

**Final**

**ENVIRONMENTAL ASSESSMENT  
ESTABLISHMENT OF AN  
ARMED FORCES RESERVE CENTER  
TYLER, TEXAS  
BRAC 2005**



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**March 2009**



**Printed on Recycled Paper**

**FINAL  
FINDING OF NO SIGNIFICANT IMPACT  
ENVIRONMENTAL ASSESSMENT  
ESTABLISHMENT OF AN ARMED FORCES RESERVE CENTER  
(AFRC)  
TYLER, TEXAS  
BRAC 2005**

The Defense Base Closure and Realignment (BRAC) Commission of 2005, in response to the Defense Base Closure and Realignment Act of 1990, as amended, recommended closing the Tyler U.S. Army Reserve Center (USARC) in Tyler, Texas, and the Marshall USARC in Marshall, Texas and relocation to a new Armed Forces Reserve Center (AFRC) in Tyler, if the Army is able to acquire suitable land for the construction of the facilities.

Pursuant to the Council on Environmental Quality regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508) implementing the procedural provisions of the National Environmental Policy Act (NEPA), 42 U.S. Code Section 4321 et seq., as amended; 32 CFR Part 651 (Environmental Analysis of Army Actions), the U.S. Army Corps of Engineers, Mobile District, has prepared an Environmental Assessment (EA) and draft Finding of No Significant Impact (FNSI), which addresses the proposed construction and operation of the AFRC in Tyler, Texas.

#### **Proposed Action**

The Proposed Action is to establish a new 800-member AFRC at a site in Tyler to accommodate the units to be relocated from the Tyler and Marshall USARCs. A new 123,084-square foot (SF) building; 8,392 SF vehicle and equipment maintenance facility; a 9,619 SF Organization Storage Unit; and 24,153 SF parking lot would be constructed. The new facility would provide administrative, assembly, educational, storage, weapons simulators, vehicle maintenance, and physical fitness training facilities to accommodate three U.S. Army Reserve (USAR) and six Texas Army National Guard (ARNG) units from Athens, Tyler, Henderson, Kilgore, Marshall and Corsicana, Texas, should the state decide to relocate these units. The new AFRC is proposed to be constructed on a 25-acre parcel along State Highway 31, in southwest Tyler.

#### **Alternatives Considered**

General siting criteria included consideration of compatibility between the functions to be performed and the land use designation for the site, adequacy of the site for the function required, proximity to related activities, distance from incompatible activities, availability and capacity of roads, efficient use of property, development density, potential future mission requirements, and special site characteristics. Specific criteria require that the site is a minimum size of 12 acres, a rectangular-shaped parcel and has minimum side lengths of 500 feet. The latter is required to ensure sufficient size to comply with anti-terrorism/force protection (AT/FP) requirements for 200-foot-wide setbacks.

One other alternative site was identified as potentially viable through an independent Available Site Identification and Validation (ASIV) study. This site is located approximately 14 miles to the northeast of the preferred site. Similar conditions exist at this other site and it will be carried forward for detailed evaluation. However, if for some reason the preferred site cannot be obtained, additional surveys and supplemental NEPA documentation would be required to fully

evaluate the use of this alternative site. One other site was identified by the ASIV study team but was eliminated due to engineering and safety issues.

No other action alternatives were considered during the preparation of this EA. Other schedules were considered, but eliminated from detailed analyses. The No Action Alternative has also been carried forward throughout the EA to serve as a baseline for comparison to the other alternatives.

### **Factors Considered In Determining That No Environmental Impact Statement is Required**

Implementation of the Proposed Action at the preferred location would result in minor, permanent effects on vegetation, wildlife, soils, aesthetics, and land use. The Proposed Action would cause the permanent conversion of up to 25 acres of early successional grassland to hard surfaces and buildings and remove this land from further biological productivity and other uses. Because the preferred location has been disturbed in the past, and thus provides limited wildlife habitat, the loss of 25 acres would be considered insignificant. There are currently no plans for these additional acres, so the existing natural conditions would remain the same in the foreseeable future. Some of the soils at the preferred site are considered prime and unique farmland soils; the loss of 6 acres would not be a significant impact, given the vast amount of acreage containing the same soil type found within the project region. Additionally, the acquisition of farmland for National defense purposes is exempt by Section 1547(b) of the Farmland Protection Policy Act.

Two wetland areas could potentially be impacted by the Proposed Action Alternative. However, only one site encompassing 0.052 acre of palustrine emergent wetlands is considered to be jurisdictional under the Clean Water Act. In addition, 372 linear feet of stream channel has been determined to be jurisdictional Waters of the U.S. under the Clean Water Act. As such, Section 404/401 applications would need to be completed prior to construction and compensation for the losses would be provided through the purchase of credits from the Pineywoods Mitigation Bank. Up to 0.5 functional capacity units would be acquired from the mitigation bank to ensure no net loss of wetlands would occur.

Temporary increases of vehicle traffic would be expected during the construction period, particularly along State Highway 31, as construction crews commute to the project site. Permanent increases in traffic would occur along these roads during operation of the AFRC; however, most of these increases would occur during training activities, which would be scheduled primarily on weekends. Daily increases in vehicle traffic would be expected to be less than 25 vehicle trips per weekday and up to 160 vehicle trips on the training weekends. Therefore, the operation of the AFRC would result in minor to moderate long-term increases in traffic.

In addition, temporary and insignificant adverse effects on air quality, noise, soil erosion/sedimentation, and utilities would occur during the construction period. No violations of the region's air or water quality standards would be expected. Emissions expected to be generated during construction are well below the *de minimis* thresholds, even though Smith County is considered in attainment for all priority pollutants. Best management practices would be implemented to ensure stormwater, during and after construction, is controlled and downstream sedimentation is either eliminated or is negligible.

No impacts would occur on Federal or state protected species, cultural resources, water quality or supply, or hazardous waste facilities.

Slight benefits for local and regional employment and personal income would be expected during the construction period; however, no long-term significant adverse impacts on the region's economy would be expected to occur.

The cumulative effects of the Proposed Action and other planned or reasonably foreseeable projects in the project region would also be considered insignificant. The City of Tyler currently has no plans for development or improvements at the preferred site or surrounding area. Local expenditures required by the proposed AFRC and other construction projects would result in moderate beneficial impacts in the project region within the next 3 years. The City of Tyler would easily accommodate the additional employment, sales volumes, income, and taxes generated by these activities.

### **Conclusions**

Based on information gathered and presented in the EA, it has been determined that the Proposed Action would have no significant direct, indirect, or cumulative adverse impacts on the quality of the natural and human environment. Consequently, an Environmental Impact Statement is not required and will not be prepared.

### **Public Comment**

Interested parties are invited to review and comment on the EA and draft FNSI within 15 days of publication of the Notice of Availability, which is scheduled to occur on March 25, 2009. Comments and requests for copies should be addressed to Mr. James Wheeler II, Chief, Environmental Division, 90<sup>th</sup> Regional Readiness Command, 8000 Camp Robinson Road, North Little Rock, AR 72118-2205 or by phone at 501-771-7992. A limited number of copies of the EA are available to fill single copy requests. The EA is available for review at the Tyler Public Library, 201 S. College Avenue, Tyler, Texas 75702 (903) 593-7323. The EA is also available for review on line at: [http://www.hqda.army.mil/acsim/brac/env\\_ea\\_review.htm](http://www.hqda.army.mil/acsim/brac/env_ea_review.htm).

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Philip L. Hanrahan, Brigadier General  
U.S. Army Reserve, Commanding

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Date Signed



FINAL

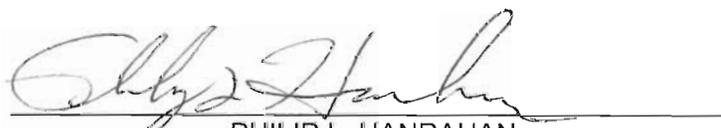
ENVIRONMENTAL ASSESSMENT  
ESTABLISHMENT OF AN  
ARMED FORCES RESERVE CENTER (AFRC)  
TYLER, TEXAS  
BRAC 2005

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**LEAD AGENCY:** Mobile District, U.S. Army Corps of Engineers

**TITLE OF PROPOSED ACTION ALTERNATIVE:** Establishment of an Armed Forces Reserve Center (AFRC), Tyler, Texas, BRAC 2005

**AFFECTED JURISDICTION:** Smith County, Texas

**PREPARED BY:** Byron G. Jorns, Colonel, Corps of Engineers, Mobile District, Commanding

**TECHNICAL ASSISTANCE FROM:** Gulf South Research Corporation

**APPROVED BY:** Philip L. Hanrahan, Brigadier General, U.S. Army Reserve, Commanding

**ABSTRACT:** This Environmental Assessment (EA) addresses the potential effects of the proposed establishment of a new Armed Forces Reserve Center (AFRC) in Tyler, Texas, as directed by the Defense Base Closure and Realignment Commission's recommendation. The existing U.S. Army Reserve Centers (USARC) in Tyler and Marshall, Texas, would be closed and the units would be relocated to the new AFRC. The Proposed Action would accommodate up to 800 military and civilian personnel at the new AFRC during training activities if all U.S. Army Reserve (USAR) units assigned to the AFRC conduct training exercises simultaneously. To accommodate the proposed AFRC, a new 123,084-square-foot building is proposed to be constructed. In addition, parking, vehicle and equipment maintenance, stormwater detention ponds and storage facilities would also be constructed. Total building space proposed for construction at the AFRC is 165,248 square feet. The Preferred Alternative would construct, operate, and maintain these facilities at a site west of Tyler, Texas, on Texas State Highway 31. The construction at the preferred sites would permanently convert approximately 25 acres of early successional grasslands to hard surfaces. No long-term or significant impacts on protected species, cultural resources, water quality, or socioeconomic resources would occur as a result of the Preferred Alternative. Approximately 0.052 acres of jurisdictional wetlands and up to 372 linear feet of stream channel would be impacted, but mitigation would be provided to offset these losses. Another wetland site that encompasses 0.124 acre would be impacted, but this site was determined to be non-jurisdictional and thus does not require compensatory mitigation. Temporary and insignificant impacts on air quality and noise would occur during construction activities. Alteration of 6 acres of Raino fine sandy loam soils would be considered an insignificant, but long-term impact on prime or unique farmland soils. The acquisition and use of areas containing prime farmland soils is exempt from the Farmland Protection Policy Act. Traffic patterns at the new site would be slightly altered by the proposed construction and operation of the AFRC. One other alternate site was identified and evaluated during the preparation of the EA.

**REVIEW PERIOD:** The EA and draft Finding of No Significant Impact are available for review for a period of 15 days. Copies of this document can be obtained from Mr. James Wheeler II, Chief, Environmental Division, 90<sup>th</sup> Regional Readiness Command, 8000 Camp Robinson Road, North Little Rock, Arkansas 72118-2205 or by phone at 501-771-7992. Copies are also available for review at the Tyler Public Library, 201 S. College Avenue, Tyler, Texas 75702 (903-593-7323). The EA will be also available for review on line at the following URL address: [http://www.hqda.army.mil/acsim/brac/env\\_ea\\_review.htm](http://www.hqda.army.mil/acsim/brac/env_ea_review.htm).

Written comments must be submitted to Mr. Wheeler no later than 9 April 2009.

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**EXECUTIVE SUMMARY  
ENVIRONMENTAL ASSESSMENT  
ESTABLISHMENT OF AN  
ARMED FORCES RESERVE CENTER (AFRC)  
TYLER, TEXAS  
BRAC 2005**

**Introduction:** In accordance with the National Environmental Policy Act of 1969 (NEPA), the United States Army Corps of Engineers (USACE), Mobile District, has prepared this Environmental Assessment (EA) for the establishment of an Armed Forces Reserve Center (AFRC) in Tyler, Smith County, Texas. The new AFRC would accommodate troops to be relocated from the existing U.S. Army Reserve Centers (USARC) in Tyler and Marshall, Texas, which are scheduled to be closed. This EA discusses the potential environmental effects of the proposed construction and operation of the AFRC on the human and natural environment at and surrounding the preferred site in Tyler.

