reuse Office
Kevin Oates, Munitions and Explosives Response, EPA HQ, Federal Facilities Restoration and Reuse Office
Ken Lucas, Remedial Project Manager, North Site Management Branch, EPA Region IV

8.0 SELECTION CRITERIA

The selection criteria used to evaluate the four response action alternatives consist of the effectiveness in reducing the public safety risks, the implementability of the alternative, and the cost of implementing the alternative. The effectiveness criterion involved consideration of four criteria; protection of public safety and the environment, compliance with ARARs, long term effectiveness, and short term effectiveness. The implementability criterion involved consideration of six criteria; technical feasibility, administrative feasibility, availability of services and materials, property owner acceptance, local agency acceptance, and community acceptance. These criteria are discussed further in Section 6 and 7 of the Final EE/CA Report (Parsons, July 2004) and available in the project Administrative Record.

9.0 DESCRIPTION OF SELECTED REMEDIES

9.1 The qualitative risk evaluation conducted during the EE/CA for Area 1A, Area 4A, Area 4B, Area 4C, and Lakeview Subdivision identified an elevated public safety risk. In addition to significant ordnance scrap presence indicative of high-explosive (HE) detonations, at least one UXO item was confirmed in each of these AOIs. Access to the parcels is basically unrestricted and land use (agricultural and active residential development) is conducive for completion of a public exposure pathway. Since UXO is present and a receptor population exists, the comparative analysis of munitions response alternatives yielded selection of physical removal actions for implementation. Details of the removal actions for these AOIs are discussed under separate Action Memoranda.

9.2 No UXO was recovered during the EE/CA from within the nearly 14,000 acres comprising Area 5. Further, only a single ordnance scrap item was identified out of 2,029 anomalies investigated. Although the comparative analysis of munitions response alternatives for Area 5 supported selection of the No DOD Action Indicated (NDAI) alternative, the project team chose to include this AOI as part of the Site-Wide IC implementation given the confirmed former military usage of the property.

9.3 For Area 4D, Area 4E, and Area 4 (remaining land) Site-Wide IC strategies are also selected despite the confirmed presence of UXO during the EE/CA. This selection considers current and future anticipated land use, terrain, exposure pathways, and other factors detailed in the Final EE/CA that indicate a removal action is not justified at this

time. However, to ensure public safety associated with the residential component in each of these areas, a subsurface removal action is selected (comprising a two-acre residential footprint) encompassing each existing residential dwelling. It should be noted that Site-Wide IC components will also be implemented, although not selected as necessary via comparative analysis evaluation, for the entire site to include areas where removal action will be implemented.

9.4 As part of the EE/CA process, numerous IC components were evaluated for the former Camp Butner site. Those selected as likely to be effective and feasible are summarized in the following paragraphs. County officials have attended project Public Meetings and have indicated a willingness to work to achieve the IC objectives of public education and awareness. The Butner Town Manager as well as various public safety entities (fire, police, etc) have expressed an interest in participating in the IC implementation. A brief summary of the Site-Wide IC components selected for the former Camp are outlined below. Detailed implementation procedures will be presented as part of the development of an IC Plan.

Notification During Permitting

9.5 The existing permitting procedures for zoning and building permits will be used to inform property owners regarding the potential presence of ordnance on their property. Currently, each county provides standard application forms and brochures that outline and explain the procedures involved in the zoning and building permit processes. The application for rezoning and/or building permits on properties within the former range area could include an affidavit stating that the owner has been informed that ordnance may be present on their property. No applications within the former Camp areas would be accepted unless accompanied by the signed affidavit. This process would assure each jurisdiction that the applicant has been informed about the unexploded ordnance that may be located on his/her property. This notification procedure will occur early in the permit process and no later than the issuance of certificates of occupancy. Information packets and educational materials can also be distributed to local building contractors.

9.6 The existing brochures that provide an explanation of the permit review and approval procedures could include a one-page information document that describes ordnance hazards. The document may include information on how to recognize ordnance, and what procedures should be followed if ordnance is found on the site. Granville County has already begun development of a notification process. Both Durham and Person County are expected to be amenable to similar procedures based on discussions to date.

