

~ Draft ~
ENVIRONMENTAL ASSESSMENT
FOR THE CONSTRUCTION OF AN
UNMANNED AERIAL SYSTEMS (UAS) COMPLEX
AT FORT HOOD, TEXAS



DIRECTORATE
OF PUBLIC WORKS

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**FINDING OF NO SIGNIFICANT IMPACT
FOR THE CONSTRUCTION OF
AN UNMANNED AERIAL SYSTEMS (UAS) COMPLEX
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 an Unmanned Aerial Systems (UAS) Complex and supporting structures 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 new Unmanned Aerial Systems (UAS) Complex that includes Company Operations Facility (COF) with covered overhead storage, a vehicle maintenance shop, organizational storage, hazardous waste and oil storage, organizational vehicle parking, and building information systems along with supporting structures on the installation. The area of construction for the Proposed Action would be approximately four acres. Completion of the Proposed Action would support the stationing of a UAS on Fort Hood. The new UAS Complex will be constructed at Robert Gray Army Airfield (RGAAF) located on West Fort Hood. An aerial map of the proposed project area can be found in Section 1.4 of this document.

Under the No Action Alternative, the new construction would not occur. The Army would be unable to accomplish the permanent stationing of the UAS at Fort Hood, Texas. Inadequate storage and maintenance space would place sensitive avionics equipment at risk for increased wear and tear and unanticipated failure. Soldiers would be forced to work out of temporary or re-locatable facilities with limited useful life expectancy that do not meet the current Army space criteria and would limit operational capabilities of the UAS. Due to location, the area currently proposed for construction would likely be developed in the future with other hangar or administrative facilities to support the airfield.

Due to the nature of the total project and the need to be near an airfield, alternatives to the proposed location for this project were limited. Renovation of existing facilities was not an option as no adequate space is available in the necessary area with the appropriate amount of space. No other existing facilities can meet the functional, operational, and facility requirements. Because alternative site locations were determined to be unfeasible and were rearranged prior to this assessment, only the Proposed Action and No Action Alternatives were considered in the Environmental Assessment.

3.0 Summary of Environmental Effect on the Proposed Action

No adverse impacts are anticipated to occur to threatened and endangered species, noise, land and airspace use, groundwater, waters of the U.S., geology, floodplains, socioeconomics or utilities as a result of implementing the Proposed Action. The Proposed Action is anticipated to have minor adverse impacts to biological resources such as threatened and endangered species, vegetation, fish and wildlife, air quality, surface water, soils, cultural resources, hazardous and toxic substance usage, and solid waste management, but avoidance and minimization measures will be implemented to ensure the impacts are not significant. Full implementation of best management practices (BMPs) would assist in minimizing impacts resulting from the Proposed Action.

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

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 new Company Operations Facility (COF), Motor Pool and supporting structures for the Unmanned Aircraft Systems (UAS) Complex at Fort Hood, Texas.

1.1 Proposed Action Overview

The U.S. Army, Headquarters III Corps and Fort Hood propose to construct a company operations facility and motor pool for support of the UAS complex at Robert Gray Army Airfield (RGAAF) located on West Fort Hood. The project will include a company operations facility, parking, and a motor pool facility with maintenance, hazardous material and oil storage areas. The total affected area from both construction areas is estimated to be approximately four acres. An aerial map of the proposed project areas can be found in Section 1.4 of this document.

1.2 Purpose and Need

Current facilities at Robert Gray Army Airfield (RGAAF) are over 40 years old and will not support infrastructure buildup associated with the stationing of a UAS at Fort Hood. All existing adequate facilities are being fully utilized to support current operations and cannot accommodate the stationing action of an additional UAS detail. If this project is not provided, the Army will not be able to accomplish the permanent stationing of the UAS at Fort Hood, Texas. Adequate administrative, storage and maintenance space is not available. Soldiers would be forced to work out of temporary or re-locatable facilities with limited useful life expectancy that do not meet the current Army space criteria and would limit operational capabilities of the UAS.

Construction of the new facilities associated with implementation of the Proposed Action would provide Soldiers with the permanent and adequate administrative and motor pool facilities necessary for job and mission completion. The proposed facilities would include a company operations facility, a motor pool facility, storage and loading dock, information systems, utilities and connections, lighting, paving, parking, walkways, landscaping, and storm drainage.

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

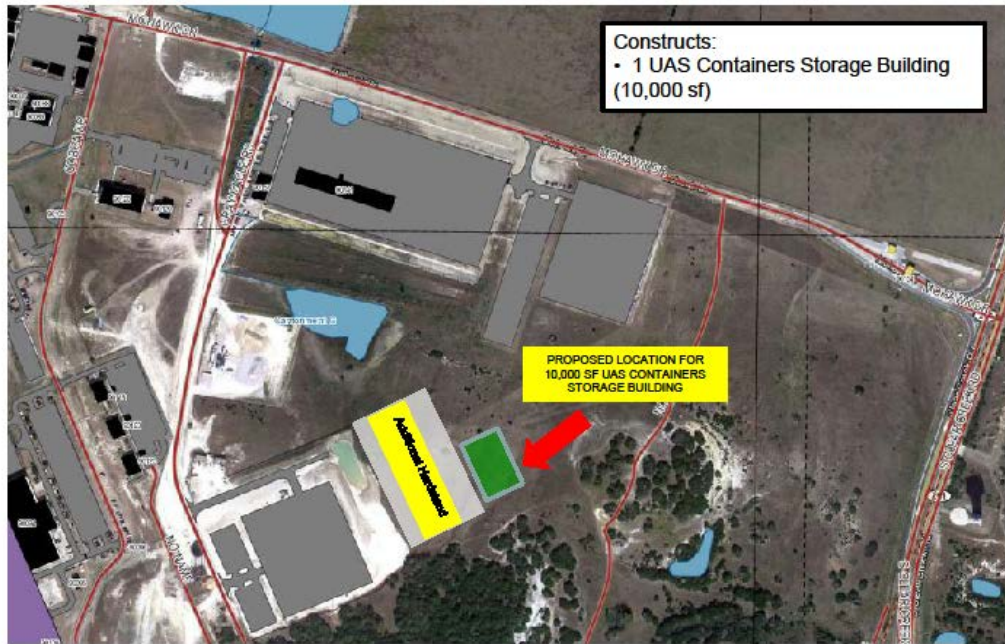
1.4 Project Location

The proposed location for the Company Operations Facility, Motor Pool and supporting structures is on RGAAF. The location selected for the construction of the facilities is outlined below.

**Figure 1.1
Proposed Project Locations**



**Figure 1.2
Proposed Project Locations**



2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

The U.S. Army, Headquarters III Corps and Fort Hood propose to construct an Unmanned Aerial Systems (UAS) Complex to include a standard designed company operations facility with covered overhead storage, a vehicle maintenance shop, organizational storage (including UAS containers), hazardous waste and oil storage, Unmanned Aerial Vehicle (UAV) maintenance hangar addition, organizational vehicle parking, and building information systems. The estimated area of disturbance is as follows:

18,400 SF Vehicle Maintenance Shop
14,683 SF Company Operations Facility
4,500 SF Covered Hardstand
115,902 SF Organizational Vehicle Parking
4,200 SF Organizational Storage Building
480 SF Oil Storage Building
500 SF Hazardous Waste Storage

Total 158,665 SF = 3.642 Acres

Completion of the Proposed Action would support the stationing of a UAS on Fort Hood.

2.2 Alternatives to the Proposed Action

2.2.1 No Action Alternative

Under the No Action Alternative, the new construction would not occur. The Army would be unable to accomplish the permanent stationing and fielding an Extended Range/Multipurpose (ERMP) Unmanned Aircraft System (UAS) Company at Fort Hood, Texas. Soldiers would be forced to work out of temporary or re-locatable facilities with limited useful life expectancy that do not meet the current Army space criteria and would limit operational capabilities of the UAS. Due to location, the area currently proposed for construction would likely be developed in the future with other administrative facilities to support the airfield.

