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Environmental Assessment  
for the Clear Creek Shoppette  
at Fort Hood, Texas

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Prepared for:

Army and Air Force Exchange Service  
and  
Directorate of Public Works  
Fort Hood, Texas



III ARMORED CORPS



PHANTOM

Purchase Order Number 01-4621-9409

March 2004

# FINDING OF NO SIGNIFICANT IMPACT

## CLEAR CREEK SHOPPETTE FORT HOOD, TEXAS

### 1.0 NAME OF THE ACTION

Clear Creek Shoppette, Fort Hood, Texas

### 2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

The Proposed Action is to construct the new Clear Creek Shoppette at the northeast intersection of Clear Creek Road and Johnson Drive at Fort Hood, Texas. The shoppette would provide retail and gasoline services for military personnel and dependents. In addition to the Proposed Action and the No-Action Alternatives, four other alternatives were considered, but eliminated from further consideration since they would not meet the identified purpose and need.

### 3.0 SUMMARY OF ENVIRONMENTAL EFFECT OF PROPOSED ACTION

Based on the Environmental Assessment (EA) prepared March 2004, which is hereby incorporated by reference, no adverse impacts are anticipated to occur relative to air quality, water resources, soils and geology, land use, biotic communities, cultural resources, socioeconomics, noise, hazardous materials and solid waste, transportation, utilities, or environmental justice.

### 4.0 CONCLUSION

On the basis of the findings of the EA, no significant impact is anticipated from the Proposed Action on human health or the natural environment. A Finding of No Significant Impact (FNSI) is warranted and an Environmental Impact Statement (EIS) is not required for this action.

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JERRY G. KLINE  
Lt Col, USAF  
Chief, Environmental Division  
Real Estate Directorate

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Date

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Date

**COVER SHEET  
ENVIRONMENTAL ASSESSMENT FOR  
CLEAR CREEK SHOPPETTE  
FORT HOOD, TEXAS**

**Agency:** Army & Air Force Exchange Service

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**Proposed Action:** The Army & Air Force Exchange Service (AAFES) proposes to construct the Clear Creek Shoppette at Fort Hood, Texas, including retail and gasoline services.

**Designation:** Public Environmental Assessment

**Abstract:** In addition to the Proposed Action and the No-Action alternatives, four other alternatives were considered but eliminated from further consideration since they would not meet the identified purpose and need. No adverse impacts from the Proposed Action are anticipated to occur relative to air quality, water resources, soils and geology, land use, biotic communities, cultural resources, socioeconomics, noise, hazardous materials and solid waste, transportation, utilities, or environmental justice.

**Environmental Assessment**

**Clear Creek Shoppette  
Project Number 3740-02-005  
Fort Hood, Texas**

**Prepared for**

**Army & Air Force Exchange Service  
AAFES RE-Zc  
Dallas, Texas**

**March 2004**

**Purchase Order Number 01-4621-9409**



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## **Executive Summary**

## **EXECUTIVE SUMMARY**

The Army & Air Force Exchange Service (AAFES) proposes to construct the Clear Creek Shoppette at Fort Hood, Texas, including retail and gasoline services.

In addition to the Proposed Action and the No-Action alternatives, four other alternatives were considered, but eliminated from further consideration since they would not meet the identified purpose and need. No adverse impacts from the Proposed Action are anticipated to occur relative to air quality, water resources, soils and geology, land use, biotic communities, cultural resources, socioeconomics, noise, hazardous materials and solid waste, transportation, utilities, or environmental justice.

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## **Acronyms and Abbreviations**

## ACRONYMS AND ABBREVIATIONS

AAFES	Army & Air Force Exchange Service
ACHP	Advisory Council on Historic Preservation
ACP	Access Control Point
AQCR	Air Quality Control Region
AR	Army Regulations
AWWA	American Water Works Association
BEG	Bureau of Economic Geology
BTU	British Thermal Units
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWA	Clean Water Act
dB	Decibels
DoD	Department of Defense
DPW	Directorate of Public Works
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPCRA	Emergency Planning and Community Right-to-Know Act
ESMP	Endangered Species Management Plan
FAA	Federal Aviation Administration
°F	Degrees Fahrenheit
FNSI	Finding of No Significant Impact
ft <sup>2</sup>	square feet
FWPCA	Federal Water Pollution Control Act
HCS	Hazard Communication Standard
HMMP	Hazardous Materials Management Program
HSMS	Hazardous Substance Management System
ICUZ	Installation Compatible Use Zone
m <sup>2</sup>	square meters
MPFD	Multi-Product Fuel Dispenser
MSA	Metropolitan Statistical Area

NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
PPA	Pollution Prevention Act
PST	Petroleum Storage Tank
RCI	Residential Communities Initiative
RCRA	Resource Conservation Recovery Act
ROI	Region of Influence
SHPO	State Historic Preservation Officer
SPCC	Spill Prevention Control and Countermeasure
SPO	Strategic Planning Office
TAC	Texas Administrative Code
TEA	Texas Education Agency
TCEQ	Texas Commission on Environmental Quality
US 190	U.S. Highway 190
USACE	United States Army Corps of Engineers
USBC	United States Bureau of Census
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank

## **Chapter 1**

# **Purpose and Need for Action**

## **CHAPTER 1**

### **PURPOSE AND NEED FOR ACTION**

#### **1.1 INTRODUCTION**

The National Environmental Policy Act (NEPA) requires Federal agencies to take into consideration the potential environmental consequences of Proposed Actions in their decision making process. The intent of NEPA is to protect, restore, or enhance the environment through well-informed Federal decisions. The Council on Environmental Quality (CEQ) was established under NEPA to implement and oversee Federal policy in this process. The CEQ subsequently issued the Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 Code of Federal Regulations [CFR] Sections 1500-1508). These regulations specify that an Environmental Assessment (EA) be prepared to:

- Briefly provide sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FNSI);
- Aid in an agency's compliance with NEPA when no EIS is necessary; and
- Facilitate preparation of an EIS when one is necessary.

This EA includes a description of the Proposed Action and Alternatives, including the No-Action alternative. It also includes a characterization of the affected environment and potential environmental consequences of the Proposed Action, Alternatives to the Proposed Action, and the No-Action alternative. Alternatives to the Proposed Action are identified and their potential impacts are evaluated.

#### **1.2 LOCATION OF PROPOSED ACTION**

Fort Hood encompasses 217,337 acres, or 339.6 square miles in Bell and Coryell counties in central Texas (Figure 1-1). It is located approximately 60 miles north of the City of Austin and 40 miles southwest of the City of Waco. The City of Killeen is adjacent to the post's southern and southeastern boundaries, the City of Copperas Cove is located along the southwest boundary.

Fort Hood was established in 1942 as Camp Hood to prepare soldiers for tank destroyer combat during World War II. It became a permanent installation as Fort Hood in 1950.

Fort Hood provides resource and training facilities for active and reserve units in support of the Army's mission. The mission is to maintain a total force, trained and

ready to fight, to serve our nation's interest, both domestically and abroad, and to maintain a strategic force capable of decisive victory. In support of the mission, over 60% of the land (133,157 acres) at Fort Hood is used for maneuver training that involves combat, combat support, and combat service support elements integrated into formations to conduct multi-echelon, combined arms training to simulate battlefield conditions. The post's major units include the Army's III Corps with the 1st Cavalry Division and 4th Infantry Division.