Notification During Property Transfer

9.7 The filing of a disclosure document with the Registrar of Deeds Office provides an excellent means of informing the potential property owners about the potential for ordnance to exist within the former Camp. The document would be filed under the names of all current owners of property within target and safety zones. When title searches are carried out pending the sale of property, information on the properties' history and the potential of ordnance would be made known.

Notification on Tax Bills

9.8 The insertion of notification of the potential for ordnance in all tax bills sent to property owners within the site is a very effective means of public education. The counties currently send tax forms through their tax offices; hence, very minimal addition to staffing will be required. This approach will inform property owners on a yearly basis of the potential for ordnance on their property. Similar software for notification during permitting can also be utilized to identify the property owners and send ordnance warnings via tax bills.

Notification with Hunting Permit

9.9 The inclusion of notification of the potential for ordnance with the issuance of seasonal hunting permits will provide an effective public education for non-residents traversing areas of the site. This informative brochure would alert hunters to the potential hazard that may be encountered within the site. In addition, the document may include information on how to recognize ordnance and what procedures should be followed if ordnance is found on the site.

Brochure/Fact Sheet

9.10 The existing fact sheet will be distributed to all property owners within the site. The names and addresses of all property owners were collected in 2000 in digital format. With the significant residential development in the area this list will need to be updated. Over time this existing fact sheet should be updated when additional details are available on the amount and location of ordnance, plans for removal, and other ICs.

Newspaper Articles/Interviews

9.11 Positive newspaper articles that discuss the existence of ordnance, the potential danger, and how that danger can be minimized through education will serve as a very effective tool for educating the public. During the EE/CA project the Charlotte Observer, the Durham Herald-Sun, the Durham Independent, the Raleigh News&Observer, the Myrtle Beach Sun News, and the Butner-Creedmoor News have both attended Public Meetings and written stories and updates on the activities at the former Camp Butner.

Visual and Audio Media

9.12 Aside from printed media audio and visual media, such as educational videos, segments on local television stations, radio news and talk shows are available avenues to facilitate awareness and understanding of ordnance hazards. The opportunity to disseminate information through visual and audio media is readily available and can be easily facilitated. For the former Camp Butner site, production and dissemination of videotapes/DVDs and presentation of the message over local television/radio were evaluated and selected as potentially effective institutional controls. Several television stations have been actively covering developments on the project including WRAL, WFMY News2, and NBC17.

9.13 Professional quality videos/DVDs that contain information similar to what is included in the printed materials can be produced and could include interviews with local citizens, business owners, county and elected officials. Copies of the videos/DVDs will

also be provided to local libraries, government offices, schools and museums. The length of the video should not exceed 15 minutes and several versions should be produced based on the age of the intended audience.

9.14 The use of local radio programming is also selected to inform and educate the public about the history, current status, and future information concerning the presence of ordnance on the former range property. Local talk shows can be tapped to provide effective venues to have updates and discussions on ordnance safety. The existing and future fact sheets should be made available to the radio stations. Public service announcements on targeted, youth oriented radio stations are recommended, similar to no-smoking campaigns. Radio stations in Butner and Creedmoor that have covered the former Camp Butner include WDCG, WFXC, and WDNC.

Classroom Education

9.15 Short presentations and courses in local schools (Durham, Granville, and Person County Public Schools, Butner Schools, and private schools) and the community college are also recommended strategies to disseminate information. The approximately 15 minute video prepared for community groups can be used in the school presentations.

Ad Hoc Committee

9.16 This committee of community leaders and other interested citizens will oversee the process for educating the public about the existence and potential danger of ordnance. It would be the responsibility of this committee to see that the other recommendations for public education are instituted and maintained. Currently a Restoration Advisory Board (RAB) has been created by CESAW to offer recommendations for IC and removal action priority. The RAB will meet on a regular basis.

Reverse 911 System

9.17 Coordinate the use of a reverse 911 system with the three counties' emergency management agencies to address potential evacuations. This can be a joint police, fire, and EMS function with various federal, state, and local dollars to purchase the system.