2.2.2 Other Alternatives

Due to the nature of the total project and the need to be nearby the airfield, alternatives to the proposed location for this project were limited. The UAS hanger project is located within the vicinity of the Proposed Action. Renovation of existing facilities was not an option as no adequate space is available in the necessary area with the appropriate amount of space. No other existing facilities can meet the functional, operational, and facility requirements. Because alternative site locations were determined to be unfeasible and were rearranged prior to this assessment, only the Proposed Action and No Action Alternatives will be considered in this document.

3.0 AFFECTED ENVIRONMENT

This EA evaluates the potential environmental impacts of the Proposed Action. It does not evaluate environmental parameters unaffected by implementation of the Proposed Action. Further, the affected environment is analyzed according to the current conditions observed at the project sites under the Proposed Action. Therefore, the environment would remain the same if the No Action Alternative is selected.

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 cities of Temple, Belton, and Morgan's Point, 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 cantonment areas and a recreational area.

3.1 Biological Resources

3.1.1 Threatened and Endangered Species

The management and monitoring of Federally-listed endangered species on Fort Hood (Table 3.1) is a natural resource management obligation for the Army and Fort Hood. In accordance with the Endangered Species Act (ESA) of 1973, as amended, the Army must assist in recovery of all listed threatened and endangered (T&E) species and their habitats under the Army's land management authority [Fort Hood 2011a].

Army Regulation (AR) 200-3 requires installations to prepare an Endangered Species Management Plan (ESMP) for all listed and proposed T&E species. The installation ESMP should be used as a tool to achieve conservation objectives for populations of listed and proposed T&E species and to minimize impacts on the training mission. AR 200-3 further encourages, but does not require, the development of ESMPs for all candidate species and species of concern. AR 200-3 recommends that installations prepare an integrated ESMP covering all T&E species if more than one such species occurs on an installation. The ESMP is published as a component of the Installation Natural Resources Management Plan (INRMP). The objective of this ESMP is to provide a comprehensive plan for conserving and protecting populations and habitats of federally listed species and species of concern on Fort Hood while maintaining mission readiness in a manner consistent with Army and Federal environmental regulations [Fort Hood 2011a].

Four federally listed threatened or endangered species are known to occur on or within the vicinity of the Installation including the whooping crane (*Grus americana*), the bald eagle (*Haliaeetus leucocephalus*), the golden-cheeked warbler (*Dendroica chrysoparia*), and the black-capped vireo (*Vireo atricapilla*) [Fort Hood 2011a].

Whooping Crane

The whooping crane is a rare migrant. Three whooping cranes were sighted in Land Group 4 in March 2010 (G. Eckrich, personal communication) and this species has previously been documented on Fort Hood. They may fly over or near Fort Hood during spring (1–20 April) and fall (1–20 October) migration (Diersing et al. 1985). They may stop at Belton Lake during migration or other wetland areas on Fort Hood [Fort Hood 2011a]. They forage in wetland areas dominated by saltwort (*salsola*), smooth cordgrass (*Spartina alterniflora*), glasswort (*Salicornia* sp.) and sea ox-eye (*Borrchia arborescens*), as well as in sandy grasslands, swales and ponds (USFWS 2009a).

The Proposed site does not contain suitable habitat for nesting or foraging for whooping cranes.

Table 1. Federal endangered, threatened, candidate species and species of concern that occur or may occur on Fort Hood			
Common name	Scientific name	Listing status ^a	Status ^b
FEDERALLY LISTED SPECIES			
Whooping crane	<i>Grus americana</i>	E	B
Bald eagle	<i>Haliaeetus leucocephalus</i>	de-listed 28 June 2007	B
Black-capped vireo	<i>Vireo atricapilla</i>	E	A
Golden-cheeked warbler	<i>Dendroica chrysoparia</i>	E	A
CANDIDATE SPECIES			
Sprague's pipet	<i>Anthus spragueii</i>	C	B
Salado salamander	<i>Eurycea chisholmensis</i>	C	C
Smalleye shiner	<i>Notropis buccula</i>	C	C
Jollyville Plateau salamander	<i>Eurycea tonkawae</i>	C	C
SPECIES OF CONCERN			
Peregrine falcon	<i>Falco peregrinus anatum</i>	N/A	B
Texabama croton	<i>Croton alabamensis</i> var. <i>texensis</i>	N/A	A
Slimy salamander	<i>Plethodon albagula</i>	N/A	A
Cave invertebrates	See text.	N/A	A
Cave myotis	<i>Myotis velifer</i>	N/A	A
Texas horned lizard	<i>Phrynosoma cornutum</i>	N/A	A
Smooth pimpleback	<i>Quadrula houstonensis</i>	N/A	A
False spike mussel	<i>Quadrula mitchelli</i>	N/A	C
Texas fawnsfoot	<i>Truncilla macrodon</i>	N/A	C
<p>^a Federal listing status; E = endangered, T = threatened, C = candidate</p> <p>^b Status refers to population status on Fort Hood according to these definitions: (A) Population established on Fort Hood. Recent information documents an established breeding population (even if small) or regular occurrence on the installation. This includes those species for which research and management is ongoing and several endemic cave invertebrates. (B) Recently recorded on Fort Hood, but there is no evidence of an established population. This includes species considered to be transient, accidental, or migratory (e.g., some migrating birds may use the installation as a stopover site during migration to and from their wintering grounds). For some species in this category, further inventory may reveal breeding populations. (C) Not known to occur on Fort Hood. These species are not considered further in the 2011 ESMP.</p> <p>SOURCE: 2011 Fort Hood ESMP FY11-16</p>			

Bald Eagle

The bald eagle (*Haliaeetus leucocephalus*), was previously listed as federally-threatened; however, the species was de-listed on 28 June 2007. Once de-listed, a species is monitored by the USFWS for five years. The bald eagle has been recorded during winters at Belton Lake on or adjacent to Fort Hood (G. Eckrich, personal communication). The bald eagle does not currently nest on the installation although it does nest nearby along the Lampasas River and an apparent pair has been observed on Fort Hood in 2010 and 2011, although at this time, the pair appears too young to reproduce [Fort Hood 2011a]. Bald eagles are protected under the Bald and Golden Eagle Protection Act. They primarily feed on fish and therefore use lakes, ponds, rivers, estuaries, and the coast as habitat. Bald eagles utilize tall mature trees and cliffs for nesting areas (USFWS 2007).

The Proposed site does not contain suitable habitat for nesting or foraging for bald eagles.

Golden-Checked Warbler

The golden-cheeked warbler (*Dendroica chrysoparia*) is a small, Neotropical migratory songbird (Pulich 1976). Both males and females have yellow cheeks outlined in black and a thin black eye line (Oberholser 1974, Ridgway 1902, Pyle et al. 1997). The back feathers of older males have large, distinct black centers while the back feathers of females and younger males have smaller, less distinct black centers (Pyle et al. 1997). The center of the chin and throat of older males is black while the center of the chin of females and younger males is yellow or white with variable amounts of black along the side of the throat (Pyle et al. 1997). The upper breast and abdomen of both sexes are white with lateral black streaking along the flanks (Oberholser 1974, Ridgway 1902, Pyle et al. 1997). Golden-cheeked warblers that have completed their first pre-basic molt can be reliably sexed by plumage characteristics (Peak and Lusk *in preparation*) [Fort Hood 2011a].

