

**ENVIRONMENTAL ASSESSMENT
FOR THE CONSTRUCTION OF A BATTLE COMMAND TRAINING CENTER
AND A TRAINING SUPPORT CENTER
AT FORT HOOD, TEXAS**



**DIRECTORATE
OF PUBLIC WORKS**

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**FINDING OF NO SIGNIFICANT IMPACT
FOR THE CONSTRUCTION OF A BATTLE COMMAND TRAINING CENTER
AND A TRAINING SUPPORT CENTER AT FORT HOOD, TEXAS**

1.0 Name of the Action

This document is the Finding of No Significant Impact (FNSI) for the Environmental Assessment (EA) to construct a Battle Command Training Center and a Training Support Center on Fort Hood.

2.0 Description of the Proposed Action and Alternatives

The U.S. Army, Headquarters III Corps and Fort Hood propose to construct a Battle Command Training Center and a Training Support Center on Fort Hood. The Proposed Action and Alternatives are presented in further detail in the Environmental Assessment.

3.0 Summary of Environmental Effects of the Proposed Action

No adverse impacts are anticipated to occur to threatened and endangered species, land and airspace use, geology, floodplains, sanitary sewer, or natural gas as a result of implementing the Proposed Action or its alternatives. The Proposed Action is anticipated to have minor adverse impacts to biological resources such as vegetation and fish and wildlife, air quality, noise, water resources, soils, cultural resources, hazardous and toxic substance usage, solid waste management, and utilities such as water supply and electric power. Impacts to these include a potential increase in storm water run-off; loss of vegetation and displacement of wildlife; increased emissions from construction and increased usage; and potential increase in hazardous substances and solid waste. In addition, it is anticipated that the construction and operation of the facilities may increase demand on the water, sewer, and electrical supplies.

Full implementation of best management practices (BMPs) would assist in minimizing impacts resulting from the Proposed Action. BMPs include maintaining agreed upon stand-off distances between construction and environmental factors, developing and implementing Storm Water Pollution Prevention Plans, avoiding removal of live trees where possible, dust control, use of a recycling program, proper planning to ensure that utilities are upgraded where necessary to ensure no lack or degradation of service is experienced, and avoidance of natural and cultural resources to the maximum extent possible.

4.0 Conclusion

The public comment period will be held for 30 days beginning the date that the notice of availability is printed in the *Killeen Daily Herald*. This EA and draft Finding of No Significant Impact (FNSI) are available for review at the Killeen Public Library located at 205 E. Church St., Killeen, TX 78544 and through the Environmental Division, Directorate of Public Works,

Fort Hood, TX. The documents are also available online through the Fort Hood Directorate of Public Works website at <http://www.dpw.hood.army.mil/> (Public Notices).

On the basis of the findings of this EA, no significant impacts are anticipated from the Proposed Action on human health or the natural environment. A FNSI is warranted, and an Environmental Impact Statement is not required.

BRIAN L. DOSA
Director of Public Works

Date

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1.0 INTRODUCTION

The Environmental Division, Directorate of Public Works (DPW) at Fort Hood, Texas, has prepared this Environmental Assessment (EA) to analyze potential environmental impacts resulting from the construction of a Battle Command Training Center (BCTC) and a Training Support Center (TSC) on Fort Hood.

1.1 Proposed Action Overview

The Proposed Action is to construct a BCTC and a TSC on Fort Hood, within proximity to one another to provide the ability for joint use and comingled services. Combined, the BCTC and the TSC together would encompass an approximately 180-acre site.

The BCTC would include facilities for administration and training, as well as Tactical Operations Center (TOC) pads. The TSC would include facilities for training aids support.

An aerial map of the proposed project area can be found in Section 1.4.1 of this document.

1.2 Purpose and Need

The BCTC is required to support individual and collective digital training and battle staff training using constructive simulations with command, control, communications, computer and intelligence (C4I) interoperability. This project is needed to provide effective training in the command and control of individual as well as combined operations in a simulated tactical environment incorporating appropriate opposing forces. This facility would support several different levels of battle command training for contingency force units and various additional combat, combat support, and combat service support units. Battle simulations and command post exercises are conducted at company, battalion, brigade, division, Corps, and joint levels. Size and complexity of battle command training using simulations and C4I systems have increased significantly. The current battle command training and exercises are supported in five temporary World War II (WWII) wood structures and two metal structures totaling 55,352 square feet. There is no facility on Fort Hood in which to conduct individual and crew/leader digital training, nor a facility that can be used or adapted to conduct Battalion or higher TOC training with digital systems. Current Battle Command capability does not support expanded training needs for battle command using increased simulations, instrumentation and C4I systems. Present training limits the integration of combat systems, C4I systems, and equipment and does not provide a platform for integration of other Army and joint battle command systems. Minimum required capabilities of integrating architecture, operational C4I system simulation, reach capability and training sustainment are not available. If this project were not provided, Fort Hood would not have adequate battle command training and simulation facilities for individual and collective digital and battle staff training. The quality of battle command and staff simulation exercises and unit C4I expertise would decline. Essential training and skill development would not be able to keep pace with mission demands.

The TSC is required because Army units relocating to Fort Hood have increased the quantity and type of live and virtual training devices used. Additional storage is needed to support the

increase in training aid devices and to protect the investment for these devices. Existing substandard warehouse buildings do not have additional capacity to support increased training aid and devices. Current warehouse buildings are fully engaged supporting existing missions. If this project were not provided, Fort Hood would not be able to protect the training aid and device investment. Training components would be exposed to the elements, drastically reducing useful life and compromising reliable use for training.

1.3 Agency and Public Participation

III Corps and Fort Hood invite public participation in the National Environmental Policy Act (NEPA) process. Consideration of the views and information of all interested persons promotes open communication and enables better decision-making. All agencies, organizations, and members of the public having a potential interest in the Proposed Action are encouraged to participate in the decision-making process.

The public comment period will be held for 30 days beginning the date that the notice of availability is printed in the *Killeen Daily Herald*. This EA and draft FNSI are available for review at the Killeen Public Library located at 205 E. Church St., Killeen, TX 78544 and through the Environmental Division, Directorate of Public Works, Fort Hood, TX. The documents are also available online through the Fort Hood Directorate of Public Works website at <http://www.dpw.hood.army.mil/> (select Public Notices).

1.4 Project Location

1.4.1. Proposed Action

Construction of the BCTC and TSC would occur on the northern side of the Main Cantonment Area, just off North Avenue, in a relatively undisturbed block of land (see Figure 1.1). The total area would be approximately 180 acres, though the 180-acre site would not be entirely composed of buildings and hardstand. The TOC site, for example, would include concrete pads interspersed throughout a mainly grassy field.

Figure 1.1 Proposed Action



2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

The Proposed Action is that Fort Hood would construct a BCTC and TSC at the preferred location off of North Avenue and West Range Road, in an empty field on the north end of the Main Cantonment Area. The two facilities combined would encompass an area of approximately 180 acres and would provide critical training capabilities to Fort Hood's Soldiers.

2.2 No Action Alternative

Under the No Action Alternative, neither the BCTC nor the TSC would be constructed. Fort Hood would be required to utilize the existing facilities to conduct training activities and to store training aid devices. Quality of training exercises and equipment required for training exercises would be expected to decline, thus putting Soldiers at a disadvantage. Therefore, the No Action Alternative was discounted from further consideration and evaluation because it fails to meet the existing and future needs of Fort Hood to be able to support the needs of the Soldier.