Land Use Restrictions and Regulatory Control

9.18 It is selected that planning and zoning officials revise their respective county comprehensive or master plan and zoning to reflect knowledge associated with the Camp. The development patterns and approvals of new zoning on the ranges fail to provide notice of safety issues related to unexploded ordnance potential. Planning changes should be installed as "Smart Growth" or compact development techniques that minimize construction on target or safety zones. Where development does occur in target or safety zones, land use density for residential should be low, or should be designated as green space (i.e. conservation subdivisions).

Internet Website

9.19 Setup and maintenance of a website on the Internet about the former Camp Butner Site would provide another means of public information. The site would be effective to notify the public of changing site restrictions/activities. It would be

inexpensive to create and would reach a broad cross section of the region. The website will also include a project map showing the progression of the ongoing removal action implementation.

Warning Signs

9.20 The posting of warning signs IC strategy was originally recommended as part of the EE/CA but subsequent project team discussions have identified some value for this IC strategy. Warning signs will be prepared to inform people that entry is prohibited or that activities within the property are restricted in some manner. Many of the signs will be installed along roadway easements as opposed to private property in an effort to prevent or discourage entry or discourage physical contact with ordnance.

9.21 The overall estimated cost (in 2004 dollars) to implement the selected IC components is $86,750 (Table 2). Detailed implementation procedures for the selected ICs will be included in the IC Plan. Development and selection of the Site-Wide IC components for the former Camp Butner are presented in the Final EE/CA (Parsons, July 2004).

Table 2
Projected Costs for Recommended Institutional Control Components

Institutional Control	Initial Cost	Annual Cost
Permitting, Property Transfer and Land Use Update	$15,500	$5,000
Distribute Existing Fact Sheet	$1,000	None
Prepare and Distribute Updated Fact Sheet	$21,250	Minimal
Prepare & Distribute Videos	$26,000	None
Classroom Education	$5,000	$3,000
Ad hoc Committee (RAB)	$2,000	$1,000
Internet Website	$10,000	Minimal
*Reverse 911	$25,000 (*Shared Cost)	None
Tax Bill	Minimal	Minimal
Newspaper Articles/Interviews	Minimal	Minimal
Warning Signs (excludes installation)	$6000	$1000
TOTAL	**$86,750**	**$11,500**

9.22 Based on the estimated costs presented in this Action Memorandum (See Table 1), the appropriate approval level for this project is the Major Subordinate Command (MSC) Commander.

10.0 TRADE OFF ANALYSIS

The Site-Wide IC components recommended for the former Camp Butner were selected as the most likely to be effective for public education and behavior modification based on site conditions, as documented in the Final EE/CA Report (Parsons, July 2004). Also, these alternatives were developed in concert with USAESCH, CESAW, NCDENR, EPA, and other project stakeholders. Mitigative measures will be implemented to ensure that no resources are impacted due to the actions proposed.