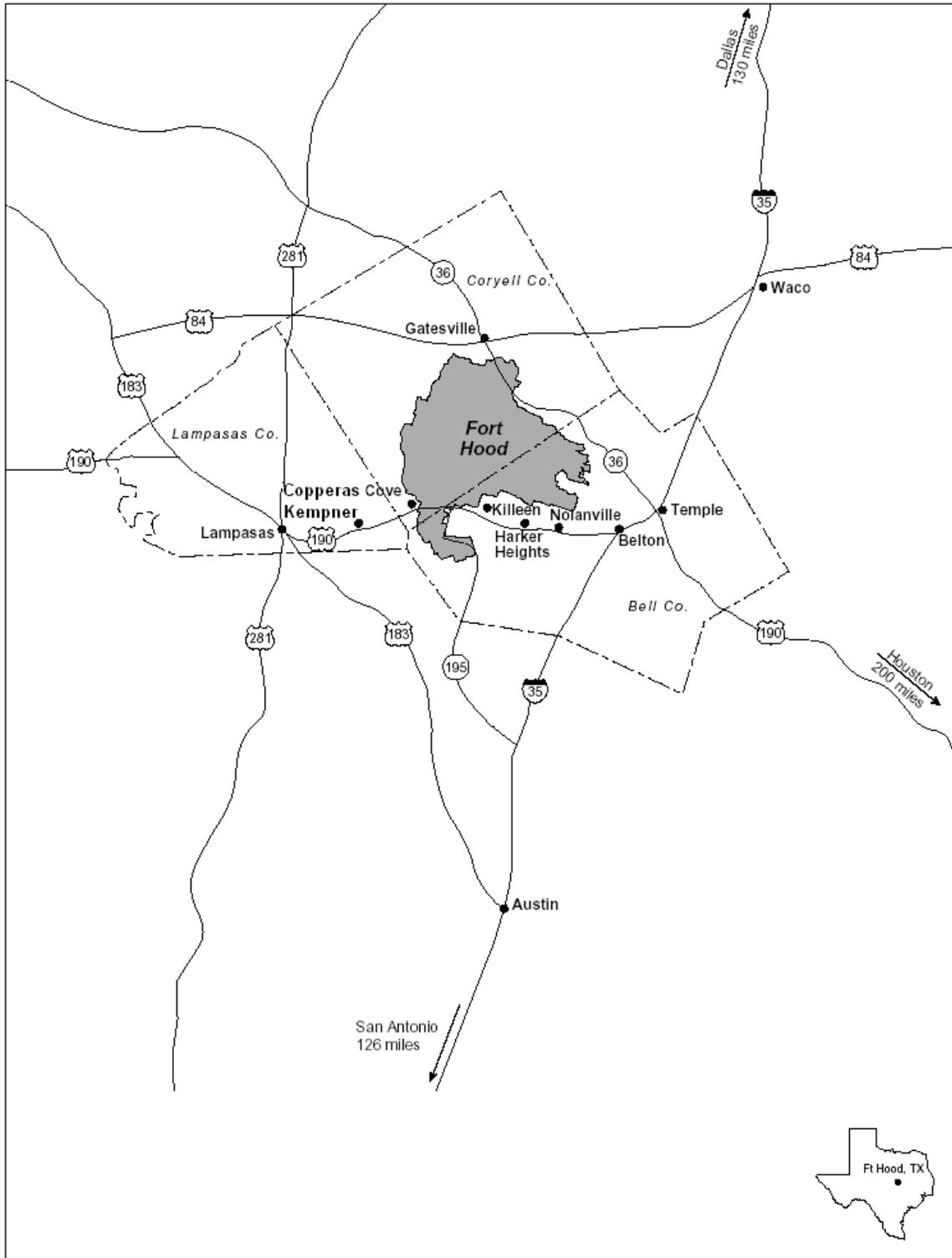
### **1.3 PURPOSE AND NEED FOR ACTION**

The Army & Air Force Exchange Service (AAFES) has identified a need to provide shopping and retail fuel service to housing areas south of U.S. Highway 190 (US 190) along Clear Creek Road. Occupants of these areas, including the Liberty Village and Kouma Memorial Village family housing areas, do not have convenient access to a nearby shoppette with retail and gasoline services. These housing areas were recently expanded as a part of the Army Residential Communities Initiative (RCI) at Fort Hood. The Fort Hood AAFES operates two major retail outlets and thirteen smaller stores, but these locations are not convenient to personnel and dependents living south of US 190 along Clear Creek Road. Clear Creek Road is a public road south of US 190, but controlled by a Fort Hood access control point (ACP) north of US 190. Commercial gas sales or shopping facilities are not present south of US 190 along Clear Creek Road.

As a result of the September 11, 2001, terror attacks, enhanced security measures and periodic elevated security alerts result in constrained access through Fort Hood ACPs, inconveniencing residents of these housing areas and personnel and dependents living off-post who seek to obtain shoppette services.

The purpose of the action would be to improve services for military personnel and dependents living south of US 190 so that customers can conveniently reach shopping and retail fuel service without having to pass through Fort Hood ACPs or drive long distances to existing shoppettes.

AAFES has identified the addition of these services as a way to enhance the living conditions and improve the morale and welfare of military personnel and their families at Fort Hood. High morale and welfare tend to correlate with longer commitments by Army personnel, which would enhance Fort Hood's long-term productivity by reducing the rate of personnel turnover and training costs for new members. In addition, some of the profits generated from the facility would be distributed to the post for Morale, Welfare, and Recreation services.



**Figure 1-1 Location of Fort Hood, Texas**

**Chapter 2**

**Description of Proposed Action**

**And Alternatives**

## **CHAPTER 2**

### **DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES**

#### **2.1 HISTORY OF THE FORMULATION OF ALTERNATIVES**

The following general criteria were developed to identify reasonable alternatives. These criteria were developed based on the purpose and need and other land use and environmental factors pertinent to screening potential alternatives.

- Convenience to AAFES customers;
- High visibility to potential customers;
- Safe vehicular access and minimal impacts on existing traffic flow in the area;
- Compatibility with land-use designations and surrounding visual character;
- Adequate space to accommodate the intended uses;
- Accessible from a public road;
- Compatibility with current and future planned projects; and
- Minimization of adverse impacts to natural resources.

The alternatives in the following subsections were identified as possible alternatives for development of the Proposed Action, and the above criteria were used to screen the alternatives.

##### **2.1.1 Clear Creek Shoppette Alternative Site 1**

This proposed site is situated on the west side of the Kouma Memorial Village housing area near Clear Creek Elementary School along Washington Street, south of US 190. The site would be bounded on the west by Washington Street, the north by North Link Drive, and the south by South Link Drive. A Fort Hood ACP is located on Washington Street, controlling access to the site from the north. Because of the presence of the ACP and lack of public road frontage, access to a shoppette at this location would be restricted. This would inconvenience personnel that are not residents of the Kouma Memorial Village and Liberty Village housing areas, and reduce customer traffic and sales. Additionally, there are future plans to construct the Kouma Community Center at this location. Therefore, this alternative was eliminated from further consideration.

##### **2.1.2 Clear Creek Shoppette Alternative Site 2**

This proposed site is situated on the west side of Clear Creek Road, south of US-190. All of the land along the west side of Clear Creek Road at this location is owned by Fort

Hood, but is subject to long-term leases with the Central Texas College and Metroplex Hospital. Land owned by the college would provide a reasonable location, but the college plans to expand into the area that would be utilized by the shoppette. Therefore, this alternative was eliminated from further consideration.

### **2.1.3 Clear Creek Shoppette Alternative Site 3**

This proposed site is at the northeast corner of the intersection of Clear Creek Road and Johnson Drive, just north of Liberty Village and west of Kouma Memorial Village. An ACP is currently under construction on Johnson Drive to control access to the housing areas, but the site dimensions would allow for an entrance to the shoppette from the housing area without passing through the ACP, and also provide access from Clear Creek Road. This site was used as a construction laydown area for recent improvement of US 190. Fort Hood utilities are available at the site.

### **2.1.4 Clear Creek Shoppette Alternative Location**

Locations further east on US 190 near Hood Road were also considered. However, there is a shoppette in the Pershing Park housing area, and convenience stores and US 190 near this location provide services. This would result in reduced customer counts, and not provide the necessary services to housing areas along Clear Creek Road. Therefore, an alternative location further east along US 190 was eliminated from further consideration.

### **2.1.5 Add Services to Other Existing Shoppettes**

Other existing shoppettes are situated away from the targeted housing areas and would require inconvenient access through Fort Hood ACPs to obtain services. Therefore, this alternative was eliminated from further consideration.

### **2.1.6 No-Action Alternative**

No construction or operational impacts would occur under the No-Action alternative, and additional AAFES services would not be available for Fort Hood personnel and dependents.

## **2.2 ACTIONS TO BE EVALUATED FURTHER**

### **2.2.1 Description of the Preferred Alternative**

The Proposed Action is the construction and operation of the Clear Creek Shoppette at Alternative Site 3 at the northeast intersection of Clear Creek Road and Johnson Drive. This would be accomplished through the following project:

- Construction of a 353 square-meter ( $m^2$ ) (approximately 3,800 square feet [ $ft^2$ ]) shoppette;
- Construction of 4,831  $m^2$  (approximately 52,000  $ft^2$ ) of pavement to provide entrances, driveways, and parking for 35 vehicles;
- Installation of six multi-product fuel dispensers (MPFD);
- Construction of a canopy over the MPFD area covering approximately 632  $m^2$  (approximately 6,800  $ft^2$ );

- Installation of two 56,781-liter (approximately 15,000 gallons) petroleum storage tanks (PST); and
- Construction of force protection measures and utility improvements to serve the shoppette.

The two PSTs would contain regular and premium gasoline grades, and mid-grade gasoline would be supplied by blending the two grades at the pumps. The PSTs would be installed as double-walled underground storage tanks (UST) with a “geoliner” membrane and spill monitoring to provide additional protection from environmental contamination.

As an additional measure to minimize air quality effects, AAFES would install Stage I vapor recovery systems. Approximately 10 full-time equivalent positions would be added at the shoppette.