3.0 AFFECTED ENVIRONMENT

This EA evaluates the potential environmental impacts of the Proposed Action. The affected environment is analyzed according to the current conditions observed at the project site under the Proposed Action. The environment would remain the same if the No Action Alternative was selected, though it is likely that the area would be developed in some other capacity in the future.

Fort Hood is comprised of approximately 218,502 acres of land located in Bell and Coryell counties in Central Texas, approximately 60 miles north of Austin and 50 miles southwest of Waco. The installation is bound on the north by the city of Gatesville, on the east by Belton Lake and the city of Temple, on the south by the city of Killeen, and on the west by the city of Copperas Cove. Fort Hood has a 198,257-acre operational footprint and a 20,245-acre non-tactical area including three cantonments and a recreational area.

3.1 Biological Resources

3.1.1 Threatened and Endangered Species

All Federal agencies are required to implement protection programs for designated species and to further the purposes of the Endangered Species Act (ESA) [16 U.S.C. 1532 et. seq.] of 1973, as amended. There are no known threatened or endangered species within the Fort Hood Cantonment Area where all elements of the Proposed Action would be located. Therefore, threatened and endangered species will not be analyzed in this EA.

3.1.2 Vegetation

The combination of soils, topography, climate, and human activities has produced a diverse mix of vegetation communities and habitats within the installation. Fort Hood is in the Lampasas Cut Plain physiographic region.

The cantonment areas primarily comprise a mixture of both native grasses and Bermuda grass, with a sparse population of native trees. Increases and decreases in periods of construction have disturbed the vegetation and soils in the majority of the cantonment areas. There are hardwood trees and grasslands on and surrounding the project locations for the Proposed Action.

3.1.3 Fish and Wildlife

The various habitat types on Fort Hood provide for wildlife communities characteristic of the Edwards Plateau, Blackland Prairie, and the Cross Timbers and Prairies areas.

Many types of birds, mammals, reptiles, amphibians, and fish are observed on the installation. Bats, migratory birds, and other small mammals may utilize the areas depicted for the Proposed Action. For a more in-depth list of specific species found on the installation, the reader may refer to a reading list located in Appendix B of this document.

3.2 Air Quality

Fort Hood is located in Bell and Coryell Counties, which are within the Austin-Waco Intrastate Air Quality Control Region (AQCR) (40 CFR 81.175). Ambient air quality for the Austin-Waco Intrastate AQCR is classified as an unclassifiable/attainment area for all criteria pollutants. Unclassifiable areas are those areas that have not had ambient air monitoring and are assumed to be in attainment with National Ambient Air Quality Standards (NAAQS).

However, the Killeen-Temple-Fort Hood Metropolitan Statistical Area (MSA) has grown to a population of over 370,000 and requires an ozone monitoring station. EPA revised the Ozone National Ambient Air Quality Standard; wherein an MSA with a population larger than 350,000 is required to have an ozone monitor. Due to the increase in population in this area, the ambient air monitoring rules require the deployment of an ozone monitoring station. This station is located in Killeen and may also monitor particulate matter (PM₁₀), sulfur dioxide (SO₂) nitrogen oxide (NO_x) and carbon monoxide (CO) air emissions.

Fort Hood, considered a major source for criteria pollutants because of its calculated potential to emit certain criteria pollutants including PM₁₀, SO₂, NO_x, CO, and volatile organic compounds (VOCs), is under the jurisdiction of the U.S. Environmental Protection Agency (USEPA) Region VI and the Texas Commission on Environmental Quality (TCEQ). Ground-level or “bad” ozone is not emitted directly into the air, but is created by chemical reactions between oxides of nitrogen (NO_x) and volatile organic compounds (VOC) in the presence of sunlight. Emissions from industrial facilities and electric utilities, motor vehicle exhaust, gasoline vapors, and chemical solvents are some of the major sources of NO_x and VOC. Fort Hood is also currently designated as a major source of hazardous air pollutants; therefore, existing air emission sources are subject to Maximum Achievable Control Technology standards. The TCEQ approved the renewal of Fort Hood’s Title V Federal Operating Permit on February 27, 2007, and currently conducts annual compliance inspections at Fort Hood. Based on this audit mechanism, the Installation has implemented the required programs to maintain compliance with Federal and state air regulations.

3.3 Noise

The Noise Control Act of 1972 (Public Law 92-574) directs Federal agencies to comply with applicable Federal, state, interstate, and local noise control regulations. Sound quality criteria disseminated by the USEPA, the U.S. Department of Housing and Urban Development (HUD), and the Department of Defense (DoD) have identified noise levels to protect public health and welfare with an adequate margin of safety. Noise levels below 65 decibels (dB) are normally considered acceptable in suitable living environments. Responses to noise vary, depending on the type and characteristics of the noise, the expected level of noise, the distance between the noise source and the receptor, the receptor’s sensitivity, and the time of day. Table 3.1 lists the sound levels of some familiar sources:

Table 3.1	
Sound Levels of Various Sources	
Source	Sound Level (dB)
Near jet plane at takeoff	140
Gun muzzle blast	140
Threshold of pain	120
Loud music	115
Car horn	115
Thunder	110
Chainsaw	100
Lawn mower	90
Jack hammer	88
Dozer	85
Backhoe	80
Alarm clock	75
Normal conversation	60
Light traffic	50
Refrigerator	40
Rustle of leaves	20
Normal breathing	10

Community annoyance due to many types of transportation and industrial noise is assessed based on average noise level over a protracted period of time. A noise level reduction of 20 to 25 dB that normal, energy-efficient, permanent construction provides can be expected to reduce the complaint potential.

3.4 Land and Airspace Use

The project area for the Proposed Action is located within the Fort Hood Cantonment Area, which is primarily urban land use. The cantonment area contains administrative, maintenance, industrial, supply/storage, operations, housing, community support facilities, medical, outdoor recreation, and open space land uses. The projected land use of the Proposed Action would remain consistent with the cantonment-type uses. No part of the Proposed Action would change or impact airspace use. Therefore, land and airspace use will not be further analyzed in this EA.

3.5 Water Resources

One of the most substantial impacts to surface water resources attributable to Fort Hood is from siltation caused by runoff from areas disturbed by construction, vehicle movement and training maneuvers. Water quality data on Fort Hood streams indicates the entire installation is subject to heavy sheet and gully erosion.

3.5.1 Groundwater

The primary stratigraphic units that occur in the Fort Hood area are, from lowest to highest, the Glen Rose Formation, the Paluxy Formation, the Walnut Formation, the Comanche Peak Formation, and the Edwards and associated limestone.

Potentially sensitive groundwater areas of the Fort Hood region are the springs and the karst recharge systems (caves, rock fractures, rock interstitial spaces) found throughout the Installation. The aquifers recharged by these areas are relatively shallow and could be affected by hazardous material spills and seepage. However, because non-karstic rock formations are located within the cantonment area which includes project locations for the Proposed Action, and best management and construction practices would be used in the design of the projects, groundwater is not anticipated to be affected. Therefore, groundwater has been eliminated from further study in this EA.

3.5.2 Surface Water

Fort Hood is located in the Brazos River Basin. Surface water consists of numerous small to moderate-sized streams, which generally flow in a southeasterly direction. Fort Hood has approximately 200 miles of named intermittent and perennial streams with numerous additional tributaries of those features. Fort Hood contains more than 200 water impoundments constituting approximately 692 surface acres. Most of these are used for flood control, sediment retention, wildlife and livestock water, and fish habitat. A few of the impoundments serve as either washrack storage facilities or sewage settling ponds. Approximately 50 percent of Fort Hood is in the Cowhouse Creek watershed, making it particularly sensitive to sedimentation impacts.