11.0 RECURRING REVIEWS

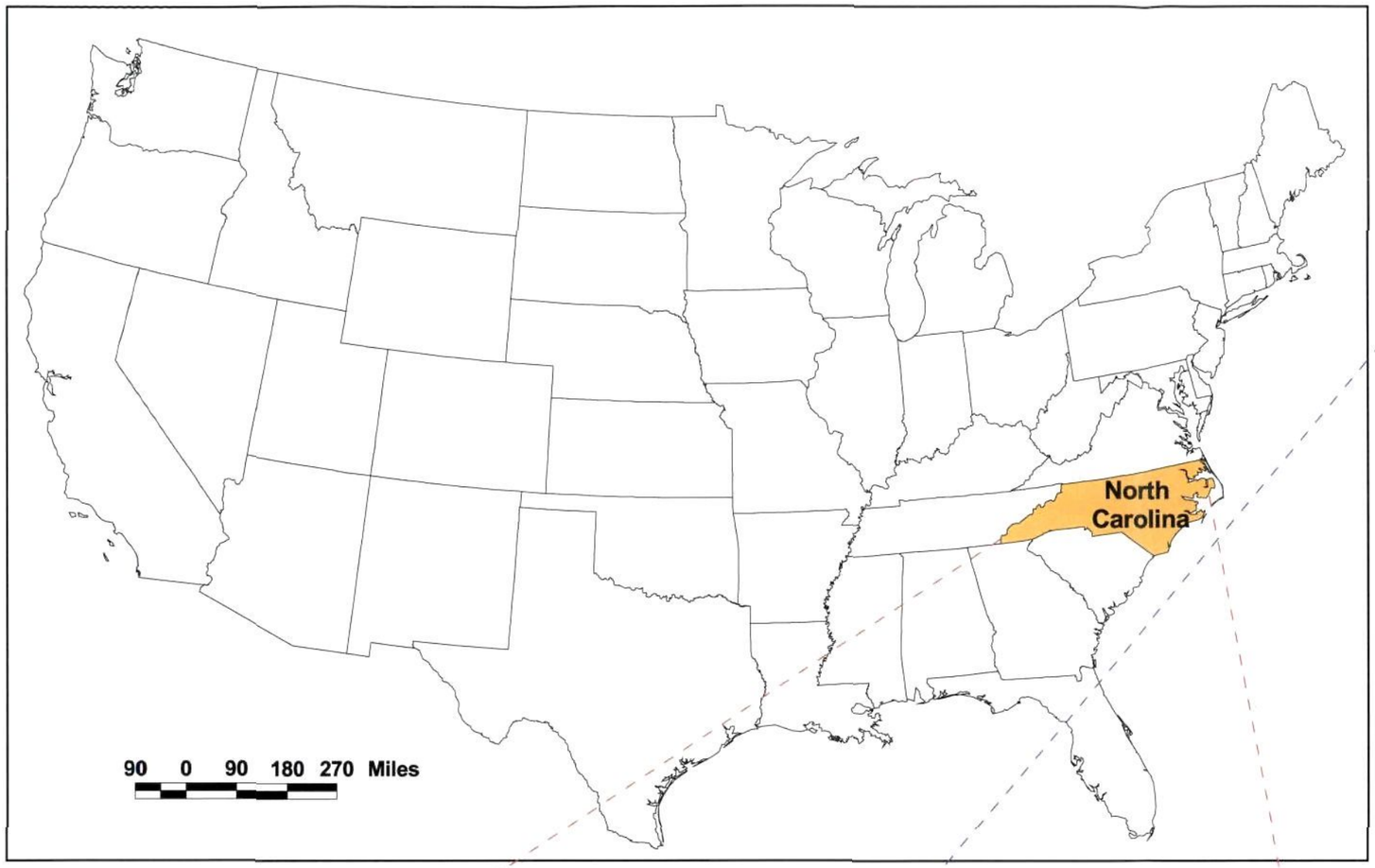
A Recurring Review Plan was not part of the EE/CA for this site and therefore has not yet been prepared. As described in Chapter 10 of the Final EE/CA Report, recurring reviews at the former Camp Butner are anticipated to be performed every 5-years after the implementation of the selected munitions response actions. This effort will be performed to determine if the munitions response action (Site-Wide IC) continues to be protective of human health, safety, and the environment. Recurring reviews will also provide an opportunity to assess the applicability of new technology for addressing previous technical impractibility determinations. The review will evaluate specific factors that may impact the continued effectiveness of the response. These factors may include such things as changes in physical conditions at the former Camp Butner site or changes in public accessibility. The cost to conduct one recurring review is estimated to be approximately $35,000. If no changes have taken place, the AOIs will be continually monitored at the specified intervals.