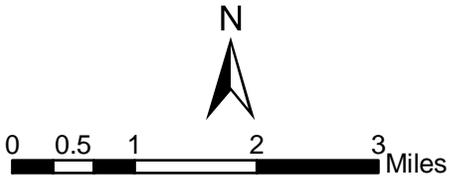
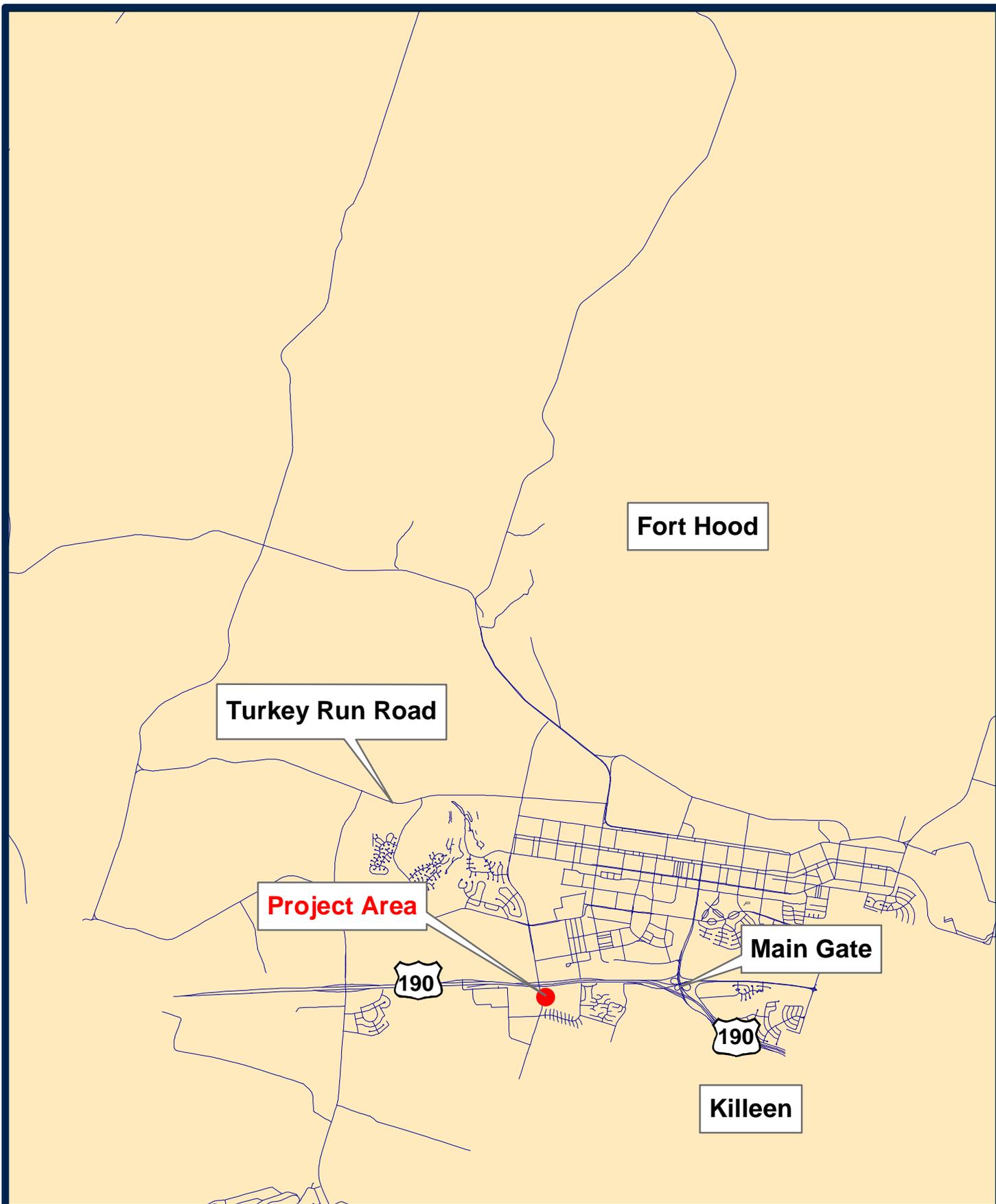
Figures 2-1, 2-2, and 2-3 show the location of the Preferred Alternative in relation to Fort Hood, an aerial photograph of the site, and a conceptual site plan, respectively.

### **2.2.2 Description of the No-Action alternative**

The CEQ regulations implementing NEPA require that a “no-action” alternative be evaluated. Under this alternative, there would be no additional retail or fuel services added by AAFES at Fort Hood. No direct environmental effects would result from implementation of the No-Action alternative, but this alternative would not meet the identified purpose and need.

### **2.3 OTHER CUMULATIVE ACTIONS**

Master planning personnel at Fort Hood indicated that no Army or other tenant organization construction projects were anticipated to coincide with the Proposed Action near the area. The adjacent family housing areas were assessed under the EA for the *Implementation of the Army Residential Communities Initiative at Fort Hood, Texas*, with a signed FNSI dated December 4, 2000 (DPW, 2000).

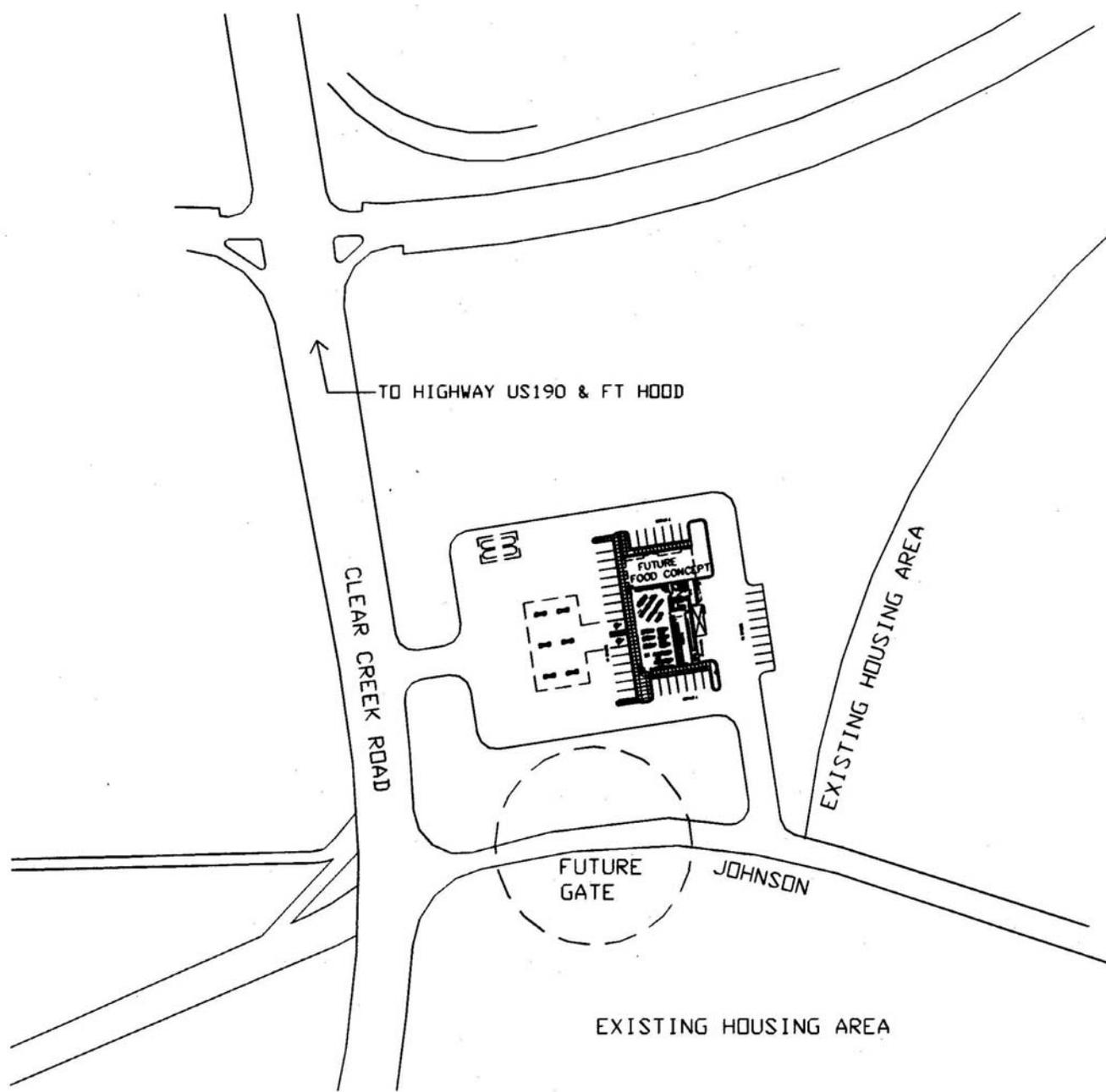


**Figure 2-1**  
**Proposed Location of**  
**Clear Creek Shoppette**  
**Clear Creek Shoppette**  
**Environmental Assessment**



**Figure 2-2**  
**Aerial Photograph of Proposed Site**

**Clear Creek Shoppette**  
**Environmental Assessment**



  
 Map not to scale

**Figure 2-3**  
**Conceptual Site Plan**

**Clear Creek Shoppette**  
**Environmental Assessment**

**Chapter 3**  
**Affected Environment**

## CHAPTER 3

### AFFECTED ENVIRONMENT

#### 3.1 AIR QUALITY

Fort Hood is located in Central Texas approximately 60 miles north of Austin and 40 miles southwest of Waco. The average annual precipitation is 30.4 inches, with the highest monthly totals recorded in May and September. The least monthly precipitation occurs in July. Temperatures typically range from 38 °F (degrees Fahrenheit) to 94 °F, averaging 68 °F (FAA, 1994). Daily variations in weather conditions are considerable (TEA, 2001).

Fort Hood lies within Bell and Coryell Counties in the central portion of Air Quality Control Region (AQCR) #212 also known as the Austin-Waco Intrastate AQCR. The Texas Commission on Environmental Quality (TCEQ) performs air quality control functions for the region. TCEQ has adopted the National Ambient Air Quality Standards (NAAQS) for the following criteria pollutants: carbon monoxide, ozone or photochemical oxidants, particulate matter with aerodynamic diameters less than or equal to nominal diameters of 10 nanometers and 2.5 nanometers, lead, oxides of nitrogen, and sulfur dioxide (DPW, 2003a). The NAAQS are shown in Table 3-1 (USEPA, 2003).