Additionally, Fort Hood shares 43 miles of shoreline with Belton Lake. The Leon River and Cowhouse Creek form the two arms of Belton Lake, while Owl Creek flows directly into the Leon River arm. Reese Creek and its tributaries flow south toward the Lampasas River. Tributaries of Nolan Creek, including North Nolan Creek and tributaries of South Nolan Creek, flow southeast and leave the installation. Nolan Creek enters the Leon River below Belton Lake. Belton Lake is owned and operated by the U.S. Army Corps of Engineers (USACE) for flood control, water supply, and recreation.

3.5.3 Waters of the U.S.

Section 404 of the Clean Water Act requires authorization from the USACE to discharge dredged or fill material into waters of the United States. Waters of the United States (WOTUS) are defined in 33 CFR 328.3(a) and include navigable waters and all of their associated tributaries as well as adjacent wetlands. Wetlands are further defined in 33 CFR 328.3 (b) and must meet the requirements of the 1987 Corps of Engineers Wetlands Delineation Manual in order for the USACE to have jurisdiction. For further definitions, refer to 33 CFR 328 and the 1987 Corps of Engineers Wetlands Delineation Manual, which can be found at <http://el.erdc.usace.army.mil/elpubs/pdf/wlman87.pdf>.

Waters of the U.S., including wetlands, exist across the installation. These resources range from small emergent wetlands associated with ephemeral streams to large, forested wetland complexes adjacent to perennial channels. Natural streams, classified as WOTUS, exist within the site location for the Proposed Action.

3.5.4 Water Quality

TCEQ has divided the Middle Brazos River basin into 16 classified segments. TCEQ considers the location of highest concern to be Segment 1221, which consists of the Leon River between Proctor Lake and Lake Belton. Multiple areas of this segment are currently placed in category 5a, which means that a total maximum daily load (TMDL) is underway, scheduled, or will be scheduled. A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards. The southernmost of those areas (1221-01 and 1221-02) either border North Fort Hood or receive storm water and wastewater discharges from Fort Hood. A draft TMDL for segment 1221 of the Leon River was published by the TCEQ in April of 2008 and was open for public comment until May 2008. Final adoption of this TMDL has been delayed.

Segment 1220A consists of Cowhouse Creek from the confluence of Lake Belton in Bell County to the upstream perennial portion of the stream north of Goldthwaite in Mills County. This creek catches storm water runoff from most of the training ranges on Fort Hood, including the Live Fire and Impact areas. Area 1220A_03 of Cowhouse Creek was added to the EPA-approved 2006 Texas 303(d) list as an impaired water body for the pollutant bacteria. It is listed as Category 5c which means that additional data and information will be collected before a TMDL is scheduled. The final segment on the current 303(d) list influenced by Fort Hood is segment 1218, Nolan Creek/South Nolan Creek. The entire segment is listed under category 5c for the pollutant bacteria. The Proposed Action would fall within the House Creek watershed which flows into Cowhouse Creek.

3.6 Geological Resources

3.6.1 Geology

The strata underlying Fort Hood, with the exception of the recent alluvium and river terrace deposits, are consolidated sedimentary rocks of Cretaceous age and belong to the Comanche Series. The erosion of these Cretaceous rocks over the past 70 million years and the deposition of unconsolidated materials along the major streams have produced the present landscape of Fort Hood (USACE 1987b). The major rock layers beneath Fort Hood are the Glen Rose Formation, Paluxy Sand, Walnut Clay, Comanche Peak Formation, Edwards Limestone-Kiamichi Clay Complex, Denton Clay-Fort Worth Limestone, and Duck Creek Limestone Complex. The major floodplains are filled with alluvium and river terrace deposits.

The Balcones Fault Zone passes immediately east of the installation, running north to southwest. The land to the north of this zone, including Fort Hood lands, has risen as much as 500 feet. Erosion of this land over time has created the irregular, steep sloping terrain on the installation (USACE 1987b). Because the Proposed Action does not involve excavation that would change the underlying strata of the land, geology is not anticipated to be impacted and will be eliminated from further study in this EA.

3.6.2 Soils

Soil types within the aforementioned project areas were determined using the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), and Bell County and Coryell County Soil Surveys (USDA 1977 and 1985, respectively). Soil maps for the elements of the Proposed Action are included in Appendix C.

3.6.3 Floodplains

Executive Order (E.O.) 11988, "Floodplain Management", was signed May 24, 1977, to set guidelines to avoid the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative. The project area for the Proposed Action does not fall in any known floodplains; therefore, floodplains are eliminated from further study in this EA.

3.7 Cultural Resources

Cultural resources are defined by the National Historic Preservation Act (NHPA) as prehistoric and historic sites, structures, districts, or any other physical evidence of human activity considered important to a culture, a subculture, or a community for scientific, traditional, religious, or any other reason. Depending on the condition and historic use, such resources may provide insight into living conditions in previous civilizations and/or may retain cultural and religious significance to modern groups.

In 1979, Fort Hood archeologists surveyed an area that includes the footprint of the Proposed Action. This survey resulted in the discovery of no prehistoric or historic cultural resources within the area.

3.8 Hazardous and Toxic Substances

Specific environmental statutes and regulations govern hazardous material and hazardous waste management activities at Fort Hood. For the purpose of this analysis, the terms *hazardous waste*, *hazardous materials*, and *toxic substances* include those substances defined as hazardous by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), or the Toxic Substances Control Act (TSCA). In general, they include substances that, because of their quantity, concentration, or physical, chemical, or toxic characteristics, might present substantial danger to public health or welfare of the environment if released.

Hazardous materials are managed in accordance with AR 200-1, *Environmental Protection and Enhancement* (December 2007), Section 4, for the purpose of minimizing hazards to public health and damage to the environment. Fort Hood policy is to manage hazardous substances (HS), hazardous material (HAZMAT), and hazardous waste (HazWaste) in an environmentally acceptable manner. Fort Hood has developed and implemented a Hazardous Material Management Program (HMMP) which focuses on establishing installation-level, centralized management and visibility of materials containing reportable chemicals or having safety

considerations. The concept of centralized management is to monitor the materials “from cradle to grave” and reduce hazardous waste generation. Fort Hood’s HMMP is designed as part of an initiative to track the life cycle of all HAZMAT from procurement to ultimate disposition and minimize use of HAZMAT through pollution prevention actions.

Fort Hood’s Spill Prevention, Control, and Countermeasures Plan (SPCCP) and Installation Response Plan (IRP) address the prevention of unintentional pollutant discharges from the bulk storage and handling of petroleum products as well as other hazardous materials. The plans detail the specific storage locations, the amount of material at potential spill sites throughout Fort Hood, and spill countermeasures.

All hazardous materials used on-post must be accompanied by a material safety data sheet (MSDS) that details the hazards associated with each specific substance. Contractors working on-post must comply with the Fort Hood HMMP and obtain approval for all hazardous materials brought on post. Material containing polychlorinated biphenyls (PCBs), asbestos, and lead shall not be introduced on military installations.

3.9 Solid Waste Management

The Fort Hood landfill is located in Coryell County. The landfill is a government-owned, contractor-operated Class I municipal solid waste permitted facility, operating under Permit Number 1866. Solid waste collection is accomplished under contract with a private refuse contractor. Fort Hood is actively engaged in technology advancements for solid waste processing to continue to exceed all DoD goals.

3.10 Socioeconomics

Criteria used to determine Fort Hood’s region of influence are the residency distribution of Fort Hood employees, commuting distances and times, and the location of businesses providing goods and services to Fort Hood, its personnel, and their dependents. Further, the criteria are based on regional economic activity, population, housing, and schools. Based on these measures, the region of influence for Fort Hood is defined as Bell County and Coryell County, which spans an area of 2,112 square miles.