Nests have been found in Ashe juniper, Texas red oak, post oak, Texas ash (*Fraxinus texensis*), shin oak, blackjack oak (*Quercus marilandica*), slippery elm (*Ulmus rubra*), cedar elm, hackberry (*Celtis laevigata*), pecan (*Carya illinoensis*) and Plateau live oak trees. Nest heights ranged from 2.0 m to 14.7 m, with an average height of 5.7 m [Fort Hood 2011a].

The golden-cheeked warbler is a migratory species. The earliest documented spring arrival on Fort Hood was 2 March. Peak arrival period is between 15 and 25 March. Similar to other populations throughout the range, most warblers on Fort Hood begin migration by the end of July.

Golden-cheeked warbler habitat is located south of the Proposed sites (see Figure 4.1). However, there would be no loss of habitat as a result of implementation of the Proposed Action.

Black-Capped Vireo

The black-capped vireo is a small songbird approximately 11 cm in length and 8–10 grams in mass. The sexes are dimorphic. On the adult male, the crown and upper half of the head is black and sharply demarcated. Black extends farther posterior on older males. The back is olive-green and undersides are white with olive-yellow flanks. Wings have two pale yellow or white wing bars. The adult female is similar in color except for a gray crown, often with some black around the white eye mask. Adults have a red to reddish-brown iris. Immature birds have a brown or gray iris (Grzybowski 1995). [Fort Hood 2011a].

Black-capped vireo habitat at Fort Hood typically is shrubby, and ephemeral with a “clumped” vegetation structure. Most habitat patches were caused by accidental fires or mechanical clearing related to military training and operations. Sites are generally occupied by vireos from 4 to 25 years following disturbance. The most common tree/shrub species found in black-capped vireo habitat on Fort Hood were shin oak, flame-leaf sumac (*Rhus lanceolata*), Ashe juniper, Texas oak, skunkbush sumac (*Rhus trilobata*), Texas redbud (*Cercis canadensis* var. *texensis*), and Texas ash (Tazik et al. 1993b). Tree/shrub species composition on vireo territories is variable, and that habitat structure (i.e., presence of low hardwood scrub) is a more critical factor in habitat selection than species composition (Tazik et al. 1993b) [Fort Hood 2011a].

On Fort Hood, the black-capped vireo males typically are first observed in late March or early April. It is suspected that females arrive shortly thereafter and most black-capped vireos appear to have departed by mid-September [Fort Hood 2011a].

The Proposed site does not contain suitable habitat for nesting or foraging for black-capped vireo.

3.1.2 Vegetation

According to DoDI 4715.03, environmentally and economically beneficial landscaping practices shall be used on all lands. Fort Hood strives to conserve and protect water resources, use Central Texas native plants, avoid using invasive species, and minimize the use of pesticides and supplemental watering. Fort Hood Natural Resources Branch provides guidance such as Fort Hood Landscaping Memorandum of Instruction (MOI), Fort Hood Tree Ordinance, Fort Hood Installation Design Guide (IDG), and the Intergraded Natural Resources Management Plan (INRMP) that details preferred native species of flora for the installation along with mitigation measures for loss of vegetation. These documents detail measures to meet the overall goals of the installation for natural resources management.

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

Tree removal or loss is common in new construction activities. Due to the importance of tree replacement and management, detailed measures are defined to assure the goals of the installation for benefits of present and future generations.

Any species of tree having a trunk diameter of fifteen inches (15") or greater at the DBH (Diameter at Breast Height) and any native hardwood tree having a trunk diameter of twelve inches (12") or greater at DBH are considered "heritage trees" and must be replaced at a 10:1 ratio. Thus, ten (10) trees must be planted for every one (1) tree removed or lost. The replacement trees must be selected from Fort Hood's Approved Landscaping Plant List and must have a minimum DBH of four inches (4").

Additionally, any native hardwood tree removed/lost with a DBH of three inches (3") or greater that has not been classified as a heritage tree will also be replaced at a 10:1 ratio. The replacement trees must be selected from Fort Hood's Approved Landscaping Plant List and must have a minimum DBH of two inches (2").

No trees are within the areas designated for the construction of the UAS Company Operations Facility, Motor Pool and UAS Container Storage Facility.

3.1.3 Fish and Wildlife

The Installation contains 199,000 acres of mission land suitable for fish and wildlife management, including 692 surface acres of lakes and ponds, 816 miles of rivers and permanent streams, and 43 miles of shoreline access to Belton Lake. Fort Hood coordinates with the United States Fish and Wildlife Service (USFWS) on fish and wildlife management, as well as the Endangered Species Act and the Migratory Bird Treaty Act (MBTA). The Migratory Bird Treaty Act (1989, as amended) implements various international treaties and conventions that serve to protect migratory birds. Pursuant to EO 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds," the DoD entered into a Memorandum of Understanding with the USFWS to promote the conservation of migratory bird populations. Migratory birds utilize reservoirs, grass and shrub ecosystems, and riparian areas at Fort Hood for nesting, feeding, and breeding grounds.

Fish are not anticipated to be impacted by the Proposed Action because new construction will not occur within, or immediately adjacent to, ponds or streams.

Wildlife that may be affected by the Proposed Action includes bats, migratory birds and other small mammals. Migratory birds may inhabit the area surrounding the project location especially the existing grasslands, shrub lands, and treed areas. For a more in-depth list of specific species found on the installation, the reader may refer to a reading list located in Appendix C 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. Air quality monitoring, is being conducted outside the installation at Skylark Field to determine attainment status, specifically for Ozone. Fort Hood emissions are included in the monitoring data as a result of the close proximity of the installation to the monitoring site.

To meet regulatory requirements in the Killeen-Temple-Fort Hood Metropolitan Statistical Areas (MSA), the Texas Commission on Environmental Quality (TCEQ) will deploy a second ozone monitor at a new site in the Temple area. The TCEQ is working on locating this new site, with deployment planned for early 2013. This requirement comes from the 2012 Annual Ambient Air Monitoring Network Review.

In 2010, the TCEQ submitted waiver requests for the source-oriented lead monitoring required at the Red River Army Depot near Texarkana, the U.S. Army Fort Hood facility near Killeen, and the Oxbow Calcining facility in Port Arthur. These waivers were subsequently approved by EPA Region 6. The TCEQ has reviewed these sites as part of this year's network review and determined that they continue to meet eligibility requirements. In 2015, the TCEQ will reapply for these waivers as required by the federal rules.

Fort Hood is 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) and 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 an area source of hazardous air pollutants; therefore, existing air emission sources are subject to Maximum Achievable Control Technology standards. On August 14, 2012, the TCEQ issued Fort Hood's Title V Federal Operating Permit and conducts 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 considered normally 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:

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 at 50 feet	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.

The Proposed Action would occur in an area which is already highly developed and regularly used for airfield operations. It is not anticipated that the Proposed Action would impact noise levels; therefore, noise will not be further analyzed in this EA.

3.4 Land and Airspace Use

The project area is located on West Fort Hood, in the area of the airfield where land use is primarily urban. The area contains administrative, maintenance, industrial, supply/storage, operations, and open space land uses.

Airspace and land use would remain the same and would not be impacted by the Proposed Action, 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 Group and associated limestones. The Glen Rose and Paluxy Formations are part of the Trinity Aquifer, which is the major aquifer in the Fort Hood area. The Glen Rose Formations yield only small amounts of water, while the Paluxy Formation is capable of yielding small to moderate amounts of water. The Walnut and Comanche Peak Formations can yield small amounts of water. The Edwards Group and associated limestones are typically porous and have the potential to yield the greatest amount of water of any of the units in the area. However, the Edwards and associated limestones are stratigraphically thicker, and more contiguous and permeable south and east of Fort Hood where they are part of the large-scale, highly productive Edwards aquifer. On Fort Hood, Edwards Group limestone contains localized perched water aquifers and springs of varying sizes, but not extensive, large-scale confined aquifers.