**Table 3-1 National Ambient Air Quality Standards**

Air Pollutant	Averaging Time	Primary NAAQSa,b	Secondary NAAQSa,c
Carbon Monoxide	8-hour	9 ppm (10 mg/m <sup>3</sup> )	
	1-hour	35 ppm (40 mg/m <sup>3</sup> )	
Lead	Quarterly	1.5 µg/m <sup>3</sup>	1.5 µg/m <sup>3</sup>
Nitrogen Dioxides	Annual	0.053 ppm (100 µg/m <sup>3</sup> )	0.053 ppm (100 µg/m <sup>3</sup> )
Ozone	1-hour	0.12 ppm (235 µg/m <sup>3</sup> )	0.12 ppm (235 µg/m <sup>3</sup> )
	8-hour	0.08 ppm (157 µg/m <sup>3</sup> )	0.08 ppm (157 µg/m <sup>3</sup> )
Particulate Matter (measured as PM <sub>10</sub> )	Annual	50 µg/m <sup>3</sup>	50 µg/m <sup>3</sup>
	24-hour	150 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>
Particulate Matter (measured as PM <sub>2.5</sub> )	Annual	15 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>
	24-hour	65 µg/m <sup>3</sup>	65 µg/m <sup>3</sup>
Sulfur Oxides (measured as SO <sub>2</sub> )	Annual	0.03 ppm (80 µg/m <sup>3</sup> )	No standard
	24-hour	0.14 ppm (365 µg/m <sup>3</sup> )	No standard
	3-hour		0.50 ppm (1,300 µg/m <sup>3</sup> )

<sup>a</sup> All measurements of air quality are based on standard temperature and pressure of 25 degrees Celsius and 760 millimeters of mercury, respectively. Units of measurements are parts per million (ppm), milligrams per cubic meter (mg/m<sup>3</sup>) and micrograms per cubic meter (µg/m<sup>3</sup>).

- b National Primary Standards: The levels of air quality necessary to protect the public health with an adequate margin of safety. Each state must attain the primary standards no later than three years after the state implementation plan is approved by the USEPA.
- c National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Each state must attain the secondary standards within a "reasonable time" after the state implementation plan is approved by the USEPA.

Until recently, Fort Hood was located in an attainment area, meaning no ambient air quality standards were exceeded. However, in 1999, the two counties encompassing Fort Hood, were re-designated covered attainment by TCEQ. These counties are now subject to portions of 30 Texas Administrative Code (TAC), Chapter 115 that previously did not apply. Covered attainment counties must comply with restrictions on Reid vapor pressure, transport tanker testing, and Stage I vapor recovery. The new regulations are being addressed through a revision of Fort Hood's Title V operating permit application, which originally received approval on 29 October 2001. Fort Hood must comply with all requirements of the Title V operating permit and certify compliance annually (DPW, 2003a).

Typical air pollution sources are boilers, generators, paint spray activities, abrasive blasting operations, degreasing units, engine testing, fires for vegetation control, fuel storage and dispensing operations, and landfill operations. As an additional measure to minimize air quality effects, AAFES is required to install Stage I vapor recovery systems on USTs. Currently, Fort Hood's air pollution sources must comply with standard permits or permits by rule formerly known as standard exemptions under Texas Clean Air Act as administered by TCEQ (DPW, 2003a).

## **3.2 WATER RESOURCES**

### **3.2.1 Surface Water**

Runoff from Fort Hood flows into the Leon River watershed and the Lampasas River watershed, which are part of the Brazos River Basin. The Leon River watershed is fed by Nolan Creek, Cowhouse Creek, Owl Creek, and other intermittent tributaries and drains into Belton Lake. Reese Creek and various other tributaries feed the Lampasas River watershed. This watershed drains into Stillhouse Hollow Lake. Water resources on Fort Hood include 250 surface acres of lakes and ponds, 55 miles of rivers and permanent streams, and 136 miles of Belton Lake shoreline (DPW, 2003a).

### **3.2.2 Ground Water**

The downdip portion of the Trinity Aquifer underlies Fort Hood. The primary stratigraphic areas that occur in the Fort Hood area are (in ascending order) pre-Cretaceous rocks, the Travis Peak formation, the Glen Rose formation, the Paluxy formation, and the Walnut formation. The major important aquifer feature in the area is the Travis Peak formation. Ground water on Fort Hood is usually first encountered at depths of 50-60 feet, although such supplies may not necessarily be in usable quantities or of usable quality. Use of this aquifer by Fort Hood has now ceased due to regional overuse and excessive drawdown of the aquifer. Presently, the significant source of water is the Belton Lake reservoir (DPW, 2003a).

### **3.2.3 Floodplains**

Areas within the 100-year floodplains are located on portions of Stampede, Browns, Hargrove, and Clabber Creek, while Cowhouse Creek has a broad floodplain (DPW, 2001). The area of the Proposed Action is not within the 100-year floodplain.

### **3.2.4 Water Quality**

The Federal Water Pollution Control Act (FWPCA) of 1972, as amended by the Clean Water Act (CWA) and the Water Quality Act of 1987, forms the legal framework to support maintenance and restoration of water quality. The Oil Pollution Prevention Regulation (Title 40 Code of Federal Regulation (CFR) 112.1 through 112.7) addresses oil spill prevention provisions that are specified in the CWA. The United States Environmental Protection Agency's (USEPA) Spill Prevention Control and Countermeasure (SPCC) program is based on that regulation and seeks to prevent oil spills from storage tanks into navigable waters. SPCC requirements include the preparation and implementation of a SPCC plan that will limit damage to ecosystems and human health. A post-wide SPCC plan is currently in effect for Fort Hood.

In Texas, TCEQ is the permitting authority for storm water discharges. Fort Hood is covered under No. TXR050000, which is a General Permit to discharge storm water. It covers industrial facilities that discharge storm water associated with industrial activity. The permit was issued 20 August 2001 and expires 20 August 2006. TCEQ also permits storm water discharges from construction sites through Construction General Permit No. TXR150000. This permit became effective on 5 March 2003. Both General Permits are under provisions of Section 402 of the CWA and Chapter 26 of the Texas Water Code.

## **3.3 SOILS AND GEOLOGY**

The United States Department of Agriculture soil survey for Bell County shows the soil at the site is of the Denton association and San Saba clay, with 1 to 3 percent slopes (USDA, 1977). Denton soils are silty clays to about 26 inches over a bedrock of fractured limestone. San Saba soils are clays to 36 inches over a hard, gray limestone. Structures including barracks, streets and stores are built on urban lands. The high shrink-swell potential, corrosivity, and the sticky texture of this soil complex when wet can all adversely affect urban development (USDA, 1977).

Fort Hood is situated in the Lampasas Cut-Plains at the edge of the Edwards Plateau physiographic region. According to the Geologic Atlas of Texas, the rock formation underlying the site is Fort Worth Limestone with a thickness of 25 to 35 feet. Fort Worth Limestone consists of limestone interbedded with marl (BEG, 1970).

## **3.4 LAND USE**

Fort Hood encompasses just over 217,000 acres and is located adjacent to the City of Killeen (TEA, 2001). There are several categories used to describe land use at Fort Hood. Land uses include areas such as maneuver training, live fire training, recreation areas, ammunition supply areas, and urban areas.

The site of the Proposed Action is currently categorized as urban land use. The proposed location is at the northeast corner of the intersection of Clear Creek Road and Johnson Drive, just north of Liberty Village and west of Kouma Memorial Village family housing areas. This site was used as a construction laydown area during recent improvements to US 190. Fort Hood utilities are available at the site

### 3.5 BIOTIC COMMUNITIES

Fort Hood is located in the Cross-Timbers ecological region of Texas, which is characterized by oak woodlands interspersed with grassland. The proposed site is located in an urban habitat area. Species diversity of the urban zones is low in comparison to natural habitats, although the density of some species is often relatively high. Most of the animals in urban areas are communal and considered undesirable, for example the Norway rat (*Rattus norvegicus*), house mouse (*Mus musculus*), and house sparrow (*Passer domesticus*) (DPW, 2003a).

#### 3.5.1 Threatened and Endangered Species

Five federally listed threatened or endangered wildlife species have been observed on or adjacent to Fort Hood: black-capped vireo (*Vireo atricapillus*), golden-cheeked warbler (*Dendroica chrysoparia*), bald eagle (*Haliaeetus leucocephalus*), interior least tern (*Sterna antillarum*), and whooping crane (*Grus americana*). The black-capped vireo and the golden-cheeked warbler reside on the installation during the summer breeding season. The bald eagle and interior least tern occur at areas adjacent to Fort Hood on Belton Lake, but do not nest in the area. Whooping cranes occur rarely, as migrants or transients (Tazik et al., 1992).

Several endemic, undescribed invertebrate species and one undescribed salamander were recently identified in karst or cave formations beneath the installation. Studies are ongoing to confirm the taxonomic status of these organisms (USACE, 2000; USFWS, 2000). These karst features are associated with the groundwater system, and as such are protected from public and military activities. No karst geology, which would provide habitat for these species, is present in the area of the proposed Clear Creek Shoppette. Type specimens of the potentially new salamander species were collected from three caves in the northeast training ranges of Fort Hood, over ten miles northeast from the Proposed Action (USACE, 2000). Flow of water at Fort Hood is generally from northwest to southeast. These organisms do not have any protected status pursuant to the Endangered Species Act at the current time (USFWS, 2003), and are not located near the project site.