In 2006, Bell County had a total population of 258,000 - 131,000 (51 percent) females and 127,000 (49 percent) males. The median age was 30.6 years. Thirty-one percent of the population was under 18 years and 9 percent was 65 years and older. In 2006, there were 94,000 households in Bell County. The average household size was 2.7 people. Families made up 71 percent of the households in Bell County. This figure includes both married-couple families (53 percent) and other families (18 percent). Non-family households made up 29 percent of all households in Bell County. Most of the non-family households were people living alone, but some were composed of people living in households in which no one was related to the householder.

The median income of households in Bell County was \$43,231. Eighty-four percent of the households received earnings, and 23 percent received retirement income other than Social

Security. Twenty-one percent of the households received Social Security. The average income from Social Security was \$12,861. These income sources are not mutually exclusive; that is, some households received income from more than one source.

In 2006, Bell County had a total of 110,000 housing units, 15 percent of which were vacant. Of the total housing units, 63 percent was in single-unit structures, 28 percent was in multi-unit structures, and 9 percent was in mobile homes. Thirty-seven percent of the housing units were built since 1990.

In 2006, Coryell County had a total population of 73,000 - 40,000 (54 percent) females and 33,000 (46 percent) males. The median age was 27.5 years. Thirty-two percent of the population was under 18 years, and 6 percent was 65 years and older. In 2006 there were 20,000 households in Coryell County. The average household size was 3.4 people. Families made up 77 percent of the households in Coryell County. This figure includes both married-couple families (61 percent) and other families (16 percent). Non-family households made up 23 percent of all households in Coryell County. Most of the non-family households were people living alone, but some were composed of people living in households in which no one was related to the householder.

The median income of households in Coryell County was \$41,783. Eighty percent of the households received earnings, and 22 percent received retirement income other than Social Security. Nineteen percent of the households received Social Security. The average income from Social Security was \$12,440. These income sources are not mutually exclusive; that is, some households received income from more than one source.

In 2006, Coryell County had a total of 23,000 housing units, 14 percent of which were vacant. Of the total housing units, 70 percent was in single-unit structures, 21 percent was in multi-unit structures, and 9 percent was in mobile homes. Thirty-six percent of the housing units were built since 1990.

Currently, 13 Family housing villages are located on the installation and are managed by Fort Hood Family Housing (FHFH). These villages include community facilities such as schools, community centers, swimming pools, and child development centers. In addition, the villages provide community amenities such as community halls, sports facilities, parks, and playgrounds. Retail facilities are located in several of the villages. A Post Exchange and Commissary are located on both Clear Creek Road on the west side of the installation and on Warrior Way Road on the east side of the installation.

Population statistics for Bell and Coryell Counties are provided in Appendix D. The Proposed Action is not anticipated to affect socioeconomics in any way, therefore, socioeconomics has been eliminated from further study in this EA.

3.10.1 Environmental Justice

Environmental Justice is mandated by Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, and was signed into law on

February 11, 1994. The Executive Order is designed to focus the attention of Federal agencies on the human health and environmental conditions in minority communities and low-income communities. Environmental Justice analyses are performed to identify the disproportionate placement of high and adverse environmental or health impacts from proposed Federal actions on minority or low-income populations and to identify alternatives that could mitigate these impacts.

Minority and low-income populations are not anticipated to be impacted as a result of the Proposed Action, therefore, further analysis of environmental justice has been eliminated from this EA.

3.10.2 Protection of Children

Executive Order 13045 seeks to protect children from disproportionately incurring environmental health or safety risks that might arise as a result of Army policies, programs, activities, and standards. Historically, children have been present at Fort Hood as residents and visitors (e.g., users of recreational facilities, Family housing, schools, etc.). The Army has taken precautions for the safety of children by a number of means, including, but not limited to, the use of fencing, limited access to certain areas, and provision of adult supervision. The Proposed Action is not anticipated to adversely impact the safety of children; therefore, protection of children has been eliminated from further study in this EA.

3.11 Utilities

3.11.1 Water Supply

Most of the potable water used on Fort Hood is obtained from the Bell County Water Control & Improvement District #1 (BCWCID#1), which treats surface water from Belton Lake. This purchased water is distributed throughout the main cantonment areas of the southern and western portions of Fort Hood, as well as to the Belton Lake Outdoor Recreation Area. The water infrastructure on Fort Hood is owned, operated, and maintained by a private company. The construction and operation of the BCTC and TSC would likely increase demand but not at a rate that is anticipated to impact the supply of water on Fort Hood. In addition, the newly constructed facility would essentially replace existing facilities on post. Therefore, water supply has been eliminated from further analysis in this EA.

3.11.2 Sanitary Sewer

A sanitary sewer collection system is located on and serves the main cantonment areas where the projects are proposed to be constructed. This wastewater is directed off the installation and treated at a Publicly Owned Treatment Works operated by BCWCID#1. While the addition of facilities would increase load by a small amount, the sanitary sewer is not anticipated to be adversely impacted by the Proposed Action. In addition, the newly constructed facility would essentially replace existing facilities on post. Therefore, sanitary sewer has been eliminated from further study in this EA.

3.11.3 Electric Power

Electricity is provided to the Fort Hood area through two 138,000-volt transmission lines. It is anticipated that the Proposed Action would use these lines and associated power substations for any new facilities. While the addition of facilities would increase demand by a small amount, the electric power is not anticipated to be adversely impacted by the Proposed Action. In addition, the newly constructed facility would essentially replace existing facilities on post. Therefore, electrical power is eliminated from further study in this EA.

3.11.4 Natural Gas

Atmos Energy provides a guaranteed annual delivery of 1,300,000 cubic feet of natural gas. While the addition of facilities would increase demand by a small amount, the natural gas supply is not anticipated to be adversely impacted by the Proposed Action. In addition, the newly constructed facility would essentially replace existing facilities on post. Therefore, the natural gas supply has been eliminated from further study in this EA.

4.0 ENVIRONMENTAL CONSEQUENCES AND CUMULATIVE IMPACTS

This section analyzes the impacts that the Proposed Action and Alternative 2 would have to the resources listed in Table 4.1. Because the No Action Alternative is not anticipated to change the existing environmental conditions, it will not be analyzed in this section. Alternative 3 was determined to be not feasible and therefore will not be analyzed in this section.

Table 4.1 Environmental Impacts for the Proposed Action and Alternative 2

Environmental Resources	Proposed Action	
	Timeframe	Impact
Vegetation	Long-term	Low
Fish and Wildlife	Short-term	Low
Air Quality	Short-term	Low
Noise	Long-term	Low
Surface Water / Water Quality	Long-term	Low
Waters of the U.S.	Short-term	Low-Medium
Soils	Short-term	Low
Cultural Resources	Short-term	Very Low
Hazardous and Toxic Substances	Long-term	Low
Solid Waste Management	Long-term	Low

4.1 Biological Resources

4.1.1 Vegetation

Implementation of the Proposed Action is anticipated to result in the loss of approximately 75% of the vegetation on-site, with no vegetation removal occurring in the riparian areas (buffer zones around the waters of the U.S.). However, the vegetation would typically only be removed in the areas where ground contours are modified to accommodate the addition of infrastructure and utilities, and where permanent facilities are sited. Disturbed areas would be reseeded with native grass species, and landscaped accordingly. Re-seeding would comply with the requirements outlined in the Installation Design Guide (IDG). Therefore, although the site would be largely stripped of vegetation during construction activities, areas that do not house permanent facilities such as buildings and parking areas would be landscaped and seeded to partially recover the lost vegetation.