**Background/Setting:** The existing Marshall USARC is 44 years old and contains approximately 5,641 square feet of administrative, training, and maintenance space. The existing Marshall USARC is located on 3.78 acres and is surrounded by residential and commercial development leaving limited room for expansion. The existing Tyler USARC is a leased building for which the lease expired in 2006. The Tyler USARC contains 10,920 square feet of administrative, training, and maintenance space and is surrounded by residential and commercial development leaving limited room for expansion. The preferred site for the establishment of a new AFRC is located approximately 10 miles northwest of the existing Tyler USARC and approximately 60 miles southwest of the existing Marshall USARC. A clear cut operation was conducted recently on the site that removed nearly all mature trees. The site currently contains an early successional grassland with scattered shrubs and a few mature trees and has no existing buildings or structures. The surrounding land uses include undeveloped land to the north and west, residential properties to the east, transportation (i.e., Highway 31, public roads, and railroads), and industries (Goodyear Tire facility) to the south. The area is zoned for commercial.

**Preferred Alternative:** The establishment of a new AFRC in Tyler, Texas, is required by the Defense Base Closure and Realignment Act of 1990 (BRAC), as amended, and the recommendations made by the Defense Base Closure and Realignment Commission of 2005 (BRAC Commission). The BRAC Commission recommended the closure of the existing Tyler and Marshall USARCs. Three sites were evaluated for the establishment of the AFRC in Tyler, Texas, but only two were identified as viable. One of these viable sites was identified as the preferred site. Establishment of the AFRC at this preferred site would require the purchase of approximately 25 acres from private ownership.

The new AFRC would comprise approximately 141,095 square feet of total building space, including multi-use classrooms, library, vault, weapons simulator, and maintenance and storage facilities. An additional 24,153 square feet would be developed into parking lots. The entire facility would require approximately 16 acres; stormwater detention ponds would also be constructed within these 16 acres. No additional expansion to or demands on training areas or airspace would be required for the Preferred Alternative. No additional weapons systems would be associated with establishment or operation of the AFRC.

**Alternatives:** General siting criteria include consideration of compatibility between the functions to be performed and the land use designation for the site, adequacy of the site for the function required, proximity to related activities, distance from incompatible activities, availability and capacity of roads, efficient use of property, development density, potential future mission requirements, and special site characteristics. Specific criteria require that the site is a minimum size of 12 acres, a rectangular-shaped parcel and has a minimum side length of 500 feet. The latter is required to ensure sufficient size to comply with anti-terrorism/force protection (AT/FP) requirements of 200-foot wide setbacks. The site must also be within the city limits of Tyler or within the city's extra-territorial jurisdiction.

Other alternatives are not considered viable and, thus, were not addressed in the EA. However, two alternate sites were evaluated. One site was eliminated from further consideration because it is situated behind other commercial buildings, which would require construction of an access road approximately 0.15 mile long and also because the site is located adjacent to a private "firing range" that is "aimed" directly at the site. The other alternative site was identified as a potentially viable site. This site is located approximately 14 miles to the northeast of the preferred site. Similar conditions exist at this site, and it is carried forward for detailed evaluation. However, if, for some reason the preferred site cannot be obtained, supplemental NEPA documentation would be required to fully evaluate the use of this alternative site.

**Environmental Consequences:** Construction of the AFRC facility at the preferred site would permanently convert up to 25 acres of early successional grassland to impervious surfaces. Construction would cause temporary and insignificant increases of noise and air emissions. Ambient conditions would return upon completion of the construction activities. Traffic would be slightly increased on surface streets in and around the preferred site. The daily increase is expected to be less than 0.2 percent; weekend traffic would increase by about 1 percent over the current average daily vehicle trips. The loss of possible productivity on 6 acres of Raino fine sandy loam prime and unique soils would be a permanent, but insignificant impact. The acquisition and use of lands containing prime farmland soils by Department of Defense activities is exempt from the Farmland Protection Policy Act. The Preferred Alternative would impact approximately 0.052 acres of jurisdictional wetlands and up to 372 linear feet of stream channel, which was determined to be Waters of the U.S. Another wetland site (0.124 acre) would be impacted, but this site was determined to be a non-jurisdictional wetland.

Socioeconomic resources would experience beneficial, but insignificant, long-term impacts due to the expenditures associated with the construction and operation of the AFRC. There would be a net loss of real estate tax revenues due to the acquisition of the land by the Federal Government. No impacts would occur on cultural resources, protected species, or water quality and supply. Insignificant impacts on wildlife habitat and populations, aesthetic and visual resources, and utilities would occur as a result of the establishment of the AFRC at the preferred site.

**Best Management Practices:** All temporarily disturbed sites would be re-seeded as soon as practicable after completion of the construction activities to control erosion and sedimentation. For those areas that would not be landscaped or routinely maintained, native vegetation seeds would be used for re-seeding activities, in accordance with Section 7(a)(1) of the Endangered Species Act. A Stormwater Pollution Prevention Plan (SWPPP) and Notice of Intent would need to be prepared and submitted prior to construction. The SWPPP would identify best management practices (BMP) to be implemented for erosion and sedimentation control during construction. If straw bales are used, weed seed-free straw would be used to avoid introduction or expansion of invasive or noxious weeds.

The loss of jurisdictional wetlands and Waters of the U.S. would be offset by the purchase of credits from the Pineywoods Mitigation Bank. Based on hydrogeomorphic models, up to 0.5 functional capacity units would be required to compensate for the wetlands/stream channel losses. To the extent that there are minor adverse impacts to jurisdictional wetlands, those impacts will be mitigated in compliance with applicable laws and regulations, resulting in no net loss of wetlands.

Wetting solutions, including water, would be applied to disturbed soils within the construction site to control fugitive dust. All construction equipment and material would be properly maintained and stored to reduce air emissions and avoid potential spills of hazardous materials.

If the breeding/nesting season for migratory birds cannot be avoided during the initial grubbing and clearing of the site, breeding bird pairs and nests would need to be identified and avoided, in accordance with the Migratory Bird Treaty Act.

**Conclusion:** The data presented in the EA documents that the best available site for the proposed construction and operation of the AFRC is at the preferred site and that development of this site would result in insignificant adverse impacts on the area's human and natural environment.

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**SECTION 1.0**  
**PURPOSE, NEED, AND SCOPE**





## **1.0 Purpose, Need and Scope**

### **1.1 Introduction**

On September 8, 2005, the Defense Base Realignment and Closure Commission (BRAC Commission) recommended that certain actions occur at United States Army Reserve Centers (USARC) in Tyler and Marshall, Texas. These recommendations were approved by the President on September 23, 2005, and forwarded to Congress. The Congress did not alter any of the BRAC Commission's recommendations and, on November 9, 2005, the recommendations became law. The BRAC Commission recommendations must now be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended (BRAC 2005).

The BRAC Commission recommended closure of the Tyler and Marshall USARCs and relocation to a new Armed Forces Reserve Center (AFRC) and Organizational Maintenance Shop (i.e., vehicle and maintenance shop) in Tyler, Texas, and to accommodate the relocation of several Texas Army National Guard (TXARNG) units, if the state decides to relocate these units. If the TXARNG units were to relocate, their Field Maintenance Shop would be co-located with the USAR's Organizational Maintenance Shop; consequently, hereinafter, these shops or activities are referred to as a maintenance facility. To enable implementation of the BRAC recommendation, the Army proposes to provide necessary facilities to support the establishment of the AFRC and relocation of the units to the AFRC. This Environmental Assessment (EA) analyzes and documents the potential environmental effects associated with the Army's Proposed Action in Tyler, Texas. Details on the Proposed Action are presented later in Section 2.0.

### **1.2 Purpose and Need**

The purpose of the Proposed Action is to implement the BRAC Commission's recommendation pertaining to closure of the Tyler and Marshall USARCs and relocation of the units to the new AFRC in Tyler.

These actions are required to implement the BRAC Commission recommendations to realign and transform Reserve Component facilities in Tyler, Texas. The Army is legally bound to defend the United States and its territories, support National policies and objectives, and defeat nations responsible for aggression that endangers the peace and security of the United States (U.S.). To carry out these tasks, the Army must adapt to changing world conditions and must improve its capabilities to respond to a variety of circumstances across the full spectrum of military operations.

In previous rounds of BRAC, the explicit goal was to save money and downsize the military in order to reap a "peace dividend." In the 2005 BRAC round, the Department of Defense (DoD) sought to reorganize its installation infrastructure to most efficiently support its forces, increase operational readiness, and facilitate new ways of doing business. Thus, BRAC represents more than cost savings. It supports advancing the goals of transformation, improving military capabilities, and enhancing military value. The Army needs to carry out the BRAC recommendations at Tyler to achieve the objectives for which Congress established the BRAC process.

### **1.3 Scope**

This EA has been developed in accordance with the National Environmental Policy Act (NEPA) of 1969 and implementing regulations issued by the President's Council on Environmental Quality (CEQ) and the Army. Its purpose is to inform decision makers and the public of the likely environmental consequences of the Proposed Action and alternatives.

The EA identifies, documents, and evaluates environmental effects of the construction and operation of a new AFRC and maintenance facility in Tyler, Texas, to accommodate the proposed relocation of units from the existing Tyler and Marshall USARCs (Figure 1-1), which will be closed in accordance with BRAC 2005. The site is located southwest of downtown Tyler, Smith County, in northeastern Texas. An interdisciplinary team of environmental scientists, biologists, planners, economists, engineers, archaeologists, historians, and military technicians have analyzed the Proposed Action and alternatives in light of existing conditions at the preferred site and identified relevant beneficial and adverse effects associated with the action. The Proposed Action is described in Section 2.0 and alternatives, including the No Action Alternative, are described in Section 3.0. Conditions existing as of 2008, considered to be the "baseline" conditions, will be described in Section 4.0, Affected Environment and Environmental Consequences of the EA. The expected effects of the Proposed Action, also described in Section 4.0, are presented immediately following the description of baseline conditions for each environmental resource addressed in the EA. Section 4.0 also addresses the potential for cumulative effects and mitigation measures that are identified, where appropriate.

The Defense Base Closure and Realignment Act of 1990 specifies that the NEPA does not apply to actions of the President, the Commission, or the DoD, except "(i) during the process of property disposal, and (ii) during the process of relocating functions from a military installation being closed or realigned to another military installation after the receiving installation has been selected but before the functions are relocated" (Sec. 2905(c)(2)(A), Public Law 101-510, as amended). The law further specifies that in applying the provisions of NEPA to the process, the Secretary of Defense and the secretaries of the military departments concerned do not have to consider "(i) the need for closing or realigning the military installation which has been recommended for closure or realignment by the Commission, (ii) the need for transferring functions to any military installation which has been selected as the receiving installation, or (iii) military installations alternative to those recommended or selected" (Sec. 2905(c)(2)(B)). The Commission's deliberation and decision, as well as the need for closing or realigning a military installation, are exempt from NEPA.

### **1.4 Public Involvement**

The Army invites public participation in the 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, including minority, low-income, disadvantaged, and Native American groups, are urged to participate in the decision-making process.