Fort Hood conducted formal consultation with the U.S. Fish and Wildlife Service (USFWS) during 1992 and 1993 concerning the military mission and associated land uses. A nonjeopardy Biological Opinion was issued in late 1993, which stipulated various research and management actions necessary to mitigate expected incidental take. A wildfire occurred in 1996 that exceeded acceptable incidental take allowances for black-capped vireo and golden-cheeked warbler habitat. During the formal consultations that resulted, the Army drafted an Endangered Species Management Plan (ESMP), finalizing the document in early 2000. The USFWS issued a Final Biological Opinion that included incidental take allowances and called for implementation of the ESMP and

continuation of monitoring and management activities to promote recovery of the species. Fort Hood is currently implementing the provisions of the ESMP and the current Biological Opinion (USACE, 2000; USFWS, 2000).

An additional eleven state listed threatened and endangered species (three birds, two fish, two mammals, three reptiles, and one insect) may be present at Fort Hood, but are not expected to be present in the area of the Proposed Action due to habitat requirements and/or the intensity of current range use. These are Henslow's sparrow (*Ammodramus henslowii*), loggerhead shrike (*Lanius ludovicianus migrans*), western burrowing owl (*Athene cunicularia hypugaea*), Guadalupe bass (*Micropterus treculi*), smalleye shiner (*Notropis buccula*), cave myotis (*Myotis velifer*), plains spotted skunk (*Spilogale putorius interrupta*), timber rattlesnake (*Crotalus horridus*), Texas garter snake (*Thamnophis sirtalis*), and the Leon river winter stonefly (*Taeniopteryx starki*).

According to the threatened and endangered species habitat maps from the Endangered Species Management Plan, the location of the proposed Clear Creek Shoppette is not within threatened or endangered species habitat.

### 3.5.2 Wetlands

Currently, Fort Hood does not have any marsh or wetland areas of significant acreage. The small isolated wet spots that do occur around seeps or old river sloughs are retained for wildlife purposes (DPW, 2003a). A review of the National Wetlands Inventory (NWI) map for the area revealed that no portion of the site or adjacent areas contain any identified wetlands (NWI, 2004).

## 3.6 CULTURAL RESOURCES

Cultural resources include prehistoric and historic archaeological sites, buildings, structures, districts, artifacts, objects, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, or religious purposes. Historic properties, under 36 CFR 800, are defined as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register of Historic Places" (NRHP). The term "eligible for inclusion in the National Register" includes both listed and eligible properties that meet NRHP listing criteria as found in 36 CFR Part 60. Properties not yet evaluated may be considered potentially eligible for the NRHP and, as such, afforded the same regulatory consideration as nominated properties.

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, requires federal agencies to consult with the state historic preservation officer (SHPO) and the federal Advisory Council on Historic Preservation (ACHP) if proposed undertakings would affect resources of local, state, or national significance. These resources are identified in the NRHP.

The area surrounding Fort Hood has been occupied for approximately 10,000 years. Archaeological investigations suggest the prehistoric inhabitants of the area were nomadic hunter-gather groups, rather than agricultural societies. There are no existing written records of societies prior to the first European contacts in the sixteenth century (DPW, 2003a).

Prior to 1942, Fort Hood consisted of small farming communities and ranches. The Department of the Army acquired a substantial portion of its current holdings in 1942 and established Camp Hood as a tank destroyer center. Facility construction continued until 1943 and the installation was renamed Fort Hood in 1950. Further land purchases increased the size of the post to its present size of approximately 339.6 square miles (DPW, 2003a).

Approximately 2,150 prehistoric sites are located on Fort Hood. These locations comprise three types of prehistoric sites including open site camps, rock shelters, and burned rock mounds.

The Clear Creek Shoppette is located in a disturbed pasture at the northeast intersection of Clear Creek Road and Johnson Drive.

### **3.7 SOCIOECONOMICS**

Fort Hood is located in the Killeen-Temple Metropolitan Statistical Area (MSA), which serves as the region of influence (ROI) for socioeconomics. The Killeen-Temple MSA is comprised of Bell and Coryell Counties, encompassing a land area of 2,124 square miles.

#### **3.7.1 Population and Demographics**

According to the Bureau of the Census, the estimated 2000 population of the Killeen-Temple MSA was 312,952. This represented an increase of 57,651 persons or 18.4 percent since 1990 (USBC, 2000).

As of September 2001, 40,672 active duty military personnel were assigned to Fort Hood. The total on-post population was 71,580 in 2001, with military family members comprising approximately 17,184, or 24 percent of the population (SPO, 2001).

In 2000, the Killeen-Temple MSA had 114,558 housing units, of which 105,457 were occupied, for an occupancy rate of 92 percent. This represents an increase of 19,631 housing units or 17 percent since 1990 (USBC, 2000). In September 2001, 5,922 military personnel occupied the family quarters located on Fort Hood. Approximately 85 percent of Fort Hood military personnel utilized off-base housing in 2001 (SPO, 2001).

#### **3.7.2 Employment and Economy**

In 2000, the Killeen-Temple MSA labor force was estimated at 157,415 with an unemployment rate of 3.5 percent. The military is the largest industry in the Killeen-Temple MSA, comprising approximately 24 percent of the labor force. The educational, health and social services industry comprise 18.3 percent of the labor force, followed by retail trade at 8.9 percent (USBC, 2000).

The Killeen-Temple MSA had a per capita income of \$16,546 and a median household income of \$36,669 in 1999. Approximately 11.6 percent of the population lived below the poverty level (USBC, 2000).

Fort Hood expenditures were reported to be approximately \$1.3 billion. Approximately 97.7 percent of Fort Hood expenditures are allocated to military pay (SPO, 2001).

### 3.8 NOISE

Noise is most often defined as unwanted sound. High levels of sound may be of an intensity that is damaging to human hearing and may interfere with the metabolic activities of wildlife. Sound levels are easily measured, but the variability is subjective and physical response to sound complicates the analysis of its impact on people. Physically, sound pressure ( $L_p$ ) magnitude is measured and quantified using a logarithmic ratio of pressures whose scale gives the level of sound in decibels (dB). Because the human hearing system is not equally sensitive to sound at all frequencies, a frequency-dependent adjustment called A-weighting has been devised to measure sound in a manner similar to the way the human hearing system responds. Noise measured with the A-weighted sound level is expressed in “dBA” or “dB(A).” A C-weighted sound level is used to measure weapon blasts and is expressed in “dBC” or dB(C)” (DPW, 2003a).

Several methods have been devised to relate noise exposure over time to community response. The USEPA has developed the day-night average sound level ( $L_{dn}$ ) as the rating method to describe long-term annoyance from environmental noise.  $L_{dn}$  is similar to a 24-hour energy equivalent sound level ( $L_{eq}$ ).  $L_{eq}$  is a single-number sound descriptor representing the average sound level in a real environment, where the actual sound level varies with time. The  $L_{dn}$  has a 10-dB penalty for nighttime (10 P.M. to 7 A.M.) sound levels to account for the increased annoyance that is generally felt during normal sleep hours.

Fort Hood Installation Compatible Use Zone (ICUZ) establishes noise contours and is used as a method of coordinating compatible land use with the neighboring communities (DPW, 2003b). The Fort Hood ICUZ is comprised of three noise zones. Zone I areas are generally acceptable environments for most activities, including residential construction. Zone I measurements correspond to noise levels less than 65  $AL_{dn}$  or 62  $CL_{dn}$ . For comparison purposes, this is less than the average sound level for an urban area. Zone II consists of areas where the day-night sound levels are between 65 – 75 dBA or 62 – 70 dBC. Exposure to noise within these areas is considered significant. Land use in Zone II areas should be limited to industrial, manufacturing, transportation, and resource production activities (DPW, 2003a). Zone III sound levels are generally considered to be unacceptable for family housing. Sources of noise in this zone are typically from aircraft in the vicinity of airfields and blast noise from artillery and gunnery exercises (DPW, 2003b). The site of proposed construction is located within Zone I.

### 3.9 HAZARDOUS MATERIALS AND SOLID WASTE

A hazardous material is any substance or mixture of substances having properties capable of producing adverse effects on human health and safety or the environment. A hazardous material may be either a hazardous substance or a hazardous waste.

Army Regulations (AR) 710-2 and AR 200-1 and Federal, State, and local laws have increased the requirements for managing hazardous materials at Army installations. The Federal Laws mandating the management of hazardous materials include the Resource

Conservation and Recovery Act (RCRA), the Emergency Planning and Community Right-to-Know Act (EPCRA), the Hazard Communication Standard (HCS), and the Pollution Prevention Act (PPA). These laws require Army installations to provide data to Federal, State, and local agencies on the types and quantities of hazardous materials stored, used, and disposed of on an installation.

The Hazardous Substance Management System (HSMS) is the Department of Defense (DoD) standard, automated information management system for tracking hazardous substances. In addition, the Army has adopted a program to standardize hazardous materials and hazardous waste management. This program, known as the Hazardous Materials Management Program (HMMP) is an established regulatory requirement (AR 710-2) that calls for the management and control of hazardous materials and hazardous waste on Army installations (DPW, 2003b).

Currently, no hazardous materials are stored, used or disposed of at the proposed Clear Creek Shoppette project area.

Fort Hood operates a 154-acre Type I landfill under Permit #1866 issued by the Texas Department of Health on March 25, 1991. Inland Service, under contract to Fort Hood, collects municipal solid waste on post and operates the landfill. In 2001, Inland processed approximately 73,000 tons of refuse, at 200 tons per day (DPW, 2003a).

### 3.10 TRANSPORTATION

The proposed site is at the northeast corner of the intersection of Clear Creek Road and Johnson Drive, just north of Liberty Village and west of Kouma Memorial Village. This site is located just south of US 190. Clear Creek Road is a major four-lane roadway. A new ACP is currently under construction on Johnson Drive, which is a two-lane street.