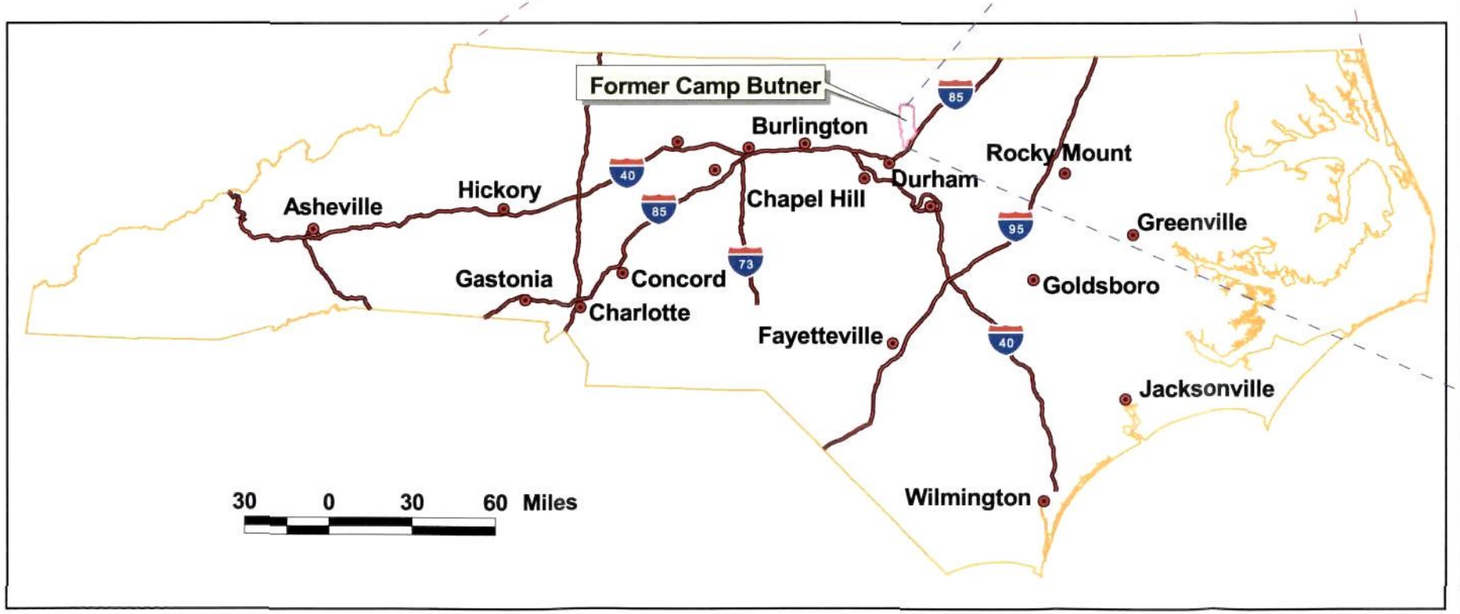
12.0 DOCUMENTATION OF SIGNIFICANT CHANGES

If the actions outlined in this EE/CA Action Memorandum are delayed or not taken at the former Camp Butner, the potential exists of continued and substantial endangerment to public health, welfare, and environment. Residential development continues in areas confirmed to have UXO presence. This trend is not expected to change. The public will be notified by USACE of any significant changes to this document.

13.0 RESPONSIVENESS SUMMARY

A responsiveness summary for the public meeting of December 16, 2003 is not necessary as no formal comments were received either at the meeting or during the 30-day public comment period. NCDENR and EPA comments on the Draft Final EE/CA Report were resolved via several project team meetings and teleconferences prior to the Final EE/CA Report issuance in July 2004.