Public participation opportunities with respect to the EA and decision making on the Proposed Action are guided by 32 CFR Part 651. Upon completion, the EA will be made available to the public for 15 days, along with a draft Finding of No Significant Impact (FNSI). A Notice of Availability for the EA will be published in the *Tyler Morning Telegraph*. The EA will be available for review at public libraries and on-line at the following URL address:

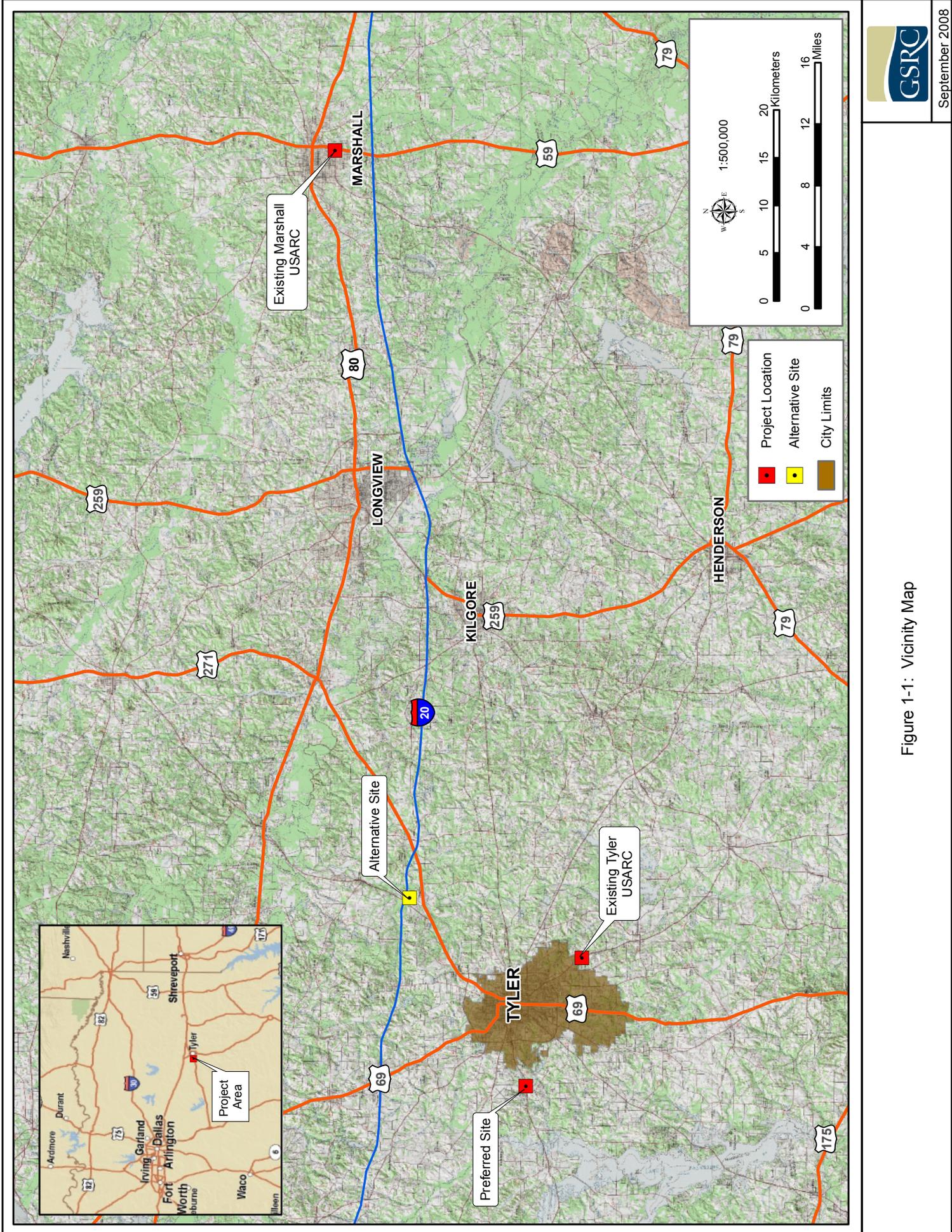


Figure 1-1: Vicinity Map

[http://www.hqda.army.mil/acsim/brac/env\\_ea\\_review.htm](http://www.hqda.army.mil/acsim/brac/env_ea_review.htm). At the end of the 15-day public review period, the Army will consider any comments submitted by individuals, agencies, or organizations on the Proposed Action, the EA, or draft FNSI. As appropriate, the Army may then execute the FNSI and proceed with implementation of the Proposed Action. If it is determined prior to issuance of a final FNSI that implementation of the Proposed Action would result in significant impacts, the Army will publish in the *Federal Register* a notice of intent to prepare an Environmental Impact Statement, commit to mitigation actions sufficient to reduce impacts to less than significant levels, or not take the action.

Throughout this process, the public may obtain information on the status and progress of the Proposed Action and EA through the United States Army Reserve (USAR) 90<sup>th</sup> Regional Readiness Command (RRC) by contacting Mr. James Wheeler, II, Chief, Environmental Division, 8000 Camp Robinson Road, North Little Rock, Arkansas 72118-2205, or by telephone at (501) 771-7992.

### 1.5 Regulatory Framework

A decision on whether to proceed with the Proposed Action rests on numerous factors, such as mission requirements, schedule, availability of funding, and environmental considerations. In addressing environmental considerations, U.S. Army Corps of Engineers (USACE) Mobile District and the 90<sup>th</sup> RRC are guided by relevant statutes (and their implementing regulations) and Executive Orders (EO) that establish standards and provide guidance on environmental and natural resources management and planning. Establishment of the AFRC in Tyler requires compliance with the Federal regulations and EOs presented below in Table 1-1. The current compliance status is also presented.

**Table 1-1. Summary of Relevant Regulations including Potential Permits or Licensing Requirements**

Issue	Action Requiring Permit, Approval, or Review	Agency	Permit, License, Compliance, or Review/Status	Status of Compliance with Relevant Laws and Regulations
<b>FEDERAL</b>				
<b>General</b>	National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.)	Council on Environmental Quality (CEQ)	Compliance with NEPA, in accordance with CEQ regulations (40 CFR 1500-1508)	Full compliance would be achieved upon issuance of signed FNSI (if appropriate)
	32 CFR 651 (Environmental Analysis of Army Actions)	Department of the Army	Compliance with regulations specified in 32 CFR 551	Full compliance would be achieved upon issuance of signed FNSI (if appropriate)
<b>Sound/ Noise</b>	Noise Control Act of 1972 (42 USC 4901 et seq.), as amended by Quiet Communities of 1978 (P.L. 95-609)	United States Environmental Protection Agency (EPA)	Compliance with surface carrier noise emissions	Full compliance would be achieved upon implementation of construction activities
<b>Air</b>	Clean Air Act and Amendments of 1990 (42 USC 7401-7671q) 40 CFR 50, 52, 93.153(b)	EPA	Compliance with National Ambient Air Quality Standards (NAAQS) and emission limits and/or reduction measures	Full compliance; emissions would be below <i>de minimis</i> thresholds

Table 1-1, continued

Issue	Action Requiring Permit, Approval, or Review	Agency	Permit, License, Compliance, or Review/Status	Status of Compliance with Relevant Laws and Regulations
<b>Water</b>	Clean Water Act of 1977 (33 USC 1342) 40 CFR 122	EPA and Texas Commission on Environmental Quality (TCEQ)	Section 402(b) National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges for Construction Activities-Stormwater Pollution Prevention Plan (SWPPP)	SWPPP and Notice of Intent would be prepared prior to construction. Full compliance would be achieved prior to implementation of construction activities
	Executive Order 11988 (Floodplain Management), as amended by Executive Order 12608	Water Resources Council, Federal Emergency Management Agency (FEMA), CEQ	Compliance	Full compliance
	Executive Order 11990 (Protection of Wetlands), as amended by Executive Order 12608	USACE and U.S. Fish and Wildlife Service (USFWS)	Compliance	Full compliance
	Clean Water Act of 1977 (33 USC 1341 et seq.)	USACE and TCEQ	Section 401/404 Permit	A Pre-construction Notice (PCN) is required before proceeding with impacts to wetlands and stream channel, as authorized under Nationwide Permit 39. Section 401 Water Quality Certification application must be submitted to TCEQ.
	Coastal Zone Management Act of 1972 (16 USC 1456[c]) Section 307	National Oceanic and Atmospheric Administration	Compliance	Tyler is not within the coastal zone
<b>Soils</b>	Resource Conservation and Recovery Act of 1976 (42 USC 6901-6992k), as amended by Hazardous and Solid Waste Amendments of 1984 (P.L. 98-616; 98 Stat. 3221)	EPA	Proper management, and in some cases, permit for remediation	Full compliance would be achieved prior to implementation of construction activities

Table 1-1, continued

Issue	Action Requiring Permit, Approval, or Review	Agency	Permit, License, Compliance, or Review/Status	Status of Compliance with Relevant Laws and Regulations
<b>Soils, continued</b>	Comprehensive, Environmental Response, Compensation, Liability Act of 1980 (42 USC 9601-9675), as amended by Emergency Planning and Community Right-To-Know Act of 1986 (42 USC 11001 et seq.) Release or threatened release of a hazardous substance	EPA	Development of emergency response plans, notification, and cleanup	Full compliance
	Farmland Protection Policy Act of 1981 (7 USC 4201 et seq.) 7 CFR 657-658 Prime and unique farmlands	Natural Resource Conservation Service (NRCS)	NRCS determination via Form AD-1006	NRCS Form AD-1006 submitted on 17 September 2008 and response was received on 22 October 2008.
<b>Natural Resources</b>	Endangered Species Act of 1973, as amended (16 USC 1531-1544)	USFWS	Compliance by lead agency and/or consultation to assess impacts and, if necessary, develop mitigation measures	Full compliance since no protected species would be impacted. Concurrence letter submitted to USFWS on 6 October 2008.
	Migratory Bird Treaty Act of 1918	USFWS	Compliance by lead agency and/or consultation to assess impacts and, if necessary, develop mitigation measures	Full compliance would be achieved upon implementation of construction activities. If initial grubbing and clearing can not avoid nesting season, breeding pairs and nests would be identified and avoided to the extent practicable
	Bald and Golden Eagle Act of 1940, as amended	USFWS	Compliance by lead agency and/or consultation to assess impacts and, if necessary, obtain permit	No effects on bald or golden eagles; full compliance
<b>Health and Safety</b>	Occupational Safety and Health Act of 1970	Occupational Safety and Health Administration (OSHA)	Compliance with guidelines including Material Safety Data Sheets	Full compliance would be achieved upon implementation of construction activities
<b>Cultural/ Archaeological</b>	National Historic Preservation Act of 1966	Advisory Council on Historic Preservation through State Historic Preservation Officer (SHPO)	Section 106 Consultation	Full compliance; no historic properties would be affected. Concurrence from Texas Historical Commission was received on 19 November 2008.

Table 1-1, continued

Issue	Action Requiring Permit, Approval, or Review	Agency	Permit, License, Compliance, or Review/Status	Status of Compliance with Relevant Laws and Regulations
<b>Cultural/ Archaeological</b>	Archaeological Resources Protection Act of 1979	Affected land-managing agency	Permits to survey and excavate/remove archaeological resources on Federal lands; Native American tribes with interests in resources must be consulted prior to issue of permits.	Full compliance
	EO 13175 ( <i>Consultation and Coordination with Indian Tribal Governments</i> )	Bureau of Indian Affairs (BIA)	Coordinate directly with Tribes claiming cultural affinity to project areas	Full compliance
	Native American Graves & Repatriation Act (NAGPRA) as amended	National Park Service (NPS)	Coordination directly with tribes claiming cultural affinity to project areas	Full Compliance
	American Indian Religious Freedom Act (AIRFA)	National Park Service (NPS)	Coordination directly with tribes claiming cultural affinity to project areas	Full Compliance
<b>Social/ Economic</b>	Executive Order 12898 ( <i>Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations</i> ) of 1994	EPA	Compliance	Full compliance since no minority or low income populations would be affected
	EO 13045 ( <i>Protection of Children from Environmental Health Risks and Safety Risks</i> )	EPA	Compliance	Full compliance since no children would be exposed to the construction activities
	EO 13101 ( <i>Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition</i> )	EPA	Compliance	Full compliance
	EO 13123 ( <i>Greening the Government Through Efficient Energy Management</i> )	EPA	Compliance	Full compliance
	EO 13148 ( <i>Greening the Government Through Leadership in Environmental Management</i> )	EPA	Compliance	Full compliance

These authorities are addressed in various sections throughout this EA when relevant to particular environmental resources and conditions. The full text of the laws, regulations, and EOs is available on the Defense Environmental Network & Information Exchange Web site at <http://www.denix.osd.mil>. In addition there may be corresponding laws and/or regulations of the State of Texas, as many of the applicable federal laws noted provide for delegation of authority to states. Further discussion of state-specific or local issues is included within the narrative discussion of the EA.