The loss of vegetation is not anticipated to have any significant long-term adverse impacts to grasslands on the proposed subject property. Areas that are not subject to hardstand would be seeded and vegetated. The implementation of management measures consistent with the Fort Hood Integrated Natural Resources Management Plan (INRMP) and IDG will minimize further degradation of the vegetation.

4.1.2 Fish and Wildlife

No long-term, significant adverse impacts to wildlife are anticipated as a result of the Proposed Action. All wildlife populations are expected to adapt without significant loss or reduction of any wildlife species or populations. Small mammals may be displaced or crushed in burrows, and travel corridors may be disrupted. Additionally, grassland, ground-nesting birds and herpefauna may also be impacted by loss of breeding/foraging areas. However, these disturbances are anticipated to be insignificant due to the overall size of their populations on the installation. Although the area being developed is quite large, in relation to the size of the installation and the proximity of training lands to the immediate north that offer plenty of open space for wildlife, construction of the BCTC and TSC would not remove a significant amount of habitat. If Texas horned lizards are encountered during construction, Natural Resources Branch must be notified immediately. The horned lizard is listed by Texas Parks and Wildlife as threatened and is protected by State wildlife law.

Additionally, during construction of new facilities, bats or birds may inhabit the new buildings. Some bats and birds are temporary, active only during migration in the fall and spring, while others are active in the spring and summer. Bats, and most bird species are protected from harm and destruction by Texas state law and Federal law. They must be safely excluded and/or removed from buildings without killing them or trapping/sealing them or their flightless pups in the roost. Further, spraying of pesticides and fungicides along with caulking may directly harm and kill bats and birds.

Buildings would be inspected for signs of bats and bat usage during construction. If bats or birds are found occupying the building, application of any pesticide treatment must be suspended until they have vacated. Natural Resources personnel are available to assist contractors with wildlife issues, such as removing wildlife or drafting guidelines for the protection of nesting birds until the nesting cycle has completed. Alternatively, buildings with roosts can be sealed in the winter after ensuring bats are not hibernating.

The Proposed Action would involve disturbance of grassy areas where migratory birds may inhabit or nest. If migratory birds were found to be in the proposed project location, measures would be taken to ensure that the provisions in the Migratory Bird Treaty Act are adequately followed, such as limiting construction activities to periods of time when migratory birds are not nesting (01 August to 01 April) to the extent practical, halting excavation when and if such birds are found, and creating a buffer zone around nests. Birds and their nest contents are protected by the Migratory Bird Treaty Act, the Memorandum of Understanding between the U.S. Fish and Wildlife Service (USFWS) and DoD, and Executive Order 13186.

4.2 Air Quality

Construction activities are anticipated to have minimal transitory short-term effects on air quality at Fort Hood over the 10-year projection of the proposed project. Heavy construction equipment and trucks would emit minor amounts of NO_x, PM₁₀, CO, SO_x, and VOCs. Although construction activities would produce dust and particulate matter, these actions pose no significant impact on air quality. Fugitive dust emissions will be easily controlled or minimized

by using standard construction practices such as 1) periodically wetting the area of construction, 2) covering open equipment used to convey materials likely to create air pollution, and 3) promptly removing spilled or tracked dirt from roads. Any necessary modifications to the Title V Federal Operating Permit will be made as required. A consumption report of all products and associated MSDSs used in construction of the facilities associated with this project must be submitted to DPW Environmental Division's Hazardous Material and Air Quality program managers for tracking and emissions calculation purposes.

The increase in emissions due to construction projects is already calculated and considered in the Fort Hood Air Program's emissions inventory each year. Therefore, the impacts to air quality as a result of the Proposed Action are anticipated to be short-term and minor. Designs and plans for the new facilities would be reviewed and commented on by the DPW-Environmental Air Program to ensure the best choices for compliance and conservation are considered.

4.3 Noise

The Proposed Action would result in increased construction noise. The facilities would not be located near noise-sensitive areas such as residential communities; therefore, increased noise due to operations would not have an adverse impact. Increased construction noise would occur and should be conducted during normal operating hours.

4.4 Water Resources

4.4.1 Surface Water

Soil erosion on the installation has resulted in decreased water quality and increased sedimentation in portions of Belton Lake as well as smaller water bodies and tributaries on the installation (USACE 1999). The Blackland Research and Extension Center Water Science Laboratory in Temple, Texas, monitors sediment and other water quality parameters at 14 locations across Fort Hood. Storm water flows are important to the management of surface water. The flows can introduce sediments and other contaminants into lakes, rivers, and streams that may be overwhelmed by high proportions of impervious surfaces associated with buildings, roads, and parking lots. Hardening of surfaces by constructing parking areas would increase storm flows. Adherence to proper storm water management engineering practices, applicable regulations, codes, and permit requirements, and low-impact development techniques would reduce storm water runoff-related impacts. TCEQ issues permits for Water Quality Certification for construction activities, as required by Section 401 of the Clean Water Act (CWA). Currently, the proposed area for the construction of the new facilities experiences run-off management difficulties. The area is known to pond water and become somewhat swampy during extremely rainy times of year. Adequate storm water management techniques would need to be part of planning and design to ensure that the facilities would not experience difficulties due to ponding water. Low Impact Development techniques to manage storm water on-site would contribute to ensuring that downstream impacts would be minimized.

The Proposed Action is not anticipated to have significant, long-term adverse impacts to surface water. Construction associated with the Proposed Action would require the development of a

Storm Water Pollution Prevention Plan (SWPPP), a Construction Site Notice (CSN), and a Notice of Intent (NOI) to meet requirements of the Texas Pollutant Discharge Elimination System (TPDES) program since more than five (5) acres of land would be disturbed.

Measures that would effectively manage the increase in storm water resulting from the addition of impervious surfaces must be implemented. Low-impact development (LID) techniques, such as rain gardens and/or catch basins, should be implemented to mitigate the addition of impervious surfaces such as parking and vertical construction. Informed placement of the facilities and associated parking while maintaining as much vegetative area as possible would help reduce unnecessary erosion. The use of techniques such as rain gardens within the parking lot, storm water planters located within the parking islands of the parking lot, a retention pond placed strategically for use as a leisure area, and detention basins on the outer edges of the parking lot would also be beneficial in reducing the effects of increased storm water runoff. In addition, roof drains should drain to grassy areas or biofiltration swales. The use of concrete-lined swales and underground pipes should be minimized as much as possible, in favor of grassy drainage areas. Erosion and sediment controls would be required and would be in place during construction to reduce and control erosion impacts to areas outside of the construction site. The use of BMPs such as silt fencing and sediment traps, and the stabilization of disturbed soils, would help to maintain water runoff quality at levels comparable to existing conditions and would limit potential environmental impacts from construction activities. Soil erosion management actions implemented in accordance with the Fort Hood INRMP would help to control the sedimentation loads associated with the Proposed Action.

4.4.2 Waters of the U.S.

Waters of the U.S. exist within the project areas associated with the Proposed Action (Figure 4.1). However, construction is not anticipated to directly impact these areas as construction activities would observe a 50-foot buffer from the delineated WOTUS. In the event that the project design changes in a manner that will affect the streams in any way not addressed in this EA, further coordination with Fort Hood DPW Environmental would be required, along with coverage under a CWA Section 404 permit.