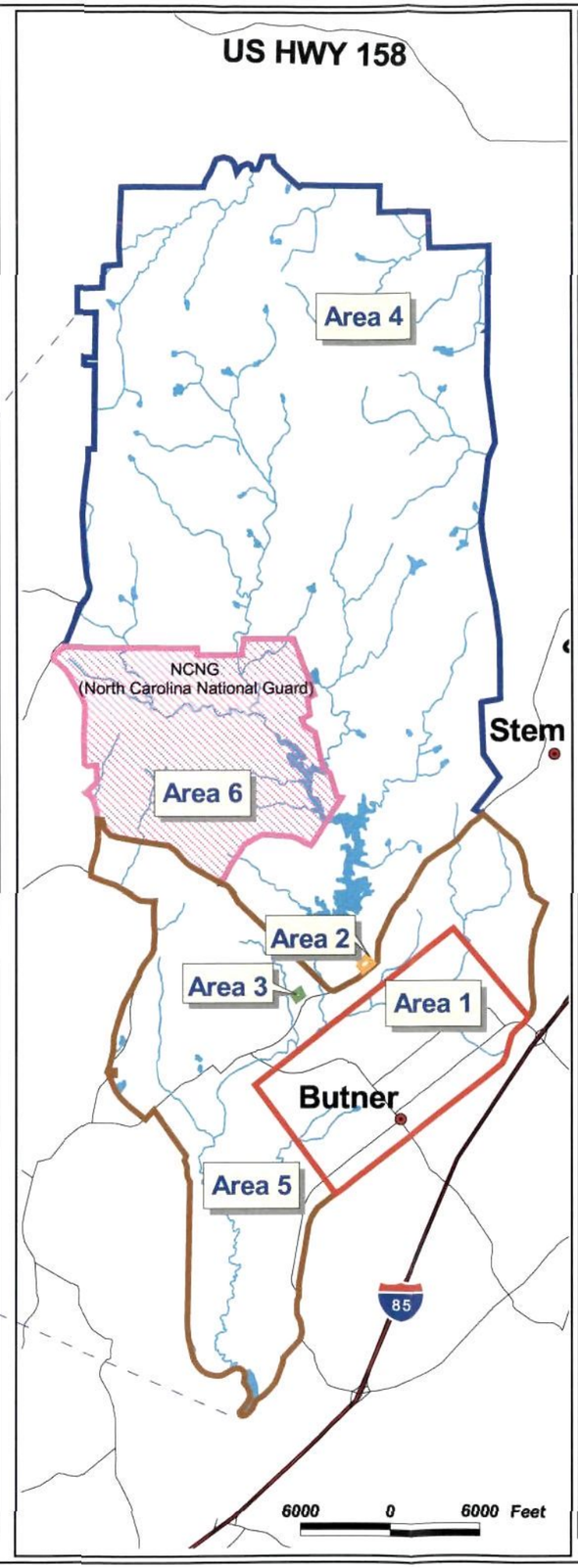


Figure 1

General Location Map

Former Camp Butner
Butner, NC

N

PARSONS	U.S. ARMY CORPS OF ENGINEERS HUNTSVILLE CENTER
DESIGNED BY: BT	General Location Map
DRAWN BY: BT	
CHECKED BY: DS	SCALE: As Shown
SUBMITTED BY: DS	DATE: July 2004
	FILE: x:\gis\738001\av_project\EECA.apr
	PROJECT NUMBER: 738001
	PAGE: 13