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***SECTION 2.0***  
***PROPOSED ACTION***

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## **2.0 Proposed Action**

### **2.1 Introduction**

This section describes the Army's preferred alternative for carrying out the BRAC Commission's recommendations. The BRAC Commission approved the following recommendation concerning the Tyler and Marshall USARCs:

*“Close the United States Army Reserve Center, Tyler, TX, and the United States Army Reserve Center, Marshall, TX, and relocate units to a new Armed Forces Reserve Center with a Field Maintenance Shop in Tyler, TX, if the Army is able to acquire land suitable for the construction of facilities. The new AFRC shall have the capability to accommodate Texas National Guard Units from the following Texas ARNG Readiness Centers: Athens, Tyler, Henderson, Kilgore, Marshall, and Corsicana, TX, and the Field Maintenance Shop in Marshall, TX, if the state decides to relocate those National Guard units.”*

Therefore, the Proposed Action is to construct and operate a new AFRC in Tyler to accommodate closure of the Tyler and Marshall USARCs and to relocate the units to the new AFRC. The preferred site, depicted in Figure 2-1, is located along State Highway (SH) 31, about 9 miles south of Interstate 20 (I-20) and 5 miles west of downtown Tyler. The new 800-member AFRC would include administrative, assembly, educational, storage, weapons simulator, and physical fitness training facilities to accommodate three USAR units and six Texas ARNG units. The main AFRC building would be of permanent construction and approximately 123,084 square feet (SF) in size excluding storage areas, associated parking areas, sidewalks, and landscaping. The action would also include construction of a maintenance facility and other storage facilities. All other associated infrastructure (e.g., plumbing; electrical systems; heating, ventilation, and air conditioning [HVAC] systems; and anti-terrorism/force protection [AT/FP] systems) would also be provided.

The preferred site is approximately 25 acres. Although the site is not within the city limits of Tyler, it is located within the Tyler's extra-territorial jurisdiction (ETJ). These relocation actions, beginning in Fiscal Year (FY) 2008, support the BRAC Commission's recommendation.

### **2.2 Force Structure**

Force structure refers to the numbers, size, and composition of units comprising Army forces. BRAC 2005 Commission recommendations concerning the Tyler AFRC include changes of force structure through reassignment of units from closing the Tyler and Marshall USARCs. As a result of proposed relocation, there would be a net change of active duty and civilian personnel at the Tyler AFRC, due to the relocation of units from the Marshall USARC. The new site would be used by 25 permanent staff and up to 800 troops during training activities.

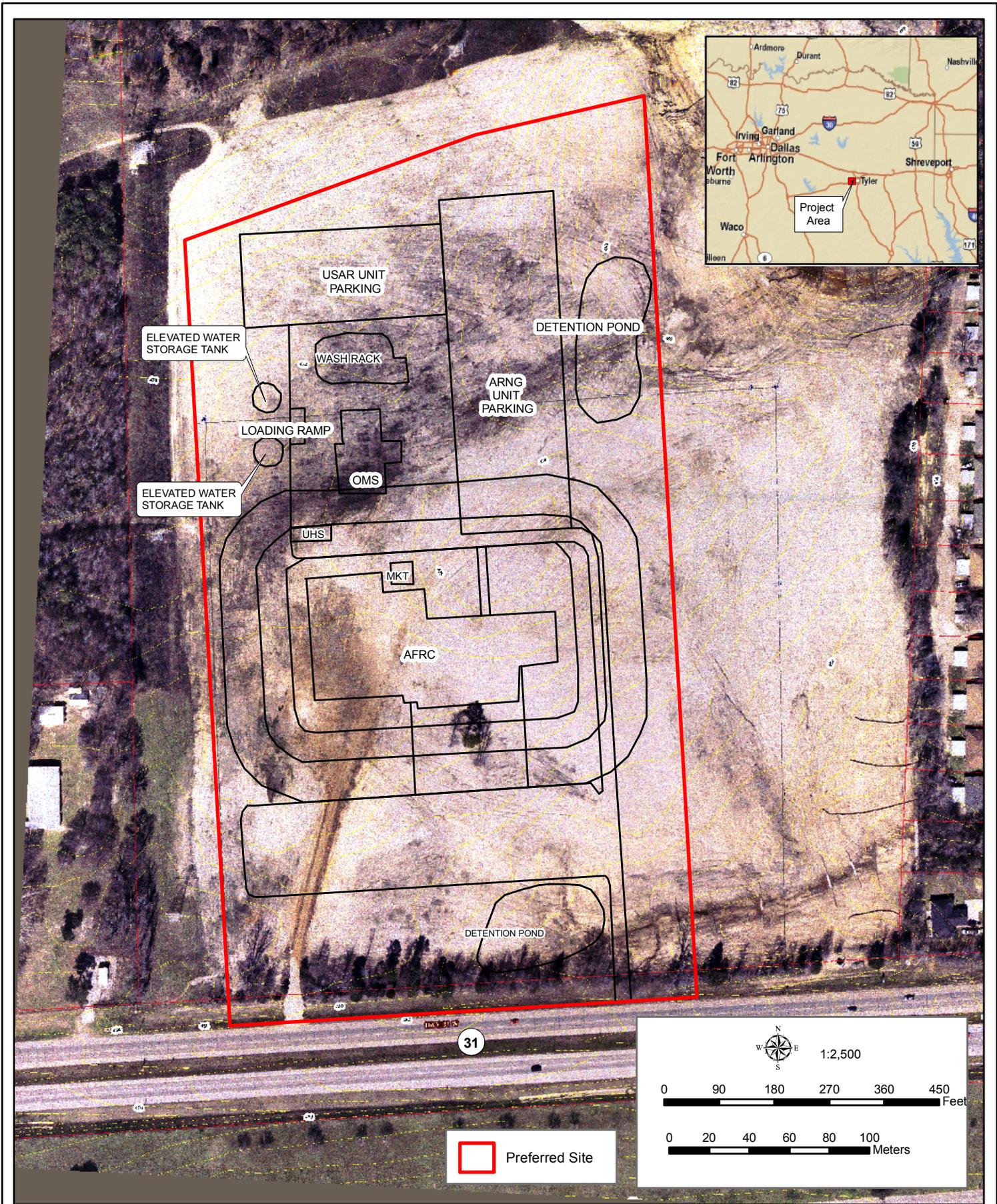


Figure 2-1: Tyler AFRC Preferred Site

## 2.3 Garrison Facilities

Implementation of the Proposed Action would require construction of an 800-member AFRC in Tyler, Texas, that would include administrative, educational, weapons simulator, vehicle maintenance, library, and storage areas. Table 2-1 identifies the proposed facilities projects. New construction projects would provide approximately 141,095 SF of building space and 24,153 SF of parking.

**Table 2-1. Proposed Construction Projects**

<b>Facility</b>	<b>Square Feet (approximate)</b>
Armed Forces Reserve Center	123,084
Maintenance Facility	8,392
Organizational Unit Storage	9,619
Parking	24,153
<b>Total</b>	<b>165, 248</b>

Although, there would be a net gain of personnel (military and civilians) assigned to the Tyler AFRC due to relocation of units from the Marshall USARC, there would be, in effect, no change in housing needs since the new AFRC would be less than 60 miles from the existing Marshall USARC and about 10 miles from the existing Tyler USARC. No demolition would be required under the Proposed Action at the preferred site, since the preferred site is vacant.

## 2.4 Training Facilities and Airspace

There would be no change to training range size or operations or airspace demands as a result of the Proposed Action. Units that use the Tyler USARC would continue to use Fort Hood, Texas, and Camp Bullis, Texas, as field training sites.

## 2.5 Weapon Systems

There would be no weapon systems used at the Tyler AFRC as a result of the Proposed Action.

## 2.6 Schedule

Under BRAC law, the Army must have initiated all realignments not later than September 15, 2007, and complete all realignments not later than September 15, 2011. Implementation of the Proposed Action would occur over a span of nearly 3 years. Facilities construction would be synchronized to meet the needs, on a priority basis, of units being relocated from overseas. Establishment of new units would occur as facilities for their operations and support become available. Table 2-2, below, is a tentative schedule for the design, construction activities, and proposed relocation actions.

**Table 2-2. Tentative Dates for Completion of Major Items Associated with Relocation of Units at Tyler, Texas**

<b>Action</b>	<b>Tentative Start Date</b>	<b>Tentative Completion Date</b>
Design of New Facility	December 2008	August 2009
Construction of New Facility	September 2009	September 2010
Realignment of Tyler and Marshall USARCs to the new Tyler AFRC	October 2010	September 2011

***SECTION 3.0***  
***ALTERNATIVES***





## **3.0 Alternatives**

### **3.1 Introduction**

A basic principle of NEPA is that an agency should consider reasonable alternatives to a Proposed Action. Considering alternatives helps to avoid unnecessary impacts and allows analysis of reasonable ways to achieve the stated purpose. To warrant detailed evaluation, an alternative must be reasonable. To be considered reasonable, an alternative must be ready for decision making (any necessary preceding events having taken place), affordable, capable of implementation, and satisfactory with respect to meeting the purpose of and need for the action. The following discussion identifies alternatives considered by the Army and identifies whether they are feasible and, hence, subject to detailed evaluation in the EA.

Alternatives to the Proposed Action have been examined according to three variables: means to physically accommodate realigned units, siting of new construction, and schedule. This section presents the Army's development of alternatives and addresses alternatives available for the Proposed Action. The section also describes the No Action Alternative.

General siting criteria for the AFRC include consideration of compatibility between the functions to be performed and the land use designation for the site, adequacy of the site for the function required, proximity to related activities, distance from incompatible activities, availability and capacity of roads, efficient use of property, development density, potential future mission requirements, and special site characteristics, including environmental incompatibilities.

Specific siting criteria include consideration of location of the workforce and efficient, streamlined management of functions. Other specific criteria require that the site is a minimum size of 12 acres, a rectangular shaped parcel and has minimum side lengths of 500 feet. The latter is required to ensure sufficient size to comply with AT/FP requirements of 200-foot-wide setbacks. The site must also be within the city limits of Tyler or within the city's ETJ.

### **3.2 Development of Alternatives**

#### **3.2.1 Means to Accommodate Realigned Units**

Other means or measures to relocate the USAR units to Tyler would not be in compliance with the BRAC Commission's recommendations. Thus, other means of providing increased space requirements, including use of existing facilities, modernization or renovation of existing facilities, and leasing of off-post facilities were not considered viable and were eliminated from further consideration.

#### **3.2.2 Siting Of New Construction**

The Army considers new construction of facilities when use of existing facilities, renovation, or leasing would fail to provide for adequate accommodations of realigned functions. The Army considers both general and specific siting criteria for construction of new facilities. The USACE Fort Worth District prepared the Available Site Identification and Validation (ASIV) Report for the proposed establishment of the new AFRC. The ASIV and the Site Survey Reports identified one other site as a viable site for the siting of the new AFRC. A copy of the ASIV and Site Survey Report is presented in Appendix A.