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 areas, and best management and construction practices will 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 that 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 wash rack storage facilities. Approximately 50 percent of Fort Hood is in the Cowhouse Creek watershed, making Cowhouse Creek 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 and Stillhouse Hollow Lake are owned and operated by the U.S. Army Corps of Engineers (USACE) for flood control, water supply, and recreation.

The Proposed Action falls within the Cowhouse Creek watershed which flows north into Belton Lake.

3.5.2.1 *Waters of the U.S.*

Wetlands in central Texas and at Fort Hood are most common on floodplains along rivers and streams (riparian wetlands), along the margins of lakes and ponds, and in other low-lying areas where the groundwater intercepts the soil (springs). There are numerous natural springs within the Fort Hood Military Reservation boundaries, but most of their locations have not been mapped.

Section 404 of the Clean Water Act requires authorization from the U.S. Army Corps of Engineers to discharge dredged or fill material into waters of the United States. Waters of the United States 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 over them. For further definitions, refer to 33 CFR 328 and the 1987 Corps of Engineers Wetlands Delineation Manual, which can be found at <http://el.erd.c.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. There are Waters of the U.S. located northeast of the proposed project area.

3.5.3 Water Quality

As required under Sections 303(d) and 304(a) of the federal Clean Water Act, TCEQ provides a list that identifies the water bodies in or bordering Texas for which effluent limitations are not stringent enough to implement water quality standards, and for which the associated pollutants are suitable for measurement by maximum daily load. In addition, the TCEQ also develops a schedule identifying Total Maximum Daily Loads (TMDLs) that will be initiated in the next two years for priority impaired waters. Impairments are limited to the geographic area described by the Assessment Unit. A TMDL for each impaired parameter is developed to allocate pollutant loads from contributing sources that affect the parameter of concern in each Assessment Unit. The TMDL will be identified and counted for monitoring. Water Quality permits issued before a TMDL is approved will not increase pollutant loading that would contribute to the impairment identified for the Assessment Unit.

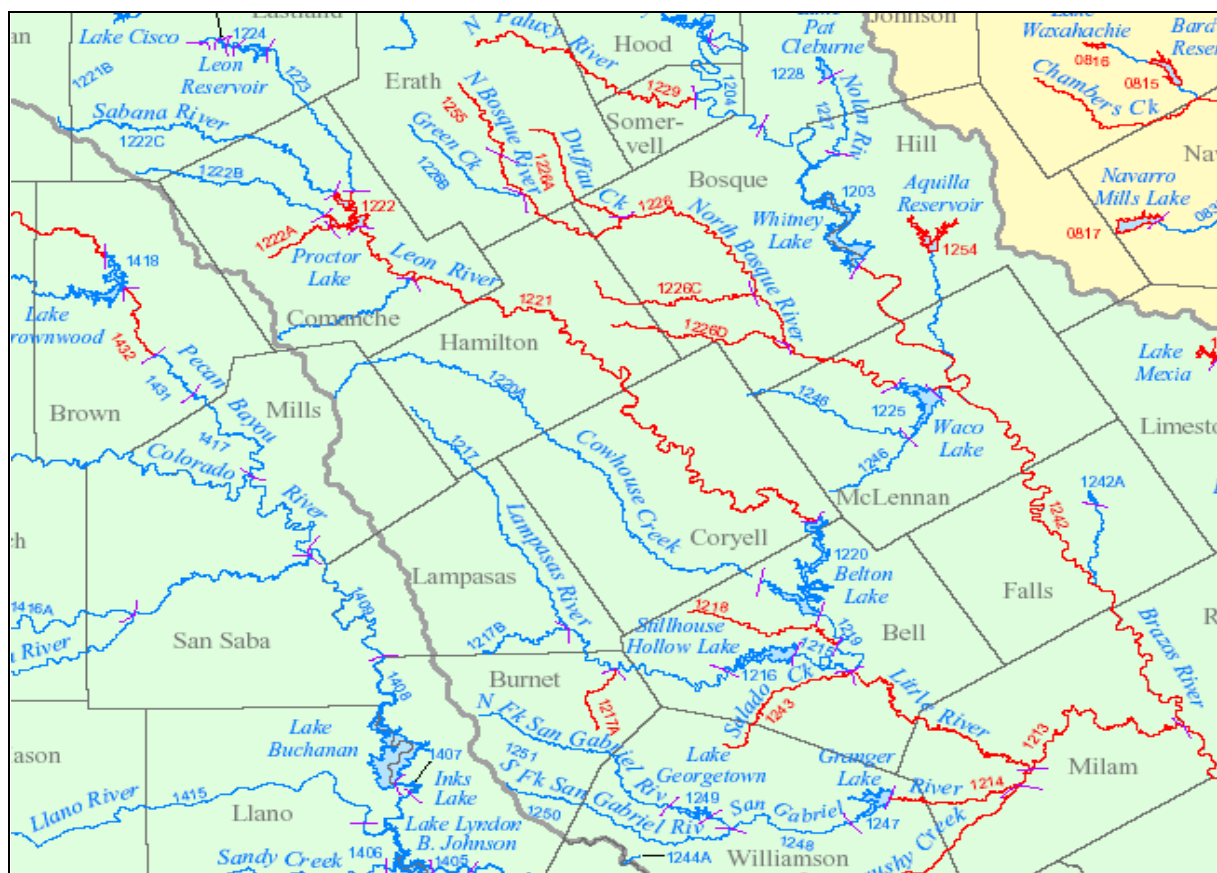
The Texas 2010 Clean Water Act Section 303(d) list of water quality limited water bodies was submitted by the TCEQ on September 17, 2010 and approved by the Region 6, US EPA on November 18, 2011.

TCEQ has divided the Middle Brazos River basin into 16 classified segments. TCEQ considers the location of highest concern to be segment 1221 that 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. 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. Figure 3.1 below depicts the four segments of concern on Fort Hood.

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.

Runoff from the proposed construction site would flow into Clear Creek which is part of the Cowhouse Creek watershed. Water quality is not anticipated to be impacted as a result of the Proposed Action and will be eliminated from further study in this EA.

**Figure 3.1
TCEQ Segment Map**



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 Group 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, which delineates the Edwards Plateau, occurs immediately east of the installation, running north to southwest. The Edwards Plateau to the west of this zone, which includes Fort Hood lands, has risen as much as 500 feet. Erosion of

this land over time is what has created the irregular, steep sloping terrain on the installation [USACE 1987b].

Because the Proposed Action does not involve excavation that will change the underlying strata of the land, geology is not anticipated to be impacted as a result of the Proposed Action and will be eliminated from further study in this EA.

3.6.2 Soils

Soil types within the proposed project area 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). Soils at the project location for the Proposed Action include Denton silty clay (DeB).

The Denton component makes up 90 percent of the map unit. Slopes are 1 to 3 percent. This component is on ridges and hills. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 40 to 60 inches. The natural drainage class is well drained and the water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is high. Figure 3.2 identifies soil by location.

Figure 3.2
Soil Types for the Proposed Site



3.6.3 Floodplains

Floodplains do not constitute a resource themselves, but rather a hazard to any development that occur within them. 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 areas for the Proposed Action do 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.

The footprints for the Proposed Action have been surveyed for archaeological sites and historic structures. Buildings that are 50 years old or older, or are approaching 50 years of age, could be considered a cultural resource.

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

No buildings of historic concern or known archaeological sites within the footprint of the Proposed Action. No significant impacts to cultural resources have been identified; therefore, cultural resources have been eliminated from further consideration in this EA.