Figure 4.1 WOTUS in Proximity to the Proposed Action



4.5 Geological Resources

4.5.1 Soils

The Proposed Action would involve standard construction activities on approximately 180 cumulative acres of land. Increased potential for erosion and sedimentation due to excavation, grading, removal of vegetation, and exposure of soil during construction is considered to have short-term, minor adverse effects. These impacts would be minimized by the appropriate use of BMPs for controlling runoff, erosion, and sedimentation. Erosion potential of soils will be used in designs to minimize direct and cumulative erosion and sedimentation issues. Design reviews will ensure this protection measure is observed. In accordance with the Clean Water Act, a SWPPP would be prepared, reviewed, and approved prior to the start of construction. Possible mitigation measures are listed in Appendix A.

4.6 Cultural Resources

The footprint of the Proposed Action was surveyed by Fort Hood archeologists in 1979 resulting in the discovery of no prehistoric or historic cultural resources. Accordingly, the Proposed Action is not anticipated to adversely impact existing and known cultural resources eligible for listing on the National Register of Historic Places.

In the event that an archaeological site is uncovered during construction, work must stop until the finding can be coordinated with Directorate of Public Works, Cultural Resource Management Branch. If the proposed site location were to change or extend past the site boundaries discussed in this EA, additional or new areas must be reviewed for possible cultural significance.

4.7 Hazardous and Toxic Substances

Long-term, minimal impacts would be expected from the limited amounts of hazardous material used in the cantonment area due to storage of hazardous and toxic substances and incidental spills. These materials would be controlled, treated, and classified as described in Section 3.8.

Hazardous and toxic substances are anticipated to be used during construction of and use of the vehicle maintenance facilities, administrative building, and associated parking areas. Construction activities would require substances such as fuel and paint, and normal operations would require the use of cleaning chemicals and substances used for vehicle maintenance and repair. In addition, it is likely that that existing WWII facilities would be demolished. These facilities are likely to have asbestos-containing material and lead-based paint. The generation of any hazardous waste would be treated as described in Section 3.8, and any solvents used would be recycled and reused. No effects would be expected on toxic substance usage, as military policy restricts the use of such materials on installations. A consumption report of all products and associated MSDSs used in construction of the facilities associated with this project shall be submitted to DPW Environmental Division's Hazardous Material and Air Quality program managers for tracking and emissions calculation purposes.

Operations could require the installation and use of generators and an associated fuel storage tank. The addition of a fuel storage tank would require an update to Fort Hood's SPCCP but is not anticipated to result in significant impacts to hazardous and toxic substances.

4.8 Solid Waste Management

Long-term, minimal impacts to the landfill would be expected as a result of implementing the Proposed Action. While there would be an increase in solid waste generation due to construction, increased infrastructure, and potential demolition of the existing WWII facilities, the life of the landfill and Fort Hood's outstanding recycling program would easily accommodate the added demand.

4.9 Cumulative Impacts

Cumulative impacts are defined by the Council on Environmental Quality (CEQ) in 40 CFR 1508.7 as the "...impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." The following is a list of major projects that are either recently completed, undergoing construction, or are planned for the near future. Although not all of the projects may specifically impact, or be impacted by, the Proposed Action, they are important to note due to their size or effect on Fort Hood.

Construction of a Central Technical Support Facility (CTSF)

The construction of a Central Technical Support Facility (CTSF) is anticipated to occur within the next two to five years. This facility would be constructed immediately south of the proposed BCTC and TSC, within the same block of land, and would encompass approximately 40 acres. The same measures that would apply to the Proposed Action will also apply to this construction project. Buffer zones of 50 feet would be required for construction near WOTUS, and BMPs with regards to air, noise, surface water, and erosion and sedimentation would be required. This project, in conjunction with the Proposed Action, has the potential to incrementally increase the impacts to erosion and sedimentation, surface water, and vegetation; however, the impacts are not thought to be increased to the point of significant. An EA was completed for this project in 2007.

New PX Infrastructure

A new AAFES Post Exchange is being considered at the corner of Clear Creek and Tank Destroyer Boulevard – across the street from the existing Clear Creek PX. Potential construction associated with such a project could encompass over 30 acres of disturbance, much of it hardstand for facilities and parking. This area is essentially across the street from the area identified for a new stadium and ball fields under the Proposed Action. There are many streams traversing the subject area and a significant number of native hardwood trees. These resources would need to be seriously considered during the planning and design phases of this project. The construction of a PX would increase hardstand and storm water run-off in the area, as well as could increase traffic. Construction of a new PX would be analyzed in an Environmental Assessment.

Walker Village Demolition

Plans are currently underway to demolish Walker Village in FY2011 or later. It is assumed that all or most units contain asbestos and lead-based paint. These concerns would be managed during demolition in accordance with State and Federal regulations to ensure that the surrounding areas are not subject to contamination. The demolition of this area would likely result in an increase of debris sent to the landfill and recycling centers. A Record of Environmental Consideration would be required for the demolition of these buildings.

World War II-Era Buildings Demolition

Fort Hood has a plan to demolish all World War II-era buildings. Many of these buildings are located in the blocks surrounding the existing BCTC footprint, specifically to the northwest and west of the site. The ongoing demolition of these buildings would be coordinated with stakeholder divisions, including DPW-Environmental, to ensure that impacts such as soil contamination from asbestos and lead-based paint are avoided. The demolition of these buildings would likely result in an increase of debris sent to the landfill and recycling centers. If these buildings contain lead-based paint or asbestos, they would be managed in accordance with State and Federal regulations. Some of these buildings would be the existing BCTC buildings, provided the new BCTC and TSC are constructed. A Record of Environmental Consideration would be required for the demolition of these buildings.

In conjunction with the anticipated cumulative environmental effects listed for the Projects detailed above, each action increases Fort Hood's capacity to perform its mission by providing for the infrastructure necessary for growth. Although there are plans for various construction activities, the use of BMPs and promotion of the programs aimed at reducing sedimentation and preserving our lands, such as the INRMP, Integrated Cultural Resource Management Plan, IDG, and Sustainable Range Program, create a balance to sustaining the environment on Fort Hood. Therefore, the projects listed above, in conjunction with the Proposed Action are not anticipated to have a significant, adverse effect on the environment. Additionally, future projects will be addressed individually for environmental impacts in separate documentation.

5.0 CONCLUSION

The conclusion of this Environmental Assessment is that the Proposed Action would not result in any significant environmental impacts. A FNSI is recommended for the Selected Action and an Environmental Impact Statement is not required. This Environmental Assessment and supporting documentation have been prepared in accordance with the National Environmental Policy Act of 1969, 42 USC 4321 *et seq.*, and as implemented by Executive Orders 11514 and 11991, *Environmental Analysis of Army Actions*, 32 CFR Part 651, and the Council on Environmental Quality regulations in 40 CFR Part 6.