##### **3.2.2.1 Alternative Site #1**

Alternative Site #1 is located within a 20-acre parcel of land located approximately 14 miles to the northeast of the preferred site and 0.25 mile south of I-20 (Figure 3-1). This site is currently

undeveloped and fallow. Areas of open non-native grasslands are interspersed with shrubs and trees (Photograph 3-1). Various developments (U.S. Post Office distribution system, warehouses, light industrial, and single family residential) surround the site. This site and the preferred site conform to the local building ordinances and adhere to the general and specific siting criteria described above. This project has been coordinated with the 90<sup>th</sup> RRC's physical security plan, and all physical security measures would be included. All required AT/FP measures would also be included. This site meets the site selection criteria described above and will be carried forward as a viable alternative site.



**Photograph 3-1. Alternative Site Looking SW from NW corner**

### **3.3 Alternatives Eliminated from Further Consideration**

#### **3.3.1 Other Construction Sites**

In addition to the preferred site identified by the ASIV team, two other sites (ASIV Sites #1 and #2) were evaluated. ASIV Site #2 is still considered viable and will be carried forward as Alternative Site #1, described above. ASIV Site #1 is located approximately 800 to 1,000 feet to the west of the preferred site (Figure 3-2). This site is currently forested and provides the required acreage and site dimensions. ASIV Site #1, however, was eliminated from further consideration for the following reasons: it is situated behind other commercial buildings, which would require construction of an access road approximately 0.15 mile long. In addition, this site is located adjacent to a private “firing range” that is “aimed” directly at this site (see Appendix A).

#### **3.3.2 Schedule**

The schedule for implementation of the Proposed Action must balance facilities construction time frames, planned arrival dates of inbound units, and stand-up dates of newly-established units. All of these actions need to be completed within the 6-year limitation of the BRAC law (see Section 2.6). Realignment earlier than that shown in the schedule in Section 2.6 is not feasible in light of the time required to build facilities. Shifting of schedules to accomplish realignment at a later date would unnecessarily delay realization of benefits to be gained and would disrupt mission activities. Since earlier implementation is not possible, and delay is avoidable and unnecessary, alternative schedules are not further evaluated in this EA.

### **3.4 No Action Alternative**

CEQ regulations require inclusion of the No Action Alternative. Under the No Action Alternative, the Tyler and Marshall USARCs would not be closed and the USAR units would not be relocated to a new AFRC. However, since the closure and establishment of a new AFRC has been mandated by Congress and the President, the No Action Alternative will serve only as a baseline against which the impacts of the Proposed Action can be evaluated.

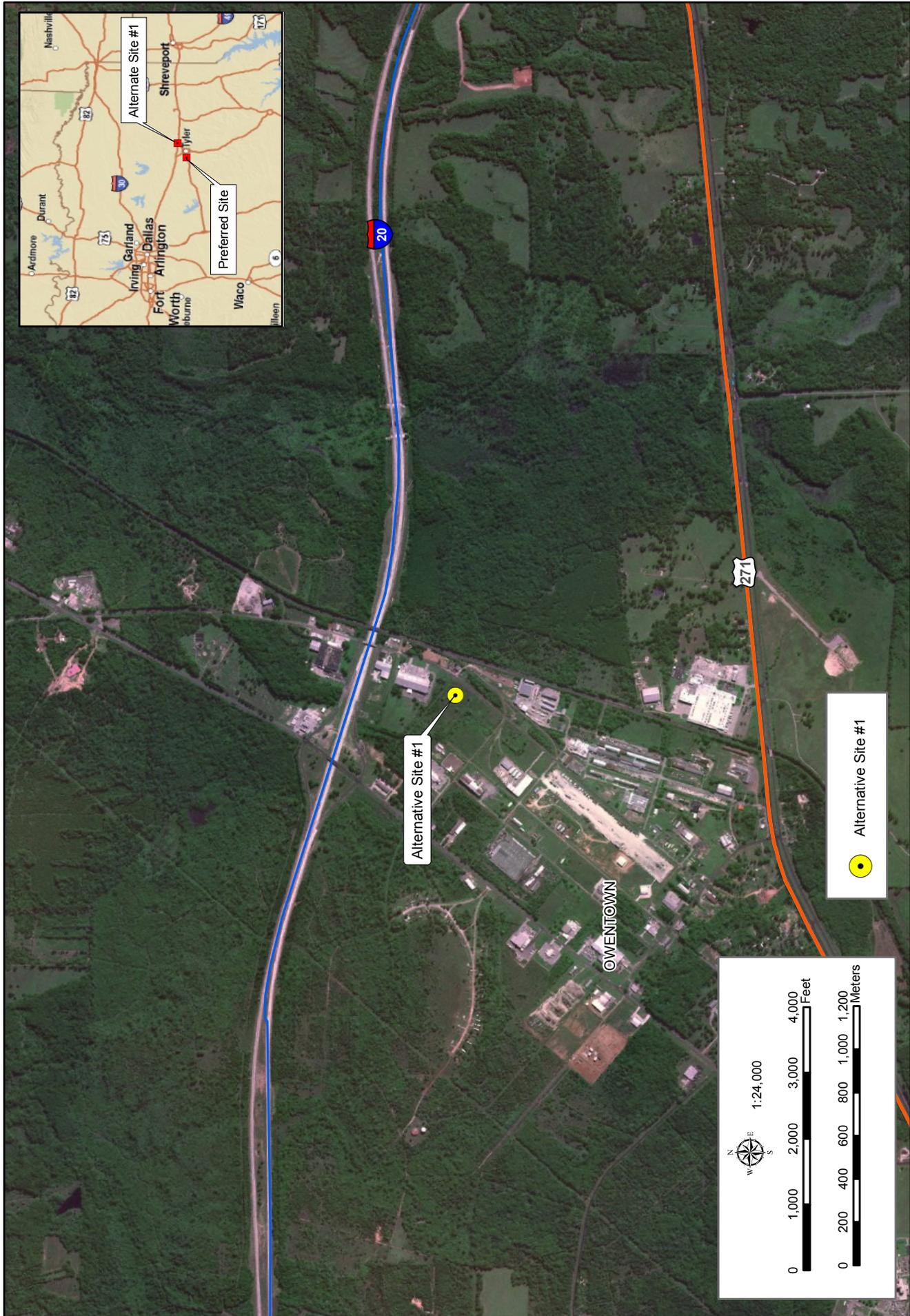


Figure 3-1: Alternative Site #1

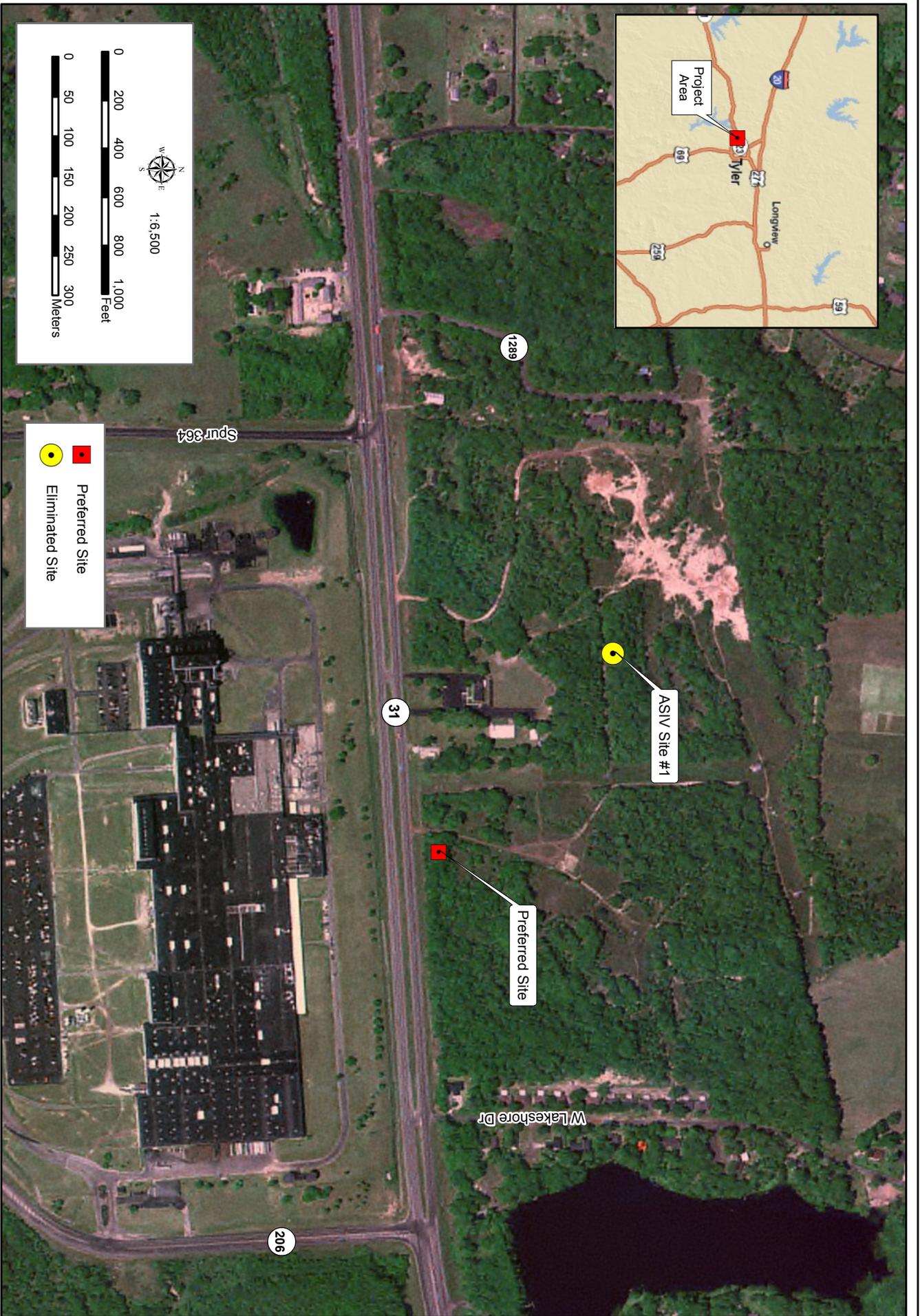


Figure 3-2: Alternative Site Eliminated from Consideration

**SECTION 4.0**  
***AFFECTED ENVIRONMENT AND CONSEQUENCES***

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## 4.0 Affected Environment and Consequences

### 4.1 Introduction

This section of the EA describes the natural and human environment that exists at and surrounding the preferred site in Tyler, and the potential effects on those resources as a result of the Proposed Action and alternatives. For the purposes of this EA, the project site is defined as the 25 acres identified as the preferred site for construction of the AFRC. The project area includes Tyler and the lands surrounding the preferred site. The project region or vicinity is Smith County.

Only those parameters that have potential to be affected by the Proposed Action and alternatives are described, as per CEQ guidance (40 CFR 1501.7 [3]). Therefore, resources and items such as climate, air space, geology, energy sources, communication systems, coastal zone resources, and solid waste are not addressed for the following reasons:

- Climate—the proposed project would not affect, nor be affected by, climate.
- Air space—the proposed project does not involve any additional aircraft training and, thus, air space would not be affected.
- Geology—the Tyler area geology consists of the Sparta-Weches formation. Highly resistant to erosion, the Weches formation forms small cuestas (ridges) or escarpments that can be easily seen. Weathering of the formation results in rich, fertile but rocky soil which supports heavy growth of grass and pine trees. The soil varies in lithology in short distances but consists predominately of black to brown massive shale in the lower parts and has a layer of green to brown hard sandstone at the top. The Sparta formation crops out in more than 20 percent of the County, forming a loose, deep, white, sandy soil. Lithologically, the Sparta formation is a mottled reddish-gray to white, loose, coarse, to fine-grained quartz sand with interfingering layers of blue and gray shale. There are also several salt domes located in the Tyler area (Dillard 1963). No geologic resources or geologic outcrops of any importance are present, and no impacts on surface or subsurface geology would occur as a result of any of the alternatives. Further analysis of geology impacts is not necessary for this EA.
- Coastal zone—the proposed project site is not located within the Texas coastal zone.
- Communication systems—the proposed project would have negligible additional demand or other impact on local or regional communication systems.
- Solid waste—the proposed project would not result in increased production of solid waste in the region; the majority of the personnel would be relocated from the existing Tyler USARC, which is approximately 10 miles away, and the existing Marshall USARC, which is approximately 60 miles away.