### 3.11 UTILITIES

In 2002, Fort Hood used  $1.48 \times 10^{12}$  British thermal units (BTU) of electricity and  $1.18 \times 10^6$  BTU of natural gas. Approximately 2.4 billion gallons of water were used and 1.3 billion gallons of wastewater were generated on Fort Hood in 2002 (Ramos, 2003).

The site for the Clear Creek Shoppette is undeveloped; therefore, no electricity, natural gas, or water is currently used on the site, nor any wastewater generated.

### 3.12 ENVIRONMENTAL JUSTICE

*Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires agencies to identify and address any disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations (DPW, 2003a).

*Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks* requires each Federal agency to identify and assess environmental health and safety risks that may disproportionately affect children. Such risks are to be addressed in their policies, programs, activities, and standards. Agencies must conduct an evaluation of environmental health and safety effects on children and include an

explanation of why the planned regulation is preferable to other feasible alternatives considered by the agency for all regulatory sections of the Executive Order (DPW, 2003a).

The Clear Creek Shoppette is located completely within the boundaries of the military installation. The site is located adjacent to the new ACP on Johnson Drive.

**Chapter 4**

**Environmental Consequences**

## CHAPTER 4

### ENVIRONMENTAL CONSEQUENCES

#### 4.1 AIR QUALITY

Bell and Coryell counties are currently designated covered attainment areas. The proposed project includes the installation of six gasoline dispensers with two 15,000-gallon PSTs. Two grades of gasoline would be stored in the PSTs, one would contain a regular gasoline grade, the other a premium gasoline grade. Mid-grade gasoline would be supplied by blending the two grades at the pumps. No diesel fuel will be stored or used at the Clear Creek Shoppette.

**Proposed Action.** Emissions during the construction period may occur as a result of equipment fumes and fugitive dust. Estimated pollutant emissions from construction activities for the proposed project are located in Table 4-1. Estimates located in the tables are based on factors including duration of the project, square footage of new construction, and type of ground surfacing material used.

Bell and Coryell counties are currently designated covered attainment areas. The proposed project includes the installation of two 15,000-gallon USTs and six gasoline dispensers. Net estimated pollutant emissions from operation of the PSTs, based on the TANKS 4.0 computer model (USEPA, 2001), emissions factors for gasoline dispensing facilities (USEPA, 1995), and an annual throughput of 1,000,000 gallons of gasoline, are reflected in Table 4-1. The model analysis is based on tanks placed underground and not exposed to direct sunlight, and is therefore applicable to the USTs. These new tanks would include Stage I vapor recovery to reduce air pollutant emissions.

**Table 4-1 Estimated Air Quality Pollutant Emissions**

<b>Construction or Operational Activity</b>	<b>CO (tons)</b>	<b>VOCs (tons)</b>	<b>NOx (tons)</b>	<b>SOx (tons)</b>	<b>PM<sup>10</sup> (tons)</b>
Site Preparation/ Ground Disturbance	-	-	-	-	3.31
New Building Construction	0.16	0.03	0.37	0.04	0.02
Asphalt Paving Operations	0.33	0.02	0.05	0.01	0.01
Concrete Paving Operations	0.03	0.01	0.08	0.01	0.00
PST Operation (annual)	-	6.74	-	-	-
<b>Total Emissions</b>	<b>0.52</b>	<b>6.80</b>	<b>0.50</b>	<b>0.06</b>	<b>3.34</b>

Based on the HAP speciation used by Fort Hood air quality personnel for gasoline, it is estimated that approximately 6.55 percent by vapor weight of the VOC emissions from PST operations would be HAP emissions. Therefore, HAP emissions, due to the proposed project, would be approximately 0.44 tons per year.

Anticipated emissions from project construction and operations are compared against stationary baseline emissions from Bell and Coryell counties in order to estimate the impact to the local air quality (Table 4-2). These baseline emissions only include major sources that must report emissions, and do not include any mobile sources or minor, non-reporting stationary sources.

**Table 4-2 Comparison to Stationary Emission Baseline Conditions**

<b>Priority Pollutant</b>	<b>CO (tpy)</b>	<b>VOCs (tpy)</b>	<b>NOx (tpy)</b>	<b>SOx (tpy)</b>	<b>PM<sup>10</sup> (tpy)</b>
Net Emissions from Clear Creek Shoppette, Construction and Annual Operation	0.52	6.80	0.50	0.06	3.34
Bell/Coryell Emissions (2001)	3,728.97	620.79	133.94	266.16	49.1
<b>Net Increase Over Year 2001 Emissions (%)</b>	<b>0.014</b>	<b>1.100</b>	<b>0.373</b>	<b>0.023</b>	<b>6.802</b>

Pursuant to 30 TAC, Part 1, Chapter 111, Subchapter A, Rule 111.145, precautions will be taken to suppress dust emissions during construction by using one of the techniques listed in the rule.

The storage tanks would be registered pursuant to 30 TAC, Chapter 334, Subchapter F, Section 334.123. Manufacturer’s datasheets for all pieces of equipment or facilities requiring air permits will be submitted to the DPW, Environmental Management Branch, air program manager, prior to start of construction, and the Fort Hood air quality permit will be modified accordingly. According to 30 Texas Administrative Code, Rule 115.222, any storage tank installed after December 22, 1998, in a covered attainment region shall utilize Stage I vapor recovery equipment. This is applicable to the Proposed Action.

The Proposed Action is not anticipated to adversely affect the local or regional air quality beyond minor, temporary dust emissions during construction, which will be suppressed pursuant to TCEQ rules.

**No Action.** Under the No-Action alternative, air quality would not be affected.

## **4.2 WATER RESOURCES**

### **4.2.1 Surface Water**

**Proposed Action.** According to United States Geological Survey (USGS) topographic maps for the area, water from the site currently flows southeast into an unnamed stream that eventually enters Riser Reservoir. Impervious cover on the project area will increase but it is not expected to affect the flow of run-off from the site. Impacts to surface water are not anticipated due to the Proposed Action.

**No Action.** Under the No-Action alternative, there would be no effects on surface water.

#### 4.2.2 Ground Water

**Proposed Action.** Ground water depth at the site is estimated at approximately 50-60 feet. The ground water depth would not be reached during installation of the PSTs. The PSTs would have containment structures that prevent outside contamination in the case of a spill; therefore, the Proposed Action is not expected to impact ground water.

**No Action.** There would be no effects on ground water under the No-Action alternative.

#### 4.2.3 Floodplains

**Proposed Action.** The proposed project would occur on previously undeveloped land and would result in an increase of impervious cover by approximately 55,800 square feet. Construction within a floodplain reduces its capacity for floodwater storage and infiltration, as well as its value as habitat. The project area is not located within a designated 100-year floodplain; therefore, completion of the proposed project would not be expected to impact the floodplain.

**No Action.** Under the No-Action alternative, the 100-year floodplain would not be affected.

#### 4.2.4 Water Quality

**Proposed Action.** Two 56,781-liter PSTs would be installed at the Clear Creek Shoppette. The PSTs would be installed as double-walled underground storage tanks (UST) with a “geoliner” membrane and spill monitoring to provide additional protection from environmental contamination. An amendment to Fort Hood’s current spill prevention control and countermeasure (SPCC) plan would be required to include the new PSTs at the Clear Creek Shoppette.

This proposed project would require a Notice of Intent (NOI) to be filed with TCEQ to activate Construction General Permit No. TXR150000, for disposal of storm water associated with construction since the area affected is larger than one acre. To activate this permit, a NOI, indicating future compliance with the conditions of the permit, must be filed with TCEQ and posted at the construction site prior to commencement of construction activities. A Stormwater Pollution Prevention Plan would also be required for the proposed construction. Erosion control measures would be incorporated to minimize sediment runoff from construction areas. Impacts to water quality are not expected with the Proposed Action.

**No Action.** Construction would not occur under the No-Action alternative, and there would be no construction-related impacts on water quality.

### 4.3 SOILS AND GEOLOGY

**Proposed Action.** Construction of the shoppette would result in short term exposure of the soil to wind and water erosion, as well as the mixing of soil horizons. Temporary adverse and moderate impacts would be minimized with the use of best management

practices for controlling runoff and erosion. Long term impacts to soils are not anticipated.

It is not anticipated that the proposed project would affect the geology of the area.

**No Action.** Under the No-Action alternative, there would be no effects on soils and geology.

#### 4.4 LAND USE

**Proposed Action.** The location of the Proposed Action is in an urban land use area. Currently, the site is vacant but there is increasing residential and commercial development in the vicinity of the site. The project is being designed to provide convenient access to gasoline and retail facilities for those living nearby. Land use is expected to remain consistent with the surrounding area.

**No Action.** There would be no change from existing land uses under the No-Action alternative.

#### 4.5 BIOTIC COMMUNITIES

##### 4.5.1 Threatened and Endangered Species

**Proposed Action.** The proposed site is located in an urban land use area, at the intersection of several major roads, and is being encroached upon by development. As noted in Section 3.5.1, the project area is not located in or adjacent to threatened or endangered species habitat as delineated in the Fort Hood ESMP and Biological Opinion by USFWS, effective in 2000, described in Section 3.5.1. The karst geology that provides habitat for the recently identified invertebrate and salamander species is not present in, near, or under the site, and these species do not have a protected status under the Endangered Species Act (USFWS, 2003). Fort Hood natural resources personnel reviewed the property and determined that “no coordination with USFWS is necessary” since no adverse impacts to Fort Hood’s listed species are anticipated (Herbert, 2004). The Texas Parks and Wildlife Department was also contacted regarding the proposed project (Appendix A). Impacts to threatened or endangered species are not expected as a result of the Proposed Action.