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) and Fort Hood 200-1, *Environment and Natural Resources* (July 2004), Chapter 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 requires Sustainment Level units, National Emission Standards for Hazardous Air Pollutants (NESHAP) units, and large quantity HAZMAT users to report HAZMAT inventories monthly to the DPW Environmental Division. This allows visibility and tracking of HAZMAT that may be considered reportable chemicals or having safety considerations.

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. These 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 describe the hazards associated with each specific substance. Contractors working on-post must comply with the Fort Hood policy and obtain approval for all hazardous materials brought on post. Materials containing, but not limited to, polychlorinated biphenyls (PCBs), asbestos, and lead shall not be introduced on military installations.

3.9 Solid Waste Management

The Fort Hood landfill is located on the installation within 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

3.10.1 Economy, Employment, and Income

Fort Hood's boundaries encompass portions of both Bell and Coryell Counties. Fort Hood provides a major economic contribution to Coryell and Bell Counties through military and civilian payroll and the purchase of goods and services.

As of June 2012, Fort Hood served an on-post population of 79,640. This included 39,712 active duty personnel (officer and enlisted); 18,420 family members; 6,437 civilian employees; 13,273 contract personnel and others; 1,798 AAFES, commissaries and Killeen ISD staff.

As of June 2012, Fort Hood served a total supported population of 393,894. This number includes the on-post population of 79,640; the off-post family members of 63,693; and retirees, survivors, and family members of 250,561 [Fort Hood 2012]. This makes Fort Hood's military and civilian components by far the largest employers of Killeen and Copperas Cove residents.

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 and Coryell Counties. The Land area for Bell County is 1,051.02 square miles and the land area for Coryell County is 1,052.07 square miles.

Bell County

According to the 2010 U.S Census Bureau (USCB), Bell County had a total population of 310,235. The 2011 female persons were estimated at 50.5% and male persons were estimated at 49.5%. In addition, 28.3% of the population was under 18 years, 9% was under the age of five years and 8.9% of the population was 65 years and older.

There were 125,470 housing units in Bell County. An estimated 58% of housing units were owner occupied, while the remaining 42% of units were rented. Of the total housing units, 27.6% were multi-unit structures. The median value of owner-occupied housing units was \$113,800 [2010 USCB].

Families made up 73.3% of the households in Bell County. The average size per household was 2.8 people and the median income of households in Bell County was \$48,618, less than the national median household income of \$52,175. Approximately 83% of the households received earnings and 21.7% of the households received retirement income other than Social Security. Nearly 21% of households received

Social Security, with an average income of \$13,923. An estimated 14.1% of all people (10.5% of all families) in Bell County were living below the poverty level [2010 USCB].

Coryell County

According to the 2010 U.S Census Bureau (USCB), Coryell County had a total population of 75,388. The 2011 female persons were estimated at 51% and male persons were estimated at 49%. In addition, 27.5 % of the population was under 18 years, 8.3% was under the age of five years and 7.7% of the population was 65 years and older.

There were 25,178 housing units in Coryell County. An estimated 60% of housing units were owner occupied, while the remaining 40% of units were rented. Of the total housing units, 22.2% were multi-unit structures. The median value of owner-occupied housing units was \$92,000 [2010 USCB].

Families made up 75.5% of the households in Coryell County. The average size per household was 3.21 people and the median income of households in Bell County was \$47,374, less than the national median household income of \$52,175. Approximately 83% of the households received earnings and 23.7% of the households received retirement income other than Social Security. Nearly 20% of households received Social Security, with an average income of \$12,519. An estimated 13.2% of all people (10.5 percent of all families) in Coryell County were living below the poverty level [2010 USCB].

3.10.2 Population and Demographics

Table 3-2 demonstrates the population growth between 1990 and 2009 in cities and towns surrounding Fort Hood. Of particular note are the cities of Killeen, Harker Heights and Morgan’s Point Resort which experienced large population growth while others cities experienced less dramatic population growth.

City/County	1990	2000	2009	% Growth
Killeen, Bell County	63,535	86,911	119,510	88%
Copperas Cove, Coryell County	24,079	29,592	30,806	28%
Harker Heights, Bell County	12,841	17,308	26,026	103%
Nolanville, Bell County	1,834	2,150	2,972	62%
Belton, Bell County	12,476	14,623	17,799	43%
Temple, Bell County	46,109	54,514	60,118	30%
Gatesville, Coryell County	11,492	15,591	15,136	32%
Morgan's Point Resort City, Bell County	1,766	2,989	4,385	148%

Source: U.S. Census Bureau 1990, 2000, and 2009.

Table 3-3 provides population statistics for Bell and Coryell Counties in comparison to the state of Texas and the United States. Of note, between 1990 and 2009, both Bell and Coryell counties experienced population increases; however, Bell County increased at more than twice the rate of the national average. The median age in Bell and Coryell counties is 30.5 and 29.3 respectively, significantly less than the national average age of 36.7.

		Bell County, Texas	Coryell County, Texas	State of Texas	United States
Total Population	1990	191,088	64,213	16,986,510	248,709,873
	2000	237,974	74,978	20,851,820	281,421,906
	2009	285,787	75,529	24,782,302	307,006,550
	% Change	50%	18%	46%	23%
Percentage Male (a)		49.5	49.4	49.9	49.3
Percentage Female (a)		50.5	50.6	50.1	50.7
Median Age		30.5	29.3	33.2	36.7
Source: U.S. Census Bureau 2000 and 2009, except median age figures					

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.

The proposed project area is located on West Fort Hood. No economically sensitive groups will be impacted as a result of the proposed action. Socioeconomics are not anticipated to be adversely impacted as a result of the Proposed Action, and therefore have been eliminated from further study in this EA. Updated information of estimated Census data can be reviewed in Appendix C: Population Statistics for Bell and Coryell Counties.

3.10.3 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. Federal agencies must ensure that their actions do not disproportionately impose adverse effects on minority or low-income populations. Environmental justice analyses are performed to identify disproportionately high and adverse health or environmental impacts from proposed federal actions on minority or low-income populations and to identify alternatives that could mitigate these impacts.

As demonstrated in *Table 3-7, Bell and Coryell Counties* have a lower percentage of White, Hispanic or Latino, and Asian residents and a higher percentage of Black or African American residents as well as American Indian or other Pacific Islanders than the State of Texas.

	Bell County, Texas	Coryell County, Texas	State of Texas
White	68.9%	74.9%	80.9%
Black or African American	22.1%	16.8%	12.2%
American Indian and Alaska Native	1.1%	1.1%	1.0%
Asian	3.1%	2.2%	4.0%
Native Hawaiian or other Pacific Islander	0.8%	0.9%	0.1%
Hispanic or Latino origin	22.2%	16.6%	38.1%
White persons other than Hispanic	50.3%	61.2%	44.8%

While there are small isolated areas of low-income and minority populations within areas adjacent to Fort Hood, only authorized users can pass through the gate and access the proposed facility.

The construction of the Proposed Action would create some additional job opportunities resulting in a positive impact on minority and low-income populations in the area; therefore, implementation of the Proposed Action would not disproportionately affect minority or low-income communities nor cause the displacement of any residents, eliminate jobs, or negatively impact wages and has been eliminated from further study in this EA.

3.10.4 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, and limited access to certain areas, and provision of adult supervision.

The Proposed Action is not anticipated to adversely impact the safety of children; therefore it 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. Water use at the facility would be for incidental cleaning and latrine use by the occupants of the facilities. While the addition of facilities would increase demand by a small amount, the water supply is not anticipated to be adversely impacted by the Proposed Action. Therefore, water supply has been eliminated from further study in this EA.

3.11.2 Sanitary Sewer

A sanitary sewer collection system is located on and serves the cantonment areas where the Proposed Action is sited. 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 system is not anticipated to be adversely impacted by the Proposed Action. Sewage generation would result from incidental cleaning and latrine use by the occupants of the facilities. Therefore, sanitary sewer has been eliminated from further study in this EA.