An impact (consequence or effect) is defined as a modification of the human or natural environment that would result from the implementation of an action. The impacts can be either beneficial or adverse, and can be either directly related to the action or indirectly caused by the action (secondary, indirect, or synergistic effects). The effects can be temporary (short-term), long lasting (long-term), or permanent. For purposes of this EA, temporary effects are defined as those that would last less than 3 years after completion of the action. Long-term impacts are

defined as those that would last up to 20 years. Permanent impacts are those that may reasonably be expected to endure beyond the 20-year time frame established for long-term impacts.

Impacts can vary in degree or magnitude from a slightly noticeable change to a total change in the environment. The significance of the impacts presented in this EA is based upon existing regulatory standards, scientific and environmental knowledge, and/or best professional opinions of the authors of the EA. The significance of the impacts on each resource will be described as significant, moderate, minimal, insignificant (or negligible), or no impact. Significant impacts are those effects that would result in substantial changes to the environment and should receive the greatest attention in the decision-making process.

## **4.2 Land Use**

### **4.2.1 Affected Environment**

#### **4.2.1.1 Regional Setting**

The preferred site is located in northeastern Texas, southwest of downtown Tyler in Smith County. Tyler is a city of 94,416 residents (U.S. Census Bureau 2006). The site is located along State Highway (SH) 31, about 9 miles south of Interstate 20 (I-20) and 5 miles west of downtown Tyler.

#### **4.2.1.2 Installation Land Use**

The existing Tyler USARC consists of 8,794 square feet (SF) of training and administrative space and 2,126 SF for vehicle and equipment maintenance. The existing Marshall USARC provides 4,316 SF of building space for training and administrative purposes and 1,325 SF for a maintenance facility. These centers are utilized at 378 percent and 318 percent capacity, respectively. Furthermore, the Tyler USARC is a leased building, and the lease expired in 2006. The Marshall USARC was built in 1964 and is situated on 3.78 acres. Both USARCs are surrounded by residential and commercial properties that would prohibit expansion for new building construction.

#### **4.2.1.3 Current and Planned Development**

##### **4.2.1.3.1 Preferred Site**

The preferred site is currently undeveloped land under private ownership that contains no existing buildings or structures. Currently, the preferred site contains low to medium-high grass and shrubs with only a few mature trees. Historically, the preferred site was densely wooded; however, trees were harvested (i.e., clear cut) onsite within the last year.

The surrounding land uses include undeveloped land to the north and west, residential properties to the east, transportation (i.e., SH 31, public roads and railroads) and industry (Goodyear Tire facility) to the south. The area is zoned for commercial. There are currently no development or improvement plans for the preferred site or surrounding area (City of Tyler 2008b). The Goodyear Tire facility is located just south of the preferred site was scheduled to be closed by January 2009. There are no current plans for any other use of the facility in the near future, although there is potential for the facility to be sold (Tyler Area Chamber of Commerce 2008).

##### **4.2.1.3.2 Alternative Site #1**

Alternative Site #1 is located within a 20-acre parcel of land located approximately 14 miles to the northeast of the preferred site and 0.25 mile south of I-20. This site is currently undeveloped and fallow. Areas of open non-native grasslands are interspersed with shrubs and

trees. Various developments (U.S. Post Office distribution system, warehouses, light industrial, and single family residential) surround the site.

## **4.2.2 Environmental Consequences**

### **4.2.2.1 Preferred Alternative**

The preferred site is approximately 25 acres of undeveloped early successional grassland. Construction and operation of the AFRC at the preferred site would eliminate approximately 25 acres of clear cut lands and permanently replace these acres with pavement and hard structures. Therefore, the entire 25 acres would be disturbed by the Preferred Alternative and converted to military uses. The main AFRC building would be of permanent construction and approximately 123,084 SF in size excluding storage areas, associated parking areas, sidewalks, and landscaping. The Preferred Alternative would also include construction of a maintenance facility and additional storage facilities. This use is consistent with the current commercial zoning for this site. Therefore, negligible adverse impacts on land use would occur upon implementation of the Preferred Alternative.

### **4.2.2.2 Alternative Site #1**

The construction and operation of the proposed AFRC at Alternative Site #1 is consistent with the current zoning and would result in similar impacts as described above for the preferred site.

### **4.2.2.3 No Action Alternative**

Under the No Action Alternative, the Tyler and Marshall USARCs would not be closed and the USAR units would not be relocated to a new AFRC. Thus, no direct short-term changes in land use to the preferred site would occur under the No Action Alternative.

## **4.3 Aesthetics and Visual Resources**

### **4.3.1 Affected Environment**

#### **4.3.1.1 Preferred Site**

The preferred site has recently been clear cut for the purposes of timber harvest. It is located adjacent to an industrial plant (Goodyear Tire plant) and SH 31 and is zoned for commercial use (Photograph 4-1). Consequently, the site has limited visual qualities.



**Photograph 4-1. View Looking South from Center of Preferred Site**

#### **4.3.1.2 Alternative Site #1**

Alternative Site #1 is located within a 20-acre parcel of land. This site is currently undeveloped and fallow. Development such as warehouses and other light industry surrounds the site (see Figure 3-1); as such, aesthetics are not an issue of concern.

### **4.3.2 Environmental Consequences**

#### **4.3.2.1 Preferred Alternative**

Construction and operation of the AFRC at the preferred site would eliminate approximately 25 acres of clear cut lands and permanently replace these acres with pavement and hard structures. Temporary construction areas would need to be immediately replanted with native vegetation to avoid additional long-term or permanent adverse effects to the area's aesthetic resources. Nonetheless, because of the small amount of acreage impacted and existing land uses at and surrounding the preferred site, the permanent and temporary effects to the aesthetics and visual resources of the area would not be considered significant.

#### 4.3.2.2 Alternative Site #1

Because of the surrounding land uses, in conjunction with the current condition of Alternative Site #1, no significant impacts to aesthetics would occur if this alternative were implemented.

#### 4.3.2.3 No Action Alternative

Implementation of the No Action Alternative would allow the sites to remain in the current conditions, at least for the short term. Both sites would continue to be vacant, unimproved land with limited visual qualities.

### 4.4 Air Quality

#### 4.4.1 Affected Environment

EPA established National Ambient Air Quality Standards (NAAQS) for specific pollutants determined to be of concern with respect to the health and welfare of the general public. Ambient air quality standards are classified as either "primary" or "secondary." The major pollutants of concern, or criteria pollutants, are carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter less than 10 microns (PM-10), particulate matter less than 2.5 microns (PM-2.5), and lead. NAAQS represent the maximum levels of background pollution that are considered safe, with an adequate margin of safety, to protect the public health and welfare. The NAAQS are included in Table 4-1.

**Table 4-1. National Ambient Air Quality Standards**

POLLUTANT	STANDARD VALUE	STANDARD TYPE
<b>Carbon Monoxide (CO)</b>		
8-hour average	9ppm (10mg/m <sup>3</sup> )*	P
1-hour average	35ppm (40mg/m <sup>3</sup> )*	P
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>		
Annual arithmetic mean	0.053ppm (100µg/m <sup>3</sup> )*	P and S
<b>Ozone (O<sub>3</sub>)</b>		
8-hour average	0.08ppm (157µg/m <sup>3</sup> )*	P and S
1-hour average	0.12ppm (235µg/m <sup>3</sup> )*	P and S
<b>Lead (Pb)</b>		
Quarterly average	1.5µg/m <sup>3</sup>	P and S
<b>Particulate&lt;10 micrometers (PM-10)</b>		
Annual arithmetic mean	50µg/m <sup>3</sup>	P and S
24-hour average	150µg/m <sup>3</sup>	P and S
<b>Particulate&lt;2.5 micrometers (PM-2.5)</b>		
Annual arithmetic mean	15µg/m <sup>3</sup>	P and S
24-hour average	65µg/m <sup>3</sup>	P and S
<b>Sulfur Dioxide (SO<sub>2</sub>)</b>		
Annual average mean	0.03ppm (80µg/m <sup>3</sup> )	P
24-hour average	0.14ppm (365µg/m <sup>3</sup> )	P
3-hour average	0.50ppm (1300µg/m <sup>3</sup> )	S

Legend: P = Primary S = Secondary

Source: EPA 2006.

ppm = parts per million

mg/m<sup>3</sup> = milligrams per cubic meter of air µg/m<sup>3</sup> = micrograms per cubic meter of air

\* Parenthetical value is an approximate equivalent concentration

Areas that do not meet these NAAQS standards are called non-attainment areas; areas that meet both primary and secondary standards are known as attainment areas. The Federal Conformity Final Rule (40 CFR Parts 51 and 93) specifies criteria or requirements for conformity

determinations for Federal projects. The Federal General Conformity Rule was first promulgated in 1993 by the EPA, following the passage of Amendments to the Clean Air Act in 1990. The rule mandates that a conformity analysis must be performed when a Federal action generates air pollutants in a region that has been designated a non-attainment or maintenance area for one or more NAAQS.

A conformity analysis is the process used to determine whether a Federal action meets the requirements of the General Conformity Rule. It requires the responsible Federal agency to evaluate the nature of a proposed action and associated air pollutant emissions, and to calculate emissions as a result of the proposed action. If the emissions exceed established limits, known as *de minimis* thresholds, the proponent is required to implement appropriate mitigation measures. The EPA considers Smith County as in-attainment for all NAAQS (EPA 2008).

#### **4.4.2 Environmental Consequences**

##### **4.4.2.1 Preferred Alternative**

Temporary and minor increases in air pollution would occur from the use of construction equipment (combustible emissions) and the disturbance of soils (fugitive dust) during construction of the AFRC. Fugitive dust emissions were calculated using the emission factor of 0.19 ton per acre per month (Midwest Research Institute [MRI] 1996), which is a more current standard than the 1985 PM -10 emission factor of 1.2 tons per acre-month presented in AP- 42 Section 13 Miscellaneous Sources 13.2.3.3 (EPA 2001).

Combustible emission calculations were made for standard construction equipment, such as bulldozers, excavators, pole trucks, front-end loaders, backhoes, cranes, and dump trucks, using emission factors from EPA's NONROAD Model (EPA 2005), as recommended by EPA's *Procedures Document for National Emission Inventory, Criteria Air Pollutants, 1985-1999* (EPA 2001). Assumptions were made regarding the type of equipment, the total number of days each piece of equipment would be used, and the number of hours per day each type of equipment would be used.

Construction workers would temporarily increase the combustible emissions in the airshed during their commute to and from the project area. Similarly, emissions from delivery trucks contribute to the overall air emission budget. Personnel from the Marshall AFRC and Texas National Guard would be relocated to the new AFRC in Smith County. The new AFRC would add approximately 160 new commuters driving in the Smith County airshed on the weekends and 25 fulltime staff (Spooner 2008). The old Tyler AFRC is located in the Smith County airshed; so the commuters relocated to the new Tyler AFRC would not increase the air emissions budget. The air emissions from delivery trucks, construction worker commuters traveling to the job site, weekend trainees and fulltime staff were calculated using the EPA MOBILE6.2 Model (EPA 2005, 2005a, 2005b and 2005c). The construction emissions were calculated in the air emission analysis and included in the total emission estimates found in Table 4-2. Details of the analyses are presented in Appendix B.