**No Action.** Threatened and endangered species would not be affected under the No-Action alternative.

##### 4.5.2 Wetlands

**Proposed Action.** The project area does not contain any jurisdictional waters of the United States, and no jurisdictional waters are located near the proposed site. No wetlands are located on or in the vicinity of the Proposed Action, therefore, the Proposed Action is not anticipated to impact any wetlands.

**No Action.** Under the No-Action alternative, there would be no effects on wetlands.

## 4.6 CULTURAL RESOURCES

**Proposed Action.** The Clear Creek site is located south of US 190, and was used as a storage area and an equipment laydown area during upgrades to the highway. Construction of the shoppette would occur on land that has been moderately disturbed. Fort Hood cultural resources personnel reviewed the property and concluded that “there are ‘No Historic Properties’ in the area of potential effect” (Huckerby, 2004). Based on verbal agreements with the Texas Historical Commission relative to Fort Hood, additional consultation with the State Historic Preservation Officer (SHPO) would not be warranted since no effect would occur on cultural resources that are in the NRHP or eligible for listing in the NRHP.

**No Action.** Under the No-Action alternative, there would be no effects on cultural resources.

## 4.7 SOCIOECONOMICS

A socioeconomic impact would be considered significant if the Proposed Action resulted in substantial growth, concentration of population, the need for substantial new housing, or substantial new public services. The standard models of the United States Army Corps of Engineers (USACE) Economic Impact Forecast System (EIFS) were used to anticipate the effects of the proposed alternatives on the region of influence (ROI), the Killeen-Temple MSA. The rational threshold value (RTV) model from EIFS was then used to assess the potential significance of these effects. The RTV model analyzes annual changes in sales volume, income, employment, and population since 1969, and establishes significance criteria based on historic deviations in the value of these four socioeconomic indicators.

### 4.7.1 Population and Demographics

**Proposed Action.** The proposed construction of the Clear Creek Shoppette would not change the population of the Killeen-Temple MSA. It is estimated that 15 employees would be hired for approximately 12 months to complete construction of the proposed facility. Once construction is complete, ten full time employees would be hired for operation of the new shoppette. Construction and operation of the proposed shoppette would not overlap, and their impacts are analyzed separately. All employees are expected to be hired from within the local community. No relocations are anticipated as a result of the new shoppette; therefore local housing would not be affected.

**No Action.** The population and demographics of the Killeen-Temple MSA would not be affected under the No-Action alternative. There would also be no change to the current Fort Hood population.

### 4.7.2 Employment and Economy

**Proposed Action.** Building the proposed Clear Creek Shoppette would include constructing and installing a concrete slab/foundation, exterior walls, steel joist roof system, heating and air conditioning systems, interior finishes, utility connections, plumbing, electrical, paved surfaces, sidewalks, curbs and gutters, installed shelving, information systems, and environmental controls. Construction activities associated with

the proposed project are estimated to cost approximately 0.15 percent of the \$1.3 billion in expenditures reported for Fort Hood in 2001 (SPO, 2001).

Total sales volume is defined as the total change in local business volume due to the Proposed Action. Construction of the shoppette would result in an increase of the total sales volume within the ROI by \$3,292,341 or 0.05 percent. This is below the total sales RTV value of 11.63 percent (EIFS, 2004). An estimated 15 employees are expected to be hired for construction of the new shoppette. Each employee would receive an annual salary of approximately \$35,000 for one year. Employment would increase by 0.02 percent within the ROI, which is lower than the respective RTV of 6.27 percent. Total income in the ROI would increase by 0.02 percent as a result of the construction activities. This is less than the income RTV of 10.14 percent (EIFS, 2004). The economic impact due to construction would be expected for only one year, during the construction phase of the project.

Operation of the shoppette would result in an increase of the total direct and indirect sales volume within the ROI by \$5,572,468 or 0.09 percent, a value that is below the total sales RTV value of 11.63 percent (EIFS, 2004). Ten full-time employees, at an annual salary of \$24,960, would be hired to operate the new shoppette. Employment in the ROI would increase by 0.03 percent, which is lower than the RTV value of 6.27 percent (EIFS, 2004). Total income in the ROI would increase by 0.02 percent. This is less than the RTV of 10.14 percent (EIFS, 2004). As mentioned in Section 4.7.1, construction activities would have an economic impact for only one year, whereas operation of the new shoppette would result in long-term economic impacts to the area.

**No Action.** The No-Action alternative would have no effect on employment or the economy.

#### 4.8 NOISE

An impact would be considered significant if the federal action increased substantially the ambient noise levels for neighboring areas with noise sensitive uses.

**Proposed Action.** As indicated in Chapter 3, the area of the Proposed Action is within Zone I where corresponding noise levels are measured at less than 65 dBA. Noise levels within and adjacent to the project area would increase during the construction period. However, construction activity would not cause long-term noise impacts since it would be temporary and normally limited to daytime hours.

The primary noise from construction activities would be generated by vehicles and equipment involved in site grading, foundation preparation, facility construction, and finish work. Typical noise levels generated by construction activities range from an  $L_{eq}$  of 75 to 90 dBA at 50 feet from the sources, depending on the type and usage of the equipment. This  $L_{eq}$  is based on an 8-hour average for a typical construction day. Noise attenuates at a rate of approximately six decibels for each doubling of distance between the source and the receptor.

The construction noise would have some effect on outdoor speech communication in areas adjacent to the construction site. It is anticipated that all proposed construction

activities would take place during standard working hours; therefore, noise generated from construction activities would not affect nighttime noise levels.

**No Action.** Under the No-Action alternative, there would be no effects on noise.

#### 4.9 HAZARDOUS MATERIALS AND SOLID WASTE

**Proposed Action.** Construction of the shoppette and the placement of two 15,000-gallon PSTs and six gasoline dispensers are proposed for the Clear Creek Shoppette. No hazardous materials will be stored or generated at the Clear Creek Shoppette. The PSTs would be installed as double-walled USTs with a “geoliner” membrane and leak detection monitoring to protect soil and groundwater resources. In addition to integral leak detection systems, the USTs will be inspected on a monthly basis. Fort Hood personnel have reviewed the design, considering the location and quantities of fuel stored.

Management of the two 15,000-gallon PSTs would be conducted under the HMMP. The tanks would be managed in compliance with Army Regulations (AR) 710-2 and AR 200-1 and federal, state, and local laws for the management of hazardous materials. The Fort Hood SPCC Plan would require amendment to include the new USTs.

Solid waste generated during the construction phase of the project would consist of building materials such as packaging, pieces of concrete, asphalt, metals (conduit, piping, wiring), and lumber. It is assumed that 4 lbs. of waste debris would be generated per ft<sup>2</sup> of building area during construction (Butler, 1995). Design plans indicate the proposed shoppette would be 3800 ft<sup>2</sup> thereby generating an estimated 15,200 lbs. or 7.6 tons of construction debris over the project period. Waste would also be generated when laying asphalt for parking areas. For the purpose of this analysis it is assumed that 0.6 lbs. of construction waste would be produced per square foot of asphalt applied. Approximately 52,000 ft<sup>2</sup> of asphalt would be applied producing 31,200 lbs. or 15.6 tons of construction waste. A total of 23.2 tons of solid waste would be generated during construction; this accounts for approximately 0.03 percent of the annual solid waste generated at Fort Hood in 2001.

Solid waste would also be generated at the proposed facility during operation. This waste would include packaging materials such as plastic and cardboard, food wrappers, plastic and glass bottles, and aluminum cans. Based on the average solid waste generation rates of two existing Fort Hood shoppettes, it is estimated that 0.015 tons of solid waste are generated per ft<sup>2</sup> of building area per year (AAFES, 2003a; AAFES, 2003b). Using this calculation the new Clear Creek Shoppette would produce 57 tons of refuse per year, approximately 0.08 percent of the solid waste generated at Fort Hood in 2001.

The Proposed Action is not anticipated to adversely affect hazardous materials or wastes management or capacities at Fort Hood.

**No Action.** Hazardous materials and solid waste would not be affected under the No-Action alternative.

#### 4.10 TRANSPORTATION

**Proposed Action.** The proposed Clear Creek Shoppette would provide additional amenities for the Fort Hood population, especially those who live in the Liberty Village and Kouma Memorial Village family housing areas. Based on monthly sales estimates, the shoppette is expected to attract approximately 900 customers per day. Planners anticipate that this facility will be used most heavily during morning and evening commuter hours, as people living in nearby housing are passing by on their way to and from work. Customers entering and exiting the proposed shoppette could result in an increase in traffic on Clear Creek Road and Johnson Drive. Any traffic increase resulting from the expansion would be supported by the existing roads and are not expected to exceed their capacity.

**No Action.** Transportation would not be affected under the No-Action alternative.

#### 4.11 UTILITIES

**Proposed Action.** According to 2002 average energy usage for two Fort Hood shoppettes, the Picnic Palace Shoppette and the III Corps Shoppette, approximately 216,121.8 BTU of energy are used per ft<sup>2</sup> of building area (AAFES, 2003a; AAFES, 2003b). Based on the assumption that electricity use at the Clear Creek Shoppette would be similar to the above stores, it is estimated that the 3,800 ft<sup>2</sup> Clear Creek Shoppette would use approximately  $8.21 \times 10^8$  BTU per year, which is 0.06 percent of the 2002 annual electric usage on Fort Hood.