6.0 PREPARER

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8.0 ACRONYMS

ACUB	Army Compatible Use Buffer
AFS	Army Field Support
AQCR	Air Quality Control Region
AR	Army Regulation
BCWCID	Bell County Water Conservation Improvement District
BMP	Best Management Practice
CECOM	Communications Electronics Command
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COF	Company Operations Facility
CRDAMC	Carl R. Darnall Army Medical Center
CSN	Construction Site Notice
CWA	Clean Water Act
dB	Decibels
DFAC	Dining Facility
DoD	Department of Defense
DPW	Directorate of Public Works
DRRF	Deployment Readiness and Reaction Facility
EA	Environmental Assessment
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	Endangered Species Act
ESMP	Endangered Species Management Plan
FHFH	Fort Hood Family Housing
FNSI	Finding of No Significant Impact
GWOT	Global War on Terror
HUD	Housing and Urban Development
HAZMAT	Hazardous Materials
HazWaste	Hazardous Waste
HMMP	Hazardous Materials Management Program
HS	Hazardous Substances
ICRMP	Integrated Cultural Resources Management Plan
IDG	Installation Design Guide
IRP	Installation Response Plan
INRMP	Integrated Natural Resources Management Plan
LID	Low Impact Development
LCMC	Life-Cycle Maintenance Center
MBTA	Migratory Bird Treaty Act
MSA	Metropolitan Statistical Area
MSDS	Material Safety Data Sheet
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act

NHPA	National Historic Preservation Act
NOI	Notice of Intent
NO _x	Nitrogen Oxide
NRCS	Natural Resources Conservation Service
PAL	Privatized Army Lodging
PCB	Polychlorinated Biphenyls
PM ₁₀	Particulate Matter 10
PN	Project Number
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
SO ₂	Sulfur Dioxide
SPCCP	Spill Prevention, Countermeasures, and Control Plan
SWPPP	Storm Water Pollution Prevention Plan
TCEQ	Texas Commission on Environmental Quality
TMDL	Total Maximum Daily Load
TPDES	Texas Pollutant Discharge Elimination System
TSCA	Toxic Substances Control Act
USACE	U.S. Army Corps of Engineers
USCB	U.S. Census Bureau
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife
VOC	Volatile Organic Compound
WOTUS	Waters of the United States

9.0 REFERENCES

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- Department of Defense and Department of the Army. 33 CFR 328: *Definition of Waters of the United States*.
- Fort Hood. 2006a. *Installation Design Guide*.
- Fort Hood. 2006b. *Integrated Natural Resource Management Plan*. Natural Resources Branch, Environmental Division, Directorate of Public Works, Fort Hood, Texas.
- Fort Hood. 2007a. *Endangered Species Management Plan for Fort Hood, Texas: FY06-10*.
- Fort Hood. 2007b. *Fort Hood's Title V Federal Operating Permit*.
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- Texas Commission on Environmental Quality. August 2004. *Atlas of Texas Surface Waters: Maps of the Classified Segments of Texas Rivers and Coastal Basins*. Publication Number GI-316.
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- The United States Congress. 1973. *Endangered Species Act (ESA)* [16 U.S.C. 1532 et seq.] of 1973, as amended.
- U.S. Army Corps of Engineers (USACE). 1987a. *Corps of Engineers Wetlands Delineation Manual*. Environmental Laboratory.
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- USCB. 2006. *American FactFinder: Bell and Coryell Counties, Texas*. Internet Website: <http://factfinder.census.gov>. (Accessed: April 14, 2008.)

U.S. Department of Agriculture (USDA). 1977. *Soil Survey of Bell County, Texas*. U.S. Department of Agriculture, Soil Conservation Service, in cooperation with Texas Agricultural Experiment Station and United States Department of the Army, Fort Hood, Texas.

U.S. Department of Agriculture (USDA). 1985. *Soil Survey of Coryell County, Texas*. U.S. Department of Agriculture, Soil Conservation Service, in cooperation with Texas Agricultural Experiment Station and United States Department of the Army, Fort Hood, Texas.

APPENDIX A: POSSIBLE MINIMIZATION AND COMPLIANCE MEASURES

Mitigation actions would be expected to reduce, avoid, or compensate for most adverse effects. The following are possible mitigation measures to be taken for each affected resource.

Land Use

- Adhere to optimal land use plans outlined in the *Fort Hood Real Property Master Plan* when siting new developments.
- Establish an Army Compatible Use Buffer (ACUB) to promote compatible land use.

Air Quality

- Spray water on construction work sites to reduce fugitive dust emissions.
- Cover open equipment used to convey materials likely to create air pollutants.
- Promptly remove spilled or tracked dirt from streets.
- Maintain equipment and vehicles properly.

Noise

- Limit construction activities to daylight hours.
- Use sound-dampening construction equipment and materials to minimize noise.

Geology and Soils

- Use appropriate BMPs (such as silt fences, straw bale dikes, diversion ditches, riprap channels, water bars, or water spreaders) to reduce soil erosion and sedimentation.

Water Resources

- Contractor to obtain TPDES Construction General Permit with accompanying SWPPP.
- Use appropriate erosion and sediment controls as BMPs to minimize surface erosion and runoff of pollutants.
- Follow protocols outlined in the storm water TPDES permits and state sediment and erosion control guidelines.
- Seed, revegetate and/or stabilize areas following construction activities.

Vegetation

- Limit disturbed areas to the current footprint areas plus a minimal amount of adjacent construction staging area.
 - Employ erosion control practices and tree-protection devices at all proposed sites to protect vegetation and habitat.
- Avoid unnecessary removal of trees and shrubs.

Wildlife

- Preserve associated blocks of connective native vegetation on each site to act as buffers and wildlife corridors.
- Use tree-protection BMPs during construction of new developments to maintain natural habitat areas.

Avoid harassing/harming any wildlife encountered during construction. Call Natural Resources Branch to obtain recommendations and/or assistance.

Waters of the U.S.

- If a delineation has not been done, conduct a wetland delineation to determine exact wetland boundaries and acreage.
- Avoid construction activities within 100 feet of known wetlands and streams.
- Obtain appropriate Section 404 permits from the USACE to dredge and fill waters of the U.S. As appropriate, mitigate for losses of stream and/or wetland acreage.

Cultural Resources

- Follow best management practices as outlined in the Integrated Cultural Resource Management Plan and Historic Properties Component for inadvertent discoveries of cultural resources.
- Include clauses in construction contracts with provisions suspending work until a mitigation determination is made in the event that inadvertent discoveries of cultural materials are unearthed during construction.

In the event of inadvertent discoveries, coordination with State Historic Preservation Office and Federally recognized Indian Tribes must occur.

In accordance with the National Historic Preservation Act, for known National Register eligible historic properties and archaeological sites, ensure avoidance and protection by using buffer zones.

Socioeconomics Environmental Justice and Protection of Children

- Secure construction vehicles and equipment when not in use.
- Place barriers and “No Trespassing” signs around construction sites where practicable.
- Do not use forbidden hazardous/toxic materials.

Utilities

- Install energy-efficient interior and exterior lighting fixtures and controls in all new units.
- Build new buildings to Leadership in Engineering and Environmental Design (LEED) energy efficiency standards.

Hazardous and Toxic Substances

- Use environmentally friendly adhesives, solvents, greases, and materials during construction.
- Fully comply with all provisions of Fort Hood Regulation 200-1 and the Fort Hood Pollution Prevention Plan.
- Use only hazardous materials which have been approved by the Fort Hood Hazardous Materials Control Group (HMCG) and placed on the installation’s Authorized Use List (AUL).

Solid Waste Disposal and Recycling

- Use BMPs to ensure that maximum amounts of materials recycled and that landfill disposal is minimized.
- Comply with local and state source separation laws.

Appendix B: Fish and Wildlife Species: Reading List

The following references contain site-specific information about the fish and wildlife on Fort Hood, Texas. Although some of the below references are unpublished, the data may be obtained by contacting the Fort Hood Natural Resources Office at 254-287-2885.

Mammals:

Carroll, D. S., R. C. Dowler, and C. W. Edwards. 1999. *Estimates of Relative Abundance of the Medium-sized Mammals of Fort Hood, Texas, Using Scent-station Visitation*. Museum of Texas Tech University, 188:1-10.

Hutchins, Jinelle. The Nature Conservancy. *Small Mammals Study*. Unpublished data.

Pekins, Charles. Natural Resources Management Branch, Fort Hood, Texas. *Bat Study*. Unpublished data.