3.11.3 Electric Power

Electricity is supplied to Fort Hood by the local utility company, Oncor, via two 138 KV transmission line. Several electric substations on the base are used to step the transmission voltage down and distribute electric power to end users. The Proposed Action can be supported from existing electric supply facilities. While the additional facilities will increase demand by a small amount, the electric power supply system will not be adversely impacted by the Proposed Action. Therefore, electric power has been 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. It is anticipated that the Proposed Action will continue to use this service for any new facilities. 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. Therefore, the natural gas supply has been eliminated from further study in this EA.

4.0 ENVIRONMENTAL CONSEQUENCES AND CUMULATIVE IMPACTS

In this section, the commitment of resources is analyzed in relation to the Proposed Action. Because the No Action Alternative is not anticipated to change the existing environmental conditions, it will not be analyzed in this section. This section analyzes the impacts that the Proposed Action will have to the resources listed in Table 4.1.

Table 4.1 Environmental Impacts for the Proposed Action		
Environmental Resources	Timeframe	Impact
Threatened and Endangered Species	Short-term	Minor
Vegetation	Long-term	Minor
Fish and Wildlife	Short-term	Minor
Air Quality	Short-term	Minor
Surface Water	Short-term	Minor
Waters of the US	Short-term	Minor
Soils	Short-term	Minor
Cultural Resources	Long-term	Minor
Hazardous and Toxic Substances	Long-term	Minor
Solid Waste Management	Long-term	Minor

4.1 Biological Resources

4.1.1 *Threatened and Endangered Species*

Short-term, minor adverse impacts to threatened and endangered species are anticipated as a result of the construction of the Proposed Action. Golden-cheeked warbler habitat is located south to the site for the Proposed Action (see Figure 4.1). However, there would be no loss of habitat as result of implementation of the proposed action, and major earth-disturbing activities would occur outside of the nesting season, as discussed in Section 4.1.3. If construction activities occur during the nesting season, then these construction activities may result in additional disturbance to endangered species from increased noise due to construction and the increased presence of humans in proximity to habitat. Disturbance could have an adverse effect to the nesting success of endangered species utilizing adjacent habitat.

Normal operation of the facility would remain consistent with the existing land use in the surrounding area, therefore it is not anticipated that facility activities would have an adverse impact on the habitat in the area.

Figure 4.1
Threatened and Endangered Species Habitat



4.1.2 Vegetation

Implementation of the Proposed Action is anticipated to result in loss of vegetation. However, the vegetation is typically only removed in the areas where ground contours are modified to accommodate the addition of infrastructure and utilities, and where permanent facilities are sited. Once construction is completed, all areas that were disturbed are reseeded with native grass species, or landscaped accordingly.

The loss of vegetation is anticipated to have long-term, minor adverse effects to grasslands on the proposed subject property. 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.

4.1.3 Fish and Wildlife

Short-term, minor adverse impacts to wildlife are anticipated as a result of the construction of the Proposed Action. Small mammals may be displaced and travel corridors may be disrupted. Additionally, grassland, ground-nesting birds and herpefauna may also be impacted.

Additionally, during construction of new facilities, bat colonies or birds may inhabit the new buildings. Some bat colonies and birds are temporary, active only during migration in the fall and spring, while others are active in the spring and summer. Bats, bat colonies, and certain species of birds are protected from harm and destruction by Texas state law. They must be safely excluded 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 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. Alternatively, buildings with roosts can be treated and sealed in the winter after ensuring bats are not hibernating. Utilizing building designs that minimize the roosting of bats and birds nesting is another approach.

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 (MBTA) and INRMP are adequately followed. If possible, construction would occur outside the nesting season (01 March to 15 August). If construction cannot be avoided during this time, then surveys will be conducted. Birds and their nest contents are protected by the MBTA and the Memorandum of Understanding between the U.S. Fish and Wildlife Service (USFWS) and DoD.

4.2 Air Quality

Construction activities and increased training are anticipated to affect air quality on Fort Hood. 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 potential-to-emit 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.

4.3 Water Resources

4.3.1 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). 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 will slightly 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).

The Proposed Action is anticipated to have short-term, minor adverse impacts to surface water. A General Storm Water Construction Permit would be required for this project. 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. Low-impact development techniques, such as rain gardens and catch basins, should be implemented to mitigate the addition of impervious surfaces such as parking and vertical construction. 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.

The Proposed Action is located within 500 feet of a wetland, which is a waters of the U.S., and could have short-term, minor adverse impacts to this area. The project site will observe a 150-foot buffer from the wetland edge, where feasible. Coordination with Fort Hood DPW Natural Resources for encroachment within the buffer will be implemented during the design. Additionally, the project will include the removal of a berm that was installed during a previous project and encroaches a wetland. This berm area will be restored to the original grade.

4.4 Geological Resources

4.4.1 Soils

The Proposed Action would involve standard construction activities on approximately 12 cumulative acres of land that includes previously undisturbed sites. 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.

4.5 Hazardous and Toxic Substances

Long-term, minor adverse effects 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. 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.

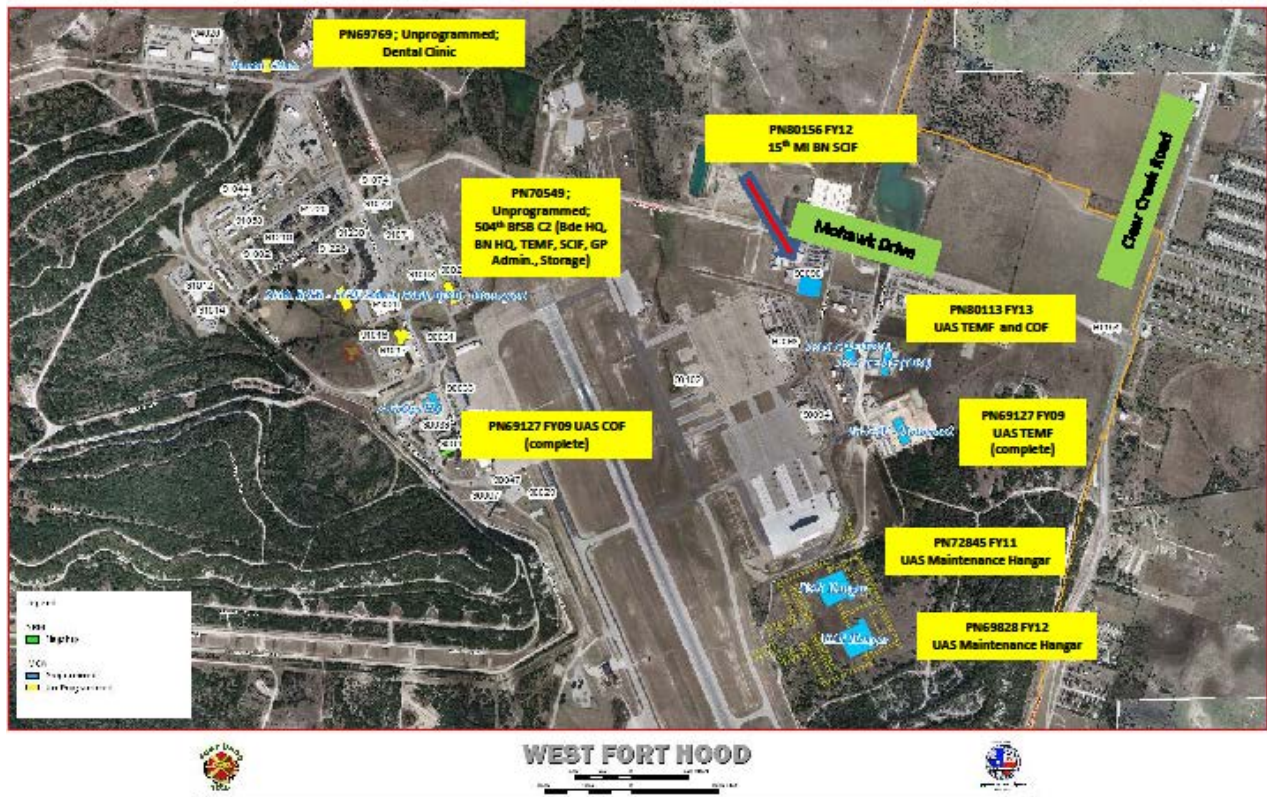
4.6 Solid Waste Management

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 and increased infrastructure, the life of the landfill and Fort Hood's outstanding recycling program would easily accommodate.