Based on federal water use indices, water consumption for each Clear Creek Shoppette customer is estimated at eight gallons of water per day (AWWA, 1996). Nine hundred customers per day are expected to visit the proposed shoppette. This would result in an estimated consumption of 7,200 gallons of water per day during operation and 2.6 million gallons annually. This is 0.11 percent of the total water consumed at Fort Hood in 2002. An estimated 6,840 gallons of wastewater would be generated daily at the shoppette, based on the assumption that 95 percent of water consumed enters the wastewater system. This equals an annual generation of 2.5 million gallons of wastewater, approximately 0.19 percent of the wastewater generated on the entire installation in 2002. The Proposed Action is not anticipated to adversely affect utility capacities at Fort Hood.

Natural gas will not be used at the Clear Creek Shoppette.

**No Action.** Utilities would not be affected under the No-Action alternative.

#### 4.12 ENVIRONMENTAL JUSTICE

**Proposed Action.** Construction of the new shoppette would occur completely within the boundaries of the military installation. The Proposed Action would not result in disproportionately high and adverse human health or environmental effects on minority or low-income populations. The project would not cause environmental health and safety risks that disproportionately affect children.

**No Action.** The No-Action alternative would not result in disproportionately high and adverse health or environmental effects on minority or low-income populations. This alternative would not disproportionately affect the health and safety of children.

#### **4.13 CUMULATIVE IMPACTS**

**Proposed Action.** Master planning personnel at Fort Hood indicate that no Army or other tenant organization construction projects were anticipated to coincide with construction of the Clear Creek Shoppette. Therefore, cumulative impacts from other projects are not anticipated.

**No Action.** The No-Action alternative would not result in cumulative impacts with any other projects in the area.

**Chapter 5**

**List of Preparers**

## CHAPTER 5

### LIST OF PREPARERS

<b>LOPEZGARCIA GROUP Employees</b>	<b>Degree</b>	<b>Professional Discipline</b>	<b>Years of Experience</b>
Craig McColloch, P.E.	B.S., Civil engineering	Environmental engineer	24
Mark Gray	M.S., Wildlife Ecology	Biologist	3
Sara Moren	M.S., Wildlife Ecology	Biologist	6
James Landry, P.E.	B.S., Civil engineering	Civil/environmental engineer	8
Susan Tuxbury	M.S., Biology/Ecology	Ecologist	5

**Chapter 6**

**Persons and Agencies Contacted**

## **CHAPTER 6**

### **PERSONS AND AGENCIES CONTACTED**

#### **Army and Air Force Exchange Service**

Dan Carmichael, General Manager  
Don Jeanes, Planner  
Greg Smith, Environmental Engineer

#### **Fort Hood, Directorate of Public Works**

Stephen Burrow, Chief, Environmental Programs  
Vicki Bump, NEPA Coordinator  
Dennis Herbert, Chief, Natural Resources Management Branch  
Cheryl Huckerby, Chief, Cultural Resources Management Branch  
Robert Kennedy, Chief, Air Quality Program  
Philip Marley, Planner  
Nancy Niemann, Chief, Environmental Division  
Charlotte Priest, Petroleum Storage Tank Specialist

#### **Texas Commission on Environmental Quality**

Dan Burke, Regulatory Division

#### **Texas Parks and Wildlife Department**

Kathy Boydston, Wildlife Habitat Assessment Program

**Chapter 7**

**Environmental Permits Required**

## **CHAPTER 7**

### **ENVIRONMENTAL PERMITS REQUIRED**

The Proposed Action would require the following environmental permits or regulatory actions:

- The Fort Hood air quality permit would require a minor modification for the new petroleum storage tanks.
- The Fort Hood SPCC plan would require modification to add the new petroleum storage tanks since the plan covers the entire installation.
- Construction of the new PSTs would require filing a Notice of Intent with TCEQ to activate Construction General Permit No. TXR150000, for disposal of storm water associated with construction since the area affected is larger than one acre.
- The new PSTs would require registration with the TCEQ.

## **Chapter 8**

## **References**

## CHAPTER 8

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- USFWS, 2003. U.S. Fish and Wildlife Service. Telephone conversation with Omar Bocanegra, Arlington Ecological Services Field Office, August.

**Appendix A**  
**Supporting Information**

**APPENDIX A**  
**SUPPORTING INFORMATION**

This appendix includes agency correspondence and will include the Publishers Affidavit in the final signed EA.

February 6, 2004

Mr. Dan Burke  
Texas Commission on Environmental Quality  
MC 205  
12100 Park 35 Circle  
Austin, Texas 78753

Dear Mr. Burke:

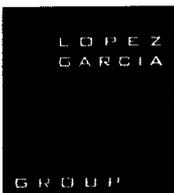
We are requesting a review of the proposed Clear Creek Shoppette project in accordance with the National Environmental Policy Act. This facility will be built and operated by the Army and Air Force Exchange Service (AAFES) at Fort Hood, Texas. The proposed shoppette would provide convenient access to merchandise and services, required at all military installations, for several Fort Hood Family housing areas.

In addition to a convenience store, the shoppette would also include a concession restaurant, fuel dispensers, as well as limited parking for customers and employees. A stage two vapor recovery system would be utilized at each fuel dispenser to reduce emissions. Two double-walled underground storage tanks (UST), each holding approximately 10,000 gallons of gasoline, would be installed in geo-liners at the Clear Creek Shoppette. The USTs would be inspected monthly for any sign of leakage.

The proposed site for the shoppette is at the northeast corner of Clear Creek Road and Johnson Drive, immediately south of US 190. This property, a disturbed field, has no structures and was used to stockpile materials including road base and gravel for construction of US 190. An existing housing area, Liberty Village, is located just east of the proposed location, and an access control point (ACP) is currently being constructed on Johnson Drive east of the site. The new security gate would allow access to the shoppette only through the ACP during periods of lockdown at Fort Hood.

The USTs would be properly registered, and all permitting requirements for these tanks would be fulfilled. Any hazardous waste generated would be properly accumulated and disposed of at a permitted TSD facility in accordance with TCEQ requirements. Best management practices would be used during construction of the proposed shoppette to minimize the temporary adverse impacts to air and water quality that would be anticipated during the construction period.

I have included several maps to help with your review of this project: a regional location map, an aerial photograph of the site, and a conceptual layout of



the proposed facility. We would appreciate receiving comments within 30 days of your receipt of this letter. You may FAX an advance copy to 512-451-5021. Thank you for your cooperation in assisting AAFES to fulfill their responsibilities under the National Environmental Policy Act.

Sincerely,

A handwritten signature in black ink, appearing to read 'Sara Moren', with a long horizontal flourish extending to the right.

Sara Moren  
Environmental Scientist

Enclosures

February 6, 2004

Ms. Kathy Boydston  
Wildlife Habitat Assessment Program  
Texas Parks and Wildlife Department  
4200 Smith School Road  
Austin, Texas 78744-3291

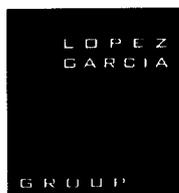
Dear Ms. Boydston:

We are requesting a review of the proposed Clear Creek Shoppette project in accordance with the National Environmental Policy Act. This facility will be built and operated by the Army and Air Force Exchange Service (AAFES) at Fort Hood, Texas. The proposed shoppette would provide convenient access to merchandise and services, required at all military installations, for several Fort Hood Family housing areas.

In addition to a convenience store, the shoppette would also include a concession restaurant, fuel dispensers, as well as limited parking for customers and employees. A stage two vapor recovery system would be utilized at each fuel dispenser to reduce emissions. Two double-walled underground storage tanks (UST), each holding approximately 10,000 gallons of gasoline, would be installed at the Clear Creek Shoppette.

The proposed site for the shoppette is at the northeast corner of Clear Creek Road and Johnson Drive, immediately south of US 190. This property, a disturbed field, has no structures and was used to stockpile materials including road base and gravel for construction upgrades to US 190. Evidence of heavy vehicle usage, likely during the US 190 construction project, is apparent onsite. An existing housing area, Liberty Village, is located just east of the proposed location, and an access control point (ACP) is currently being constructed on Johnson Drive east of the site. The new security gate would allow access to the shoppette only through the ACP during periods of lockdown at Fort Hood.

Several threatened or endangered species, including the Golden-cheeked Warbler and the Black-capped Vireo are known to occur on Fort Hood. According to Fort Hood's natural resource specialists, no threatened or endangered species habitat is located on or near the proposed Clear Creek Shoppette site. No wetlands or waterways were identified during the site visit. Therefore, construction and operation of the Clear Creek Shoppette is not expected to impact any critical wildlife habitat.



I have included several maps to help with your review of this project: a regional location map, an aerial photograph of the site, and a conceptual layout of the proposed facility. We would appreciate receiving comments within 30 days of your receipt of this letter. You may FAX an advance copy to 512-451-5021. Thank you for your cooperation in assisting AAFES to fulfill their responsibilities under the National Environmental Policy Act.

Sincerely,

A handwritten signature in black ink, appearing to read 'Sara Moren', with a long horizontal flourish extending to the right.

Sara Moren  
Environmental Scientist

Enclosures