**Table 4-2. Smith County Total Air Emissions (tons/year) from Construction Activities vs. *de minimis* Levels**

<b>Pollutant</b>	<b>Total (tons/year)</b>	<b><i>de minimis</i> Thresholds (tons/year)</b>
CO	45.66	100
VOCs	7.54	100
NOx	43.20	100
PM-10	17.42	100
PM-2.5	5.01	100
Sulfur Dioxide (SO <sub>2</sub> )	5.39	100

Source: *De-minimis* thresholds are from 40 CFR 51.853 and GSRC model projections

Note: Smith County is in attainment for all NAAQS; therefore *de minimis* thresholds are not applicable

Several sources contribute to the total air impacts of the construction project. The air calculations in Table 4-2 included emissions from:

1. Combustible engines of construction equipment.
2. Construction workers commuting to and from work.
3. Supply trucks delivering materials for construction.
4. Fugitive dust from job site ground disturbances.

Calculations were also performed to determine the annual emissions created by the introduction of 160 commuters to this portion of Smith County during weekend training periods and 25 new fulltime staff. The calculations and assumptions are contained in Appendix B and are summarized in Table 4-3 below.

**Table 4-3. Smith County Total Air Emissions (tons/year) from Marshall AFRC Commuters vs. *de minimis* Levels**

<b>Pollutant</b>	<b>Total (tons/year)</b>	<b><i>de minimis</i> Thresholds (tons/year)</b>
CO	10.70	100
VOCs	1.13	100
NOx	0.83	100
PM-10	0.00	100
PM-2.5	0.00	100
Sulfur Dioxide (SO <sub>2</sub> )	NA	100

Source: *De-minimis* thresholds are from 40 CFR 51.853 and GSRC model projections

Note: Smith County is in attainment for all NAAQS; therefore *de minimis* thresholds are not applicable

As can be seen from the tables, air emission from either the construction activities or the ongoing operations would not exceed *de minimis* thresholds and, thus, would not require a Conformity Determination. As there are no violations of air quality standards and no conflicts with the state implementation plans, there would be minor, temporary impacts on air quality as a result of the Preferred Alternative.

During the construction of the AFRC, proper and routine maintenance of all vehicles and other construction equipment would ensure that emissions are within the design standards of the equipment. Dust suppression methods should be implemented to minimize fugitive dust. In particular, wetting solutions would be applied to construction areas to minimize the emissions of fugitive dust. By using these environmental control and design measures, air emissions from the Preferred Alternative would be temporary and would result in minor impairments to air quality in the region.

#### **4.4.2.2 Alternative Site #1**

Alternative Site #1 is also located in the Smith County airshed. The impacts to the air quality from project construction would be similar to those described under the Preferred Alternative. Alternative Site #1 is closer to the Marshall National Guard facility; therefore, the commute to Alternative Site #1 for the Marshall employees may be shorter than the Preferred Alternative site. In this case, ongoing operational emissions (commuters) would be slightly less than those described in Table 4-3.

#### **4.4.2.3 No Action Alternative**

Implementation of the No Action Alternative would not create additional air emissions in the Smith County airshed.

### **4.5 Noise**

#### **4.5.1 Affected Environment**

Noise is generally described as unwanted sound, which can be based either on objective effects (i.e., hearing loss, damage to structures) or subjective judgments (e.g., community annoyance). Sound is usually represented on a logarithmic scale with a unit called the decibel (dB). Sound on the decibel scale is referred to as sound level. The threshold of human hearing is approximately 0 dB, and the threshold of discomfort or pain is around 120 dB.

Noise levels occurring at night generally produce a greater annoyance than do the same levels occurring during the day. It is generally agreed that people perceive intrusive noise at night as being 10 dBA (A-weighted decibel is a measure of noise at a given, maximum level or constant state level) louder than the same level of intrusive noise during the day, at least in terms of its potential for causing community annoyance. This perception is largely because background environmental sound levels at night in most areas are also about 10 dBA lower than those during the day.

Acceptable noise levels have been established by the U.S. Department of Housing and Urban Development (HUD) (U.S. HUD 1984) for construction activities in residential areas:

**Acceptable** (not exceeding 65 dBA) – The noise exposure may be of some concern but common building construction will make the indoor environment acceptable and the outdoor environment will be reasonably pleasant for recreation and play.

**Normally Unacceptable** (above 65 but not greater than 75 dBA) – The noise exposure is significantly more severe; barriers may be necessary between the site and prominent noise sources to make the outdoor environment acceptable; special building construction may be necessary to ensure that people indoors are sufficiently protected from outdoor noise.

**Unacceptable** (greater than 75 dBA) – The noise exposure at the site is so severe that the construction costs to make the indoor noise environment acceptable may be prohibitive and the outdoor environment would still be unacceptable.

As a general rule of thumb, noise generated by a stationary noise source, or “point source,” will decrease by approximately 6 dBA over hard surfaces and 9 dBA over soft surfaces for each doubling of the distance. For example, if a noise source produces a noise level of 85 dBA at a reference distance of 50 feet over a hard surface, then the noise level would be 79 dBA at a distance of 100 feet from the noise source, 73 dBA at a distance of 200 feet, and so on. To estimate the attenuation of the noise over a given distance the following relationship is utilized:

$$\text{Equation 1: } dBA_2 = dBA_1 - 20 \log^{(d_2/d_1)}$$

Where:

$dBA_2$  = dBA at distance 2 from source (predicted)

$dBA_1$  = dBA at distance 1 from source (measured)

$d_2$  = Distance to location 2 from the source

$d_1$  = Distance to location 1 from the source

*Source: California Department of Transportation 1998*

A forested area is located to the north of the project site and an industrial facility to the south (Goodyear plant). A commercial facility is located on the west side of the project site. Sensitive noise receptors (residential homes) are located east of the project site approximately 420 feet from the eastern border of the preferred site on West Lakeshore Drive.

## **4.5.2 Environmental Consequences**

### **4.5.2.1 Preferred Alternative**

The construction of the new AFRC would require the use of common construction equipment. Table 4-4 describes noise emission levels for construction equipment which range from 76 dBA to 82 dBA at a distance of 50 feet (Federal Highway Administration [FHWA] 2007).

Assuming the worst case scenario of 82 dBA, the noise model projected that noise levels of 82 dBA from a point source (i.e., bull dozer) would have to travel 370 feet before the noise would be attenuated to an acceptable level of 65 dBA. To achieve an attenuation of 82 dBA to a normally unacceptable level of 75 dBA, the distance from the noise source to the receptor is 110 feet.

**Table 4-4. A-Weighted (dBA) Sound Levels of Construction Equipment and Modeled Attenuation at Various Distances<sup>1</sup>**

Noise Source	50 feet	100 feet	200 feet	500 feet	1000 feet
Backhoe	78	72	66	58	52
Crane	81	75	69	61	55
Dump truck	76	70	64	56	50
Excavator	81	75	69	61	55
Front end loader	79	73	67	59	53
Concrete mixer truck	79	73	67	59	53
Pneumatic tools	81	75	69	61	55
Bull dozer	82	76	70	62	56
Generator	81	75	69	61	55

Source: FHWA 2007 and GSRC

1. The dBA at 50 feet is a measured noise emission (FHWA 2007). The 100 to 1,000 foot results are modeled estimates.

Figure 4-1 depicts the 25 acre construction area boundaries and the 65 dBA noise contour. Assuming the construction activities are contained within the delineated construction area, the residences are located 420 feet from the edge of the preferred site, which is beyond the 370 feet required to attenuate the noise from construction activities. These homes should not be exposed to normally unacceptable noise emissions greater than 65 dBA. Noise impacts should be minor near the residential neighborhoods. Noise generated by construction of the AFRC would be intermittent and last for 1 year, after which, noise levels would return to ambient levels.

Ongoing operational noise emissions would not impact the sensitive noise receptors located on the east side of the preferred site. The AFRC buildings and property boundaries are located 420 feet from the residences and noise emissions from trucks and machinery would attenuate to less than 65 dBA before reaching the sensitive noise receptors. Therefore, the noise impacts from construction activities and ongoing operations would be considered insignificant.

#### **4.5.2.2 Alternative Site #1**

The alternative site is located in an industrial/commercial area with no sensitive noise receptors nearby. Noise emissions from construction activities at Alternative Site #1 would not create significant noise impacts to sensitive noise receptors in the area.

#### **4.5.2.3 No Action Alternative**

Implementation of the No Action Alternative would not impact ambient noise quality in the region.

### **4.6 Soil Resources**

#### **4.6.1 Affected Environment**

##### **4.6.1.1 Preferred Site**

The soils present on the surface at the preferred site consist of 3 acres of Cuthbert fine sandy loam at 5 to 20 percent slopes on level surfaces, 6 acres of Raino fine sandy loam at 0 to 2 percent slopes and 16 acres of Wolfpen loamy fine sand at 1 to 6 percent slopes (Figure 4-2). According to the Natural Resources Conservation Service (NRCS), Raino fine sandy loam is considered prime farmland soil. A Farmland Conversion Impact Rating assessment and