4.7 Cumulative Impacts

Cumulative impacts are defined by the Council of 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 all of the projects may not specifically impact, or be impacted by, the Proposed Action, they are important to note due to their size or effect on Fort Hood.

Figure 4.2
West Fort Hood Area of Development



4.7.1 Recently Completed and Ongoing Projects

Unmanned Aerial Vehicle Facilities (PN 69127)

This facility would include an aircraft hangar; airfield taxiways and aprons; parking; administrative, maintenance, and storage facilities; utilities and connections; lighting; paving and walkway; landscaping; and storm drainage. The area of construction would include approximately 50 acres east of RGAAF. A FONSI was signed January 2010.

New Clear Creek Shopping Center

An EA was prepared for construction and operation of a shopping center that would total approximately 244,000 square feet and would include a main store area, merchandise processing area, concessions, Medcom Satellite Pharmacy, and AAFES dental concession, a food court, and parking (Department of the Army, 2011).

SH 9 Northeast Bypass

Construction began on the 7-mile loop in 2011 and will include an interchange on the east side of the City of Copperas Cove off westbound U.S. Highway 190. It will have entrance points on Tank Destroyer Boulevard and Georgetown Road, and will come out on Farm-to-Market 116 about a quarter-mile north of where Anderson Mountain Road previously met the highway. The project is scheduled to be completed in summer of 2013.

Chinook Hangar

Fort Hood recently constructed a new Chinook hangar and supporting structures on West Fort Hood. Construction included an aircraft maintenance hanger, a maintenance shop, storage areas, an oil and paint storage building, scheduled maintenance facilities, an operations building, fire pump, wash apron, and new parking apron. This project supported the Army's initiative to transform aviation brigade-sized units into combat aviation brigade-sized units. This transformation provides more flexibility and supports the Global War on Terrorism (GWOT). This reorganization requires activating an additional Combat Aviation Brigade. The project is located on West Fort Hood. An Environmental Assessment was completed for the *Construction of the New Chinook Hangar*. The project resulted in a loss in vegetation and increased hardstand in the area.

Digital Airfield Surveillance Radar

Fort Hood constructed a new Digital Airfield Surveillance Radar on the west side of Robert Gray Army Airfield. The area of disturbance for the radar site, including a concrete foundation pad and associated storage buildings, was over one acre. There was no tree removal associated with this project, although the location for the radar was

adjacent to a forested area containing habitat to the golden-cheeked warbler and black-capped vireo and no construction take associated with this project.

4.7.2 Future Proposed Projects

New Texas A&M University Central Texas Campus

Fort Hood transferred of approximately 672 acres to the Texas A&M University System for the development of a 20,000-student campus at the intersection of SH 201 and SH 195, approximately 4 miles east of RGAAF. Current conceptual designs for the campus include approximately 40 buildings (consisting of academic, office, and residential), three to four large parking lots with smaller parking areas scattered throughout the campus, and several athletic facilities, including a football stadium and track and field complex, a baseball stadium, a baseball / softball complex, and two additional intramural fields.

The Kouma Village Expansion

A Supplemental EA was prepared for construction of approximately 100 units of family housing on a 67-acre parcel of undeveloped land (Fort Hood, 2011b). Future development might include approximately 20 units as a second phase for this specific location.

Robert Gray Army Airfield – Proposed Second Runway

In August 2004, Fort Hood's Robert Gray Army Airfield (RGAAF) entered into joint use service with the City of Killeen. A second 10,000-foot runway is proposed at the Robert Gray joint use facility. This project is in the early planning stages. It is important to note this project because it is anticipated to significantly increase air traffic. Since the project is in the early planning stages, the effects are unknown. Subsequent environmental documentation and analysis will occur as the project progresses. Currently, an Environmental Assessment was completed in 2012 for the proposed project.

Proposed operation (launch and recovery) of MQ-1 Predator and MQ-9 Reaper

An EA was prepared to provide the Texas Air National Guard with training facilities and restricted airspace to perform remotely piloted aircraft missions. The EA covered construction of up to 30,000 square foot unmanned aerial vehicle facility on a 15 acre parcel adjacent to the east side of RGAAF ramps and taxiways (National Guard Bureau, 2011).

Army Sustainment Maintenance Complex

The proposed complex would include a Regional Logistics Support Facility, a Communications-Electronics Lifecycle Management Command Regional Support Facility, and an Army Fleet Support Battalion Command. The facility would be located at

the corner of Tank Destroyer and Clarke Road on West Fort Hood and would occupy approximately 35 acres. Completion of the complex would support Fort Hood's need for additional vehicle maintenance facilities on Fort Hood.

Highway 190 Expansion from Copperas Cove to TJ Mills Blvd

Expansion of US 190 from Copperas Cove to Fort Hood's Main Gate at TJ Mills Boulevard was completed by TxDOT in an effort to reduce traffic congestion. The project included expansion to 6 lanes for approximately 6.4 miles and increase mobility on US 190 and intersections (TxDOT, 2012). A FONSI was signed in January 2012.

504th Battlefield Surveillance Brigade

Battalion HQ A company operations facility and a vehicle-maintenance center are proposed, northwest of RGAAF. The area of construction for the facility would be approximately 20 acres.

Joint Weather Operations Center (3rd Weather Squadron)

This Joint Weather Operations Center is proposed along Gray Drive. The 3rd Weather Squadron Proposed facilities include administrative, classroom/training area, maintenance bay, storage areas, weather observation deck; organizational vehicle and covered storage, and related equipment parking (Fort Hood, 2010d). Conceptual designs of the project footprint are approximately 11 acres.

Although various construction activities are planned, the use of BMPs and adherence to Fort Hood's established programs aimed at natural resource protection such as the Integrated Natural Resources Management Plan, Integrated Cultural Resources Management Plan, Installation Design Guide, and Sustainable Range Program would ensure that cumulative effects on any resource area would be less than significant. 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.

4.8 Unavoidable Adverse Environmental Impacts

Some unavoidable adverse impacts would result from the implementation of the Proposed Action. Short-term impacts associated with construction would include an increase in noise levels, fugitive dust emissions, as well as increased stormwater runoff from the construction site. However, these effects would be short-term and localized. Unavoidable, long-term negative environmental effects would include the permanent conversion of approximately 12 acres of land to developed property resulting in habitat loss for species that would otherwise inhabit that land. Additionally, the development of the UAS Complex would include a slight increased demand on the local infrastructure

and utility systems, including water supply, sewage treatment, electrical services, solid waste, and natural gas. These effects would be insignificant and other projected beneficial impacts associated with the Proposed Action would offset any negative effects.

4.9 Irreversible and Irretrievable Commitment of Resources

Implementation of the Proposed Action would result in irreversible and irretrievable commitments of resources by Fort Hood. Committed resources would include building materials and supplies and their cost, labor, planning and engineering costs, infrastructure capacity, funds used for construction, and federally owned property. Other committed resources would include water, natural gas, fossil fuels, and electricity used for the construction of the Proposed Action as well as for the continued operation and maintenance of the proposed facility.