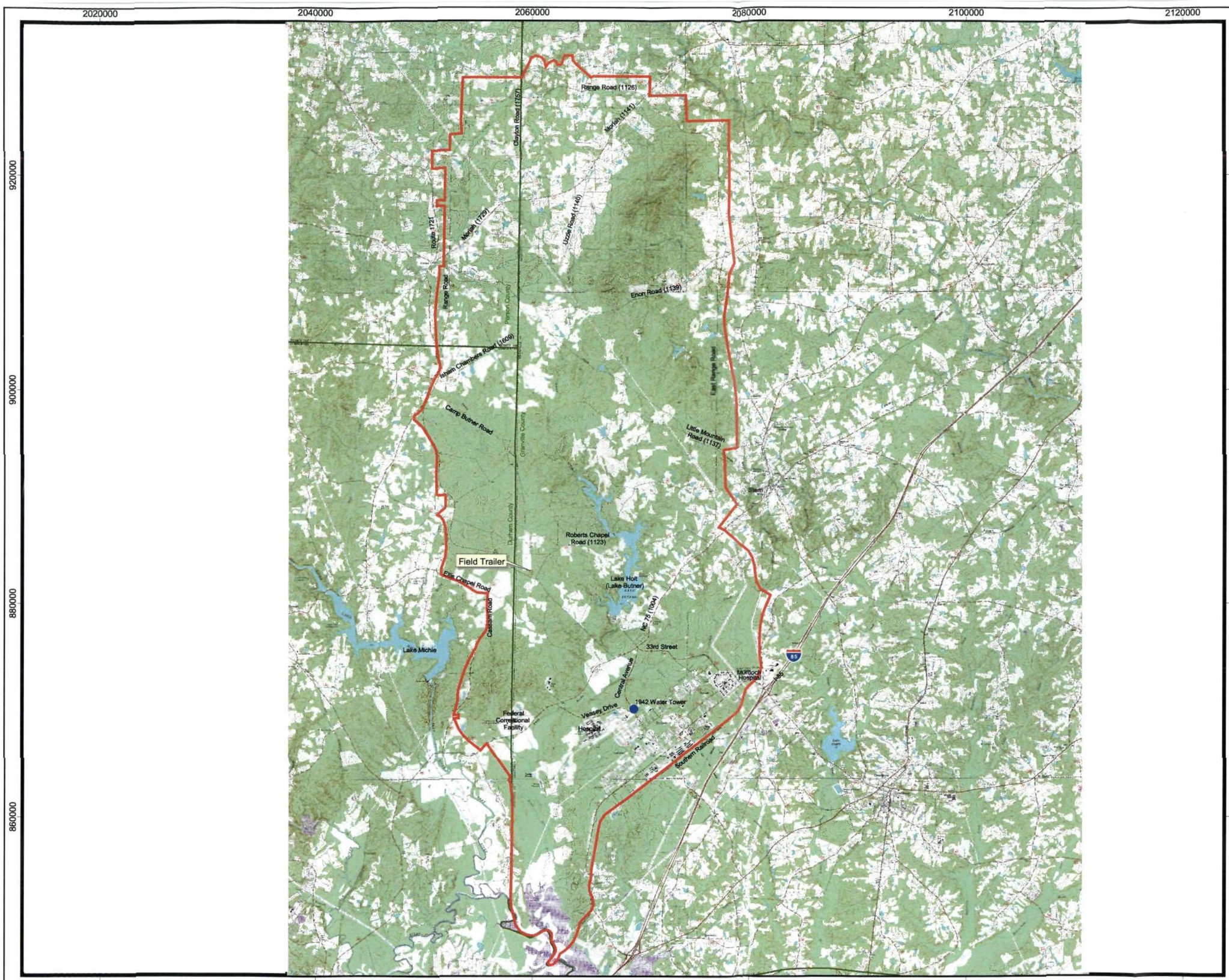


Figure 2

Former Camp Butner Butner, NC

General Layout

Legend

- Former Camp Butner Boundary
- Stream and Waterbody

N

Map Units: NAD 1983 North Caralina State Plane (Feet)

8500 0 8500 Feet

PARSONS	U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE	
DESIGNED BY: BT	General Layout	
DRAWN BY: BT		
CHECKED BY: LK	SCALE: 1 inch equals 8,500 feet	PROJECT NUMBER: 738001
SUBMITTED BY: DS	DATE: July 2004	PAGE NUMBER: 14
	FILE: x:\gis\738001\av_project\TCRA_loc.apr	

Figure 3

Selected OE Response Actions

Former Camp Butner
Butner, NC

Area 4

Area 4C

Area 4B

Area 4E

Area 4A

Area 4D

Area 6

Lakeview

Area 1A

Area 5

Mock German Village

RANGE COMPLEX 2

RANGE COMPLEX 1

Area A

Area E

Area D

Area B

Area C

Area F

Range Road

Morish Road

Erdon Road

Ingram Chambers Road

East Range Road

Little Mountain Road

Roberts Chapel Road

Ellis Chapel Road

Cassan Road

33rd Street

Central Avenue

Ordnance Receiving Area

Veasley Drive

24th

85

Legend

Areas of Interest

- Areas 4A through 4E, 1A, and Lakeview
- Areas 4 through 6

Recommendation:

- Site Wide IC (Areas 4D, 4E, and 5)
- Subsurface Clearances (Areas 1A, 4A, 4B,4C, and Lakeview)
- Range Complex 1
- Range Complex 2
- Firing Fan
- Stream and Lake
- Road
- Property Deed Restricted Prior to Government Release as "Surface Use Only" (Areas A-F) Due to Extensive Ordnance Presence (See Subchapter 2.3)

N. C.

Site Location in North Carolina

Map Units: NAD 1983 North Carolina State Plane (Feet)

0 5500 Feet

N

PARSONS

U.S. ARMY CORPS OF ENGINEERS HUNTSVILLE CENTER

DESIGNED BY: BT	**Selected OE Response Actions**	
DRAWN BY: BT	SCALE: As Shown	PROJECT NUMBER: 738001
CHECKED BY: DS	DATE: September 2004	PAGE 15
SUBMITTED BY: DS	FILE: x:\gis\738001\av_project\EECA.apr	

2050000 2060000 2070000 2080000

930000 920000 910000 900000 890000 880000 870000 860000 850000