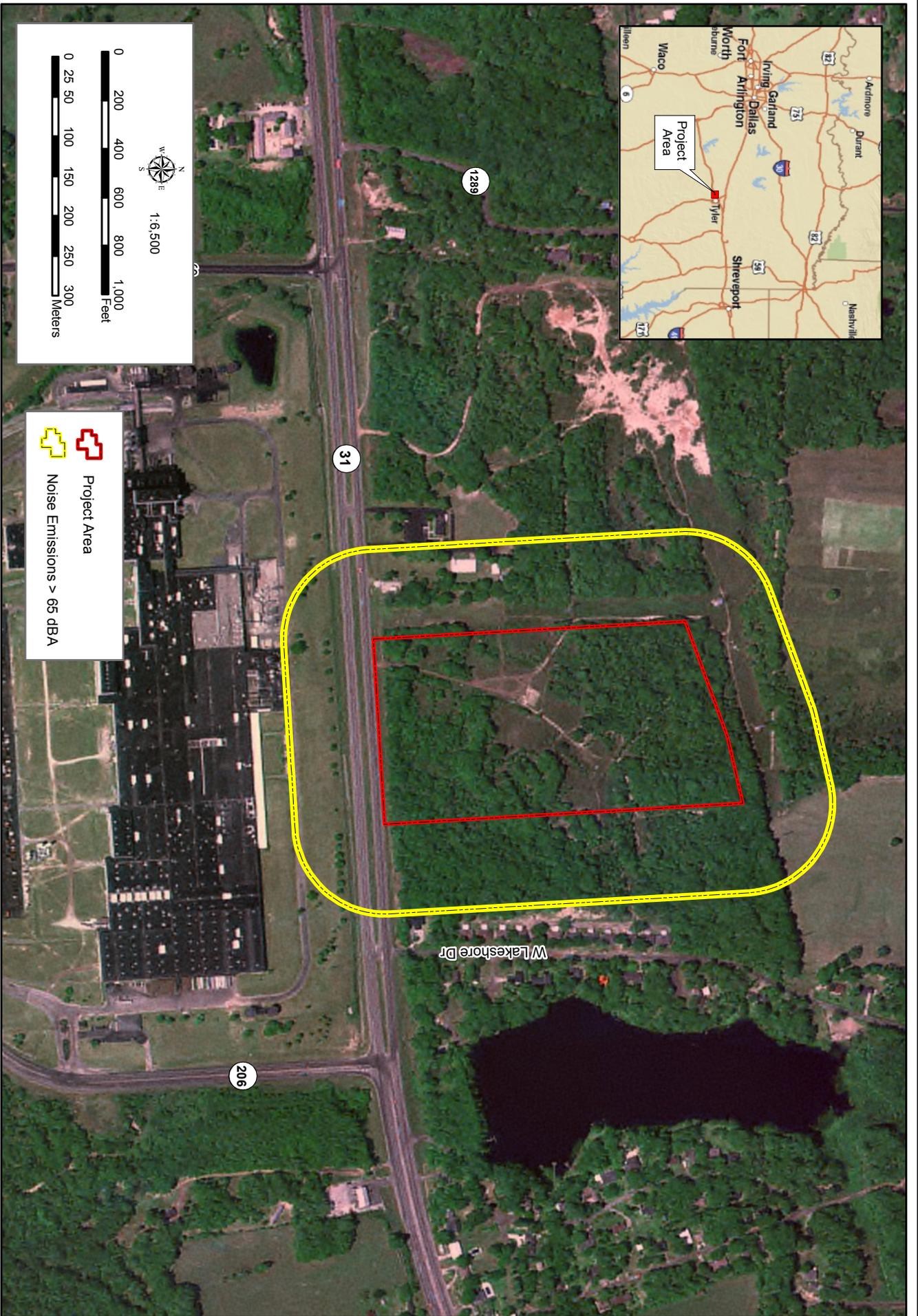


Figure 4-1: Project Site with 65dBA Construction Noise Contour

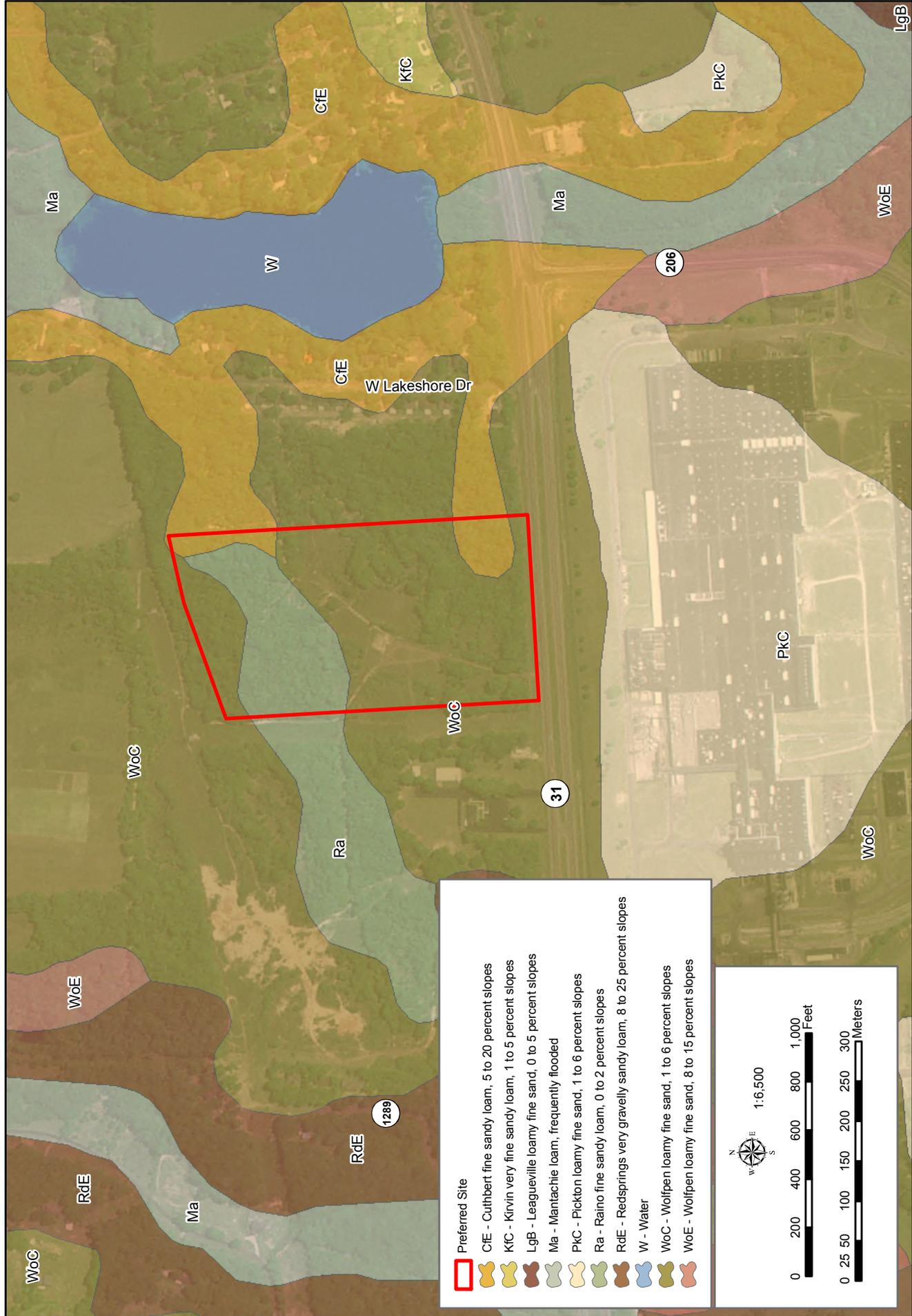


Figure 4-2: Project Site Soils Map

consultation with the local NRCS office was conducted (Appendix C). However, acquisition or use of farmlands by DoD for National defense purposes is exempted by Section 1547(b) of the Farmland Protection Policy Act (FPPA) (7 CFR 4201-4209 Part 658.2). The preferred site is currently undeveloped land under private ownership that contains no existing buildings or structures. The site contains low to medium-high grass with only a few mature trees. Historically, the preferred site was densely wooded; however, trees were harvested onsite within the last year.

#### **4.6.1.2 Alternative Site #1**

Alternative Site #1 consists of approximately 7 acres of Oakwood fine sandy loam at 1 to 5 percent slopes, and 5 acres of Raino fine sandy loam at 0 to 2 percent slopes (Figure 4-3). As indicated above the Raino fine sandy loam is considered a prime farmland soil, but the acquisition of such lands for National defense purposes is exempt from the FPPA.

### **4.6.2 Environmental Consequences**

#### **4.6.2.1 Preferred Alternative**

The Preferred Alternative would impact approximately 6 acres of Raino fine sandy loam through conversion from undeveloped land to developed land with extensive impermeable surfaces. The site is adjacent to undeveloped land to the north and west, residential properties to the east and State Highway 31 and the Goodyear Tire facility to the south. The area is zoned for commercial. Best Management Practices (BMPs) to prevent soil erosion would be implemented to prevent soil migration off-site due to wind or rain activity. These BMPs would be identified in the SWPPP that would be required as part of the Texas Pollutant Discharge Elimination System (TPDES) permit for development. The TPDES permit would address post-construction stormwater retention and control measures as well. The Preferred Alternative would be in compliance with the FPPA, since the acquisition of prime farmlands for National defense purposes is exempt.

#### **4.6.2.2 Alternative Site #1**

Impacts for this alternative would be similar to the Preferred Alternative.

#### **4.6.2.3 No Action Alternative**

Under the No Action alternative, there would be no conversion of prime farmland soils, since no new AFRC would be constructed.

### **4.7 Water Resources**

#### **4.7.1 Affected Environment**

##### **4.7.1.1 Surface Water**

Surface waters within the vicinity of the preferred site and Alternative Site #1 are illustrated in Figures 4-4 and 4-5, respectively. Both sites are located within the Neches River Basin, Upper Neches Watershed. No waters within or near the preferred or Alternative Site #1 have state approved designated uses and none are listed as impaired waters under the Clean Water Act (CWA) of 1972, Section 303(d) (Texas Commission on Environmental Quality [TCEQ] 2008).

As depicted on Figure 4-4, several unnamed lakes and creeks are located near the preferred site. In addition to those unnamed surface waters, Greenbrier Lake, Bellwood Lake, and Indian Creek are also located within 2 miles of the preferred site. Within the boundaries of the preferred site, two jurisdictional wetlands are located in the central portion of the site and near

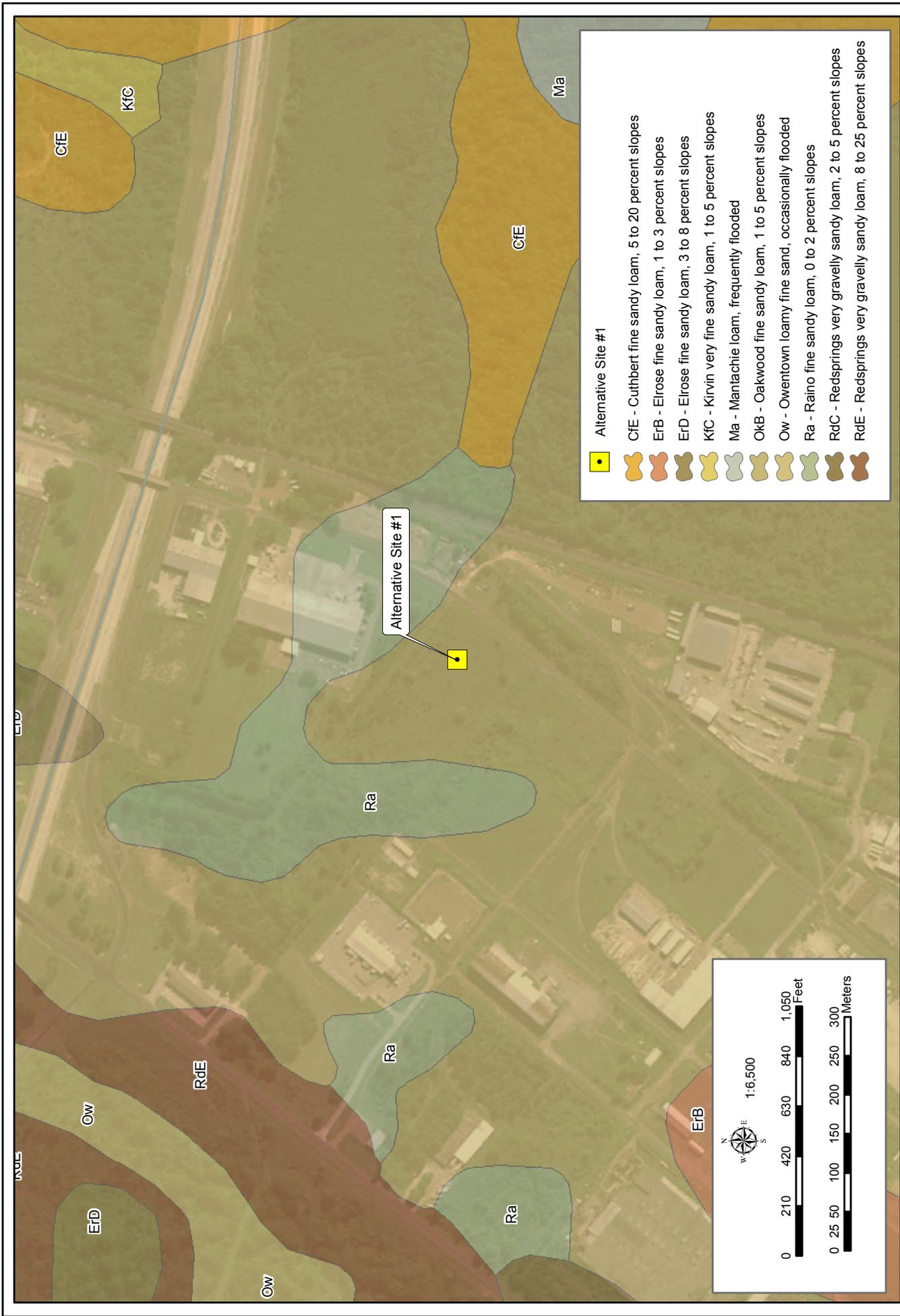


Figure 4-3: Alternative Site #1 Soils Map