Reptiles/Amphibians:

1997. *Species Composition, Frequency of Encounter, and Distribution of the Herpetofauna on Fort Hood, Texas*. Prepared for Fort Hood Natural Resources Branch and The Nature Conservancy of Texas. Unpublished report, University of Mary-Hardin Baylor, Belton, TX. 243 pp.

Hutchins, Jinelle. The Nature Conservancy. *Snakes Study*. Unpublished data.

Fish:

Johnson, K. W. 1994. *An Ecological Assessment of the Ichthyofauna of Selected Stream Systems on Fort Hood, Texas*. Prepared for Fort Hood Natural Resources Branch and The Nature Conservancy of Texas. Unpublished report, University of Mary-Hardin Baylor, Belton, TX. 98 pp.

Birds:

Kostecke, R. M., D. A. Cimprich, and M. Stake. 2008. *Birds of Fort Hood Texas: Checklist and Seasonal Distribution In Endangered species Monitoring and Management at Fort Hood, Texas: 2006 Annual Report*. (Unpublished). Fort Hood Project, The Nature Conservancy, TX.

Appendix C: Soils Maps and Data



SIB—Slidell silty clay, 0 to 2 percent slopes

Map Unit Setting

- *Elevation:* 700 to 1,210 feet
- *Mean annual precipitation:* 31 to 35 inches
- *Mean annual air temperature:* 64 to 68 degrees F
- *Frost-free period:* 230 to 250 days

Map Unit Composition

- *Slidell and similar soils:* 90 percent
- *Minor components:* 10 percent

Description of Slidell

Setting

- *Landform*: Ridges
- *Landform position (two-dimensional)*: Toeslope
- *Down-slope shape*: Linear
- *Across-slope shape*: Concave
- *Parent material*: Clayey slope alluvium

Properties and qualities

- *Slope*: 0 to 2 percent
- *Depth to restrictive feature*: More than 80 inches
- *Drainage class*: Moderately well drained
- *Capacity of the most limiting layer to transmit water (Ksat)*: Very low to moderately low (0.00 to 0.06 in/hr)
- *Depth to water table*: More than 80 inches
- *Frequency of flooding*: None
- *Frequency of ponding*: None
- *Calcium carbonate, maximum content*: 60 percent
- *Maximum salinity*: Nonsaline (0.0 to 2.0 mmhos/cm)
- *Sodium adsorption ratio, maximum*: 6.0
- *Available water capacity*: High (about 10.2 inches)

Interpretive groups

- *Land capability (nonirrigated)*: 2e
- *Ecological site*: Blackland 30-38" PZ (R085XY177TX)

Typical profile

- *0 to 18 inches*: Silty clay
- *18 to 66 inches*: Silty clay
- *66 to 80 inches*: Clay

Minor Components

Unnamed, minor components

- *Percent of map unit*: 10 percent

BtC2—Topsey clay loam, 3 to 8 percent slopes, severely eroded

Map Unit Setting

- *Elevation*: 900 to 1,210 feet
- *Mean annual precipitation*: 31 to 35 inches
- *Mean annual air temperature*: 64 to 68 degrees F
- *Frost-free period*: 220 to 245 days

Map Unit Composition

- *Topsey, severely eroded, and similar soils*: 85 percent
- *Minor components*: 15 percent

Description of Topsey, Severely Eroded

Setting

- *Landform*: Ridges
- *Landform position (two-dimensional)*: Backslope, footslope
- *Down-slope shape*: Linear
- *Across-slope shape*: Convex
- *Parent material*: Loamy residuum weathered from shale and siltstone

Properties and qualities

- *Slope*: 3 to 8 percent
- *Depth to restrictive feature*: 20 to 40 inches to dense material
- *Drainage class*: Well drained
- *Capacity of the most limiting layer to transmit water (Ksat)*: Moderately high (0.20 to 0.57 in/hr)
- *Depth to water table*: More than 80 inches
- *Frequency of flooding*: None
- *Frequency of ponding*: None
- *Calcium carbonate, maximum content*: 80 percent
- *Sodium adsorption ratio, maximum*: 3.0
- *Available water capacity*: Low (about 4.1 inches)

Interpretive groups

- *Land capability (nonirrigated)*: 4e
- *Ecological site*: Clay Loam PE 40-54 (R085XY179TX)

Typical profile

- *0 to 8 inches*: Clay loam
- *8 to 14 inches*: Clay loam
- *14 to 19 inches*: Gravelly loam
- *19 to 28 inches*: Silt loam
- *28 to 80 inches*: Silty clay loam

Minor Components

Unnamed, minor components

- *Percent of map unit*: 15 percent

Appendix D Population Statistics for Bell County and Coryell County

Population Statistics for Bell County (U.S. Census Bureau [USCB], 2006)

ACS Demographic Estimates	Estimate	Percent	U.S.	Margin of Error
Total population	257,897			*****
Male	127,063	49.3	49.2%	+/-434
Female	130,834	50.7	50.8%	+/-434
Median age (years)	30.6	(X)	36.4	+/-0.2
Under 5 years	26,406	10.2	6.8%	+/-514
18 years and over	177,593	68.9	75.4%	+/-257
65 years and over	23,998	9.3	12.4%	+/-455
One race	248,986	96.5	98.0%	+/-1,923
White	170,990	66.3	73.9%	+/-3,101
Black or African American	54,511	21.1	12.4%	+/-1,588
American Indian and Alaska Native	846	0.3	0.8%	+/-382
Asian	7,745	3.0	4.4%	+/-867
Native Hawaiian and Other Pacific Islander	154	0.1	0.1%	+/-148
Some other race	14,740	5.7	6.3%	+/-2,783
Two or more races	8,911	3.5	2.0%	+/-1,923
Hispanic or Latino (of any race)	49,008	19.0	14.8%	*****

http://factfinder.census.gov/servlet/ACSSAFFacts?_event=Search&geo_id=&_geoContext=&_street=&_county=Bell&_cityTown=Bell&_state=04000US48&_zip=&_lang=en&_sse=on&pctxt=fph&pgsl=010

Population Statistics for Coryell County (USCB, 2006)

ACS Demographic Estimates	Estimate	Percent	U.S.	Margin of Error
Total population	72,667			*****
Male	33,081	45.5	49.2%	+/-881
Female	39,586	54.5	50.8%	+/-881
Median age (years)	27.5	(X)	36.4	+/-1.3
Under 5 years	4,465	6.1	6.8%	+/-401
18 years and over	49,336	67.9	75.4%	+/-1,637
65 years and over	4,531	6.2	12.4%	+/-281
One race	70,008	96.3	98.0%	+/-918
White	51,078	70.3	73.9%	+/-937
Black or African American	14,983	20.6	12.4%	+/-1,429
American Indian and Alaska Native	975	1.3	0.8%	+/-650
Asian	672	0.9	4.4%	+/-211
Native Hawaiian and Other Pacific Islander	425	0.6	0.1%	+/-782
Some other race	1,875	2.6	6.3%	+/-881
Two or more races	2,659	3.7	2.0%	+/-918

Environmental Assessment for the Construction of a Battle Command Training Center
and a Training Support Center at Fort Hood, Texas

Hispanic or Latino (of any race)	9,619	13.2	14.8%	*****
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Source: U.S. Census Bureau, 2006 American Community Survey

http://factfinder.census.gov/servlet/ACSSAFFacts?_event=Search&geo_id=&_geoContext=&_street=&_county=Coryell&_cityTown=Coryell&_state=04000US48&_zip=&_lang=en&_sse=on&pctxt=fph&pgsl=010

Appendix E Comments and Responses

TO BE RECEIVED.