5.0 CONCLUSION

The conclusion of this Environmental Assessment (EA) is that the Proposed Action would not result in significant environmental impacts. A Finding of No Significant Impact (FNSI) is recommended for the Proposed Action, and an Environmental Impact Statement (EIS) is not required. This EA and supporting documentation has 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 119991; AR200-2 “*Environmental Analysis of Army Actions*” as promulgated by 32 CFR Part 651; and the Council on Environmental Quality regulations in 40 CFR Part 6.

6.0 PREPARER

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7.0 PERSONS AND AGENCIES CONTACTED

7.1 Individuals Contacted

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8.0 ACRONYMS

AQCR	Air Quality Control Region
AR	Army Regulation
BCWCID	Bell County Water Conservation Improvement District
BMP	Best Management Practice
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COF	Company Operations Facility
CWA	Clean Water Act
dB	Decibels
DFAC	Dining Facility
DoD	Department of Defense
DOL	Directorate of Logistics
DPW	Directorate of Public Works
DRRF	Deployment Readiness and Reaction Facility
EA	Environmental Assessment
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESMP	Endangered Species Management Plan
FHFH	Fort Hood Family Housing
FNSI	Finding of No Significant Impact
HUD	Housing and Urban Development
HMMP	Hazardous Materials Management Plan
IDG	Installation Design Guide
INRMP	Integrated Natural Resources Management Plan
LEED	Leadership in Engineering and Environmental Design
MSDS	Material Safety Data Sheet
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRCS	Natural Resources Conservation Service
PAL	Privatized Army Lodging
PCB	Polychlorinated Biphenyls
PCPI	Per Capita Personal Income
PN	Project Number
RCRA	Resource Conservation and Recovery Act
ROI	Region of Influence
SPCC	Spill Prevention, Control, and Countermeasures Plan
SWPPP	Storm Water Pollution Prevention Plan
TCEQ	Texas Commission on Environmental Quality
TMDL	Total Maximum Daily Load
TPDES	Texas Pollutant Discharge Elimination System
TPI	Total Personal Income
TSCA	Toxic Substances Control Act
UAS	Unmanned Aerial System
UEPH	Unaccompanied Enlisted Personnel Housing
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 Service
VMS	Vehicle Maintenance Shop

9.0 REFERENCES

- Department of Defense and Department of the Army. 2003. 40 CFR 81: Designation of Areas for Air Quality Planning Purposes.
- Department of Defense and Department of the Army. 1986. 33 CFR 328: Definition of Waters of the United States.
- Fort Hood 2011a. Endangered Species Management Plan For Fort Hood, Texas FY11-16.
- Fort Hood. 2010. Integrated Natural Resource Management Plan. Natural Resources Branch, Environmental Division, Directorate of Public Works, Fort Hood, Texas.
- Fort Hood. 2007. Fort Hood's Title V Federal Operating Permit.
- Natural Resources Conservation Service (NRCS). 1998. Fort Hood Vegetative Resource Inventory. U.S. Department of Agriculture.
- Texas Commission on Environmental Quality. 2010. Atlas of Texas Surface Waters: Maps of the Classified Segments of Texas Rivers and Coastal Basins.
- The United States Congress. 1972. *The Noise Control Act of 1972*. Public Law 92-574: 86 Stat. 1234; 42 USC 4901 et seq.; Amended by PL 94-301, May 31, 1976; PL 95-609, Nov. 8, 1978; PL 100-418, Aug. 23, 1988.
- 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.
- U.S. Army Corps of Engineers (USACE). 1987b. The Installation Master Plan for Fort Hood, Texas, Master Plan Report, Future Development Plan. Prepared by Nakata Planning Group, Inc.
- U.S. Army Corps of Engineers (USACE). 1999. Department of the Army Headquarters III Corps and Fort Hood Environmental Baseline, Fort Hood, Texas.
- USCB. 2010. State and County Quick Facts. <http://quickfacts.census.gov>.(July 2012).
- 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.

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 selecting 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, re-vegetate and/or stabilize areas following construction activities.
- Design facilities utilizing Low Impact Design (LID) techniques for storm water quality and control.

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.

Wildlife

- Preserve associated roads and 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.

Migratory Birds

- Avoid construction during MBTA nesting season, 15 March through 15 August each year.
- If construction must occur, close coordination with DPW Natural Resources Management Branch is required.
- Refer to Fort Hood INRMP MBTA guidelines for additional information.

Waters of the U.S.

- If 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 solvents, greases, and materials during construction.
- Fully comply with all provisions of the Fort Hood Pollution Prevention Plan.
- Use only the Fort Hood Hazardous Materials Control Group (HMCG) in ordering and managing hazardous materials on Fort Hood

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. *Snake 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: Population Statistics for Bell and Coryell Counties

Population Statistics for Bell County (U.S. Census Bureau [USCB], 2010)

People QuickFacts	Bell County	Coryell County	Texas
Population, 2011 estimate	315,196	76,508	25,674,681
Population, 2010 (April 1) estimates base	310,235	75,402	25,145,561
Population, percent change, April 1, 2010 to July 1, 2011	1.6%	1.5%	2.1%
Population, 2010	310,235	75,388	25,145,561
Persons under 5 years, percent, 2011	9.0%	8.3%	7.6%
Persons under 18 years, percent, 2011	28.3%	27.5%	27.1%
Persons 65 years and over, percent, 2011	8.9%	7.7%	10.5%
Female persons, percent, 2011	50.5%	51.0%	50.4%
White persons, percent, 2011 (a)	68.9%	74.9%	80.9%
Black persons, percent, 2011 (a)	22.1%	16.8%	12.2%
American Indian and Alaska Native persons, percent, 2011 (a)	1.1%	1.1%	1.0%
Asian persons, percent, 2011 (a)	3.1%	2.2%	4.0%
Native Hawaiian and Other Pacific Islander persons, percent, 2011 (a)	0.8%	0.9%	0.1%
Persons reporting two or more races, percent, 2011	4.0%	4.1%	1.7%
Persons of Hispanic or Latino Origin, percent, 2011 (b)	22.2%	16.6%	38.1%
White persons not Hispanic, percent, 2011	50.3%	61.2%	44.8%
Living in same house 1 year & over, 2006-2010	73.3%	75.5%	81.5%
Veterans, 2006-2010	39,775	9,945	1,635,367
Mean travel time to work (minutes), workers age 16+, 2006-2010	18.7	19.9	24.8
Housing units, 2010	125,470	25,178	9,977,436
Homeownership rate, 2006-2010	58.2%	59.5%	64.8%
Housing units in multi-unit structures, percent, 2006-2010	27.6%	22.2%	24.1%
Median value of owner-occupied housing units, 2006-2010	\$113,800	\$92,000	\$123,500
Households, 2006-2010	101,433	20,762	8,539,206
Persons per household, 2006-2010	2.8	3.21	2.78
Per capita money income in past 12 months (2010 dollars) 2006-2010	\$22,722	\$18,936	\$24,870
Median household income 2006-2010	\$48,618	\$47,374	\$49,646
Persons below poverty level, percent, 2006-2010	14.1%	13.2%	16.8%
Geography QuickFacts	Bell County	Coryell County	Texas
Land area in square miles, 2010	1,051.02	1,052.07	261,231.71
Persons per square mile, 2010	295.2	71.7	96.3
FIPS Code	27	99	48

(a) Includes persons reporting only one race.

(b) Hispanics may be of any race, so also are included in applicable race categories.

X: Not applicable

S: Suppressed; does not meet publication standards

Z: Value greater than zero but less than half unit of measure shown

F: Fewer than 100 firms

Source: US Census Bureau State & County Quick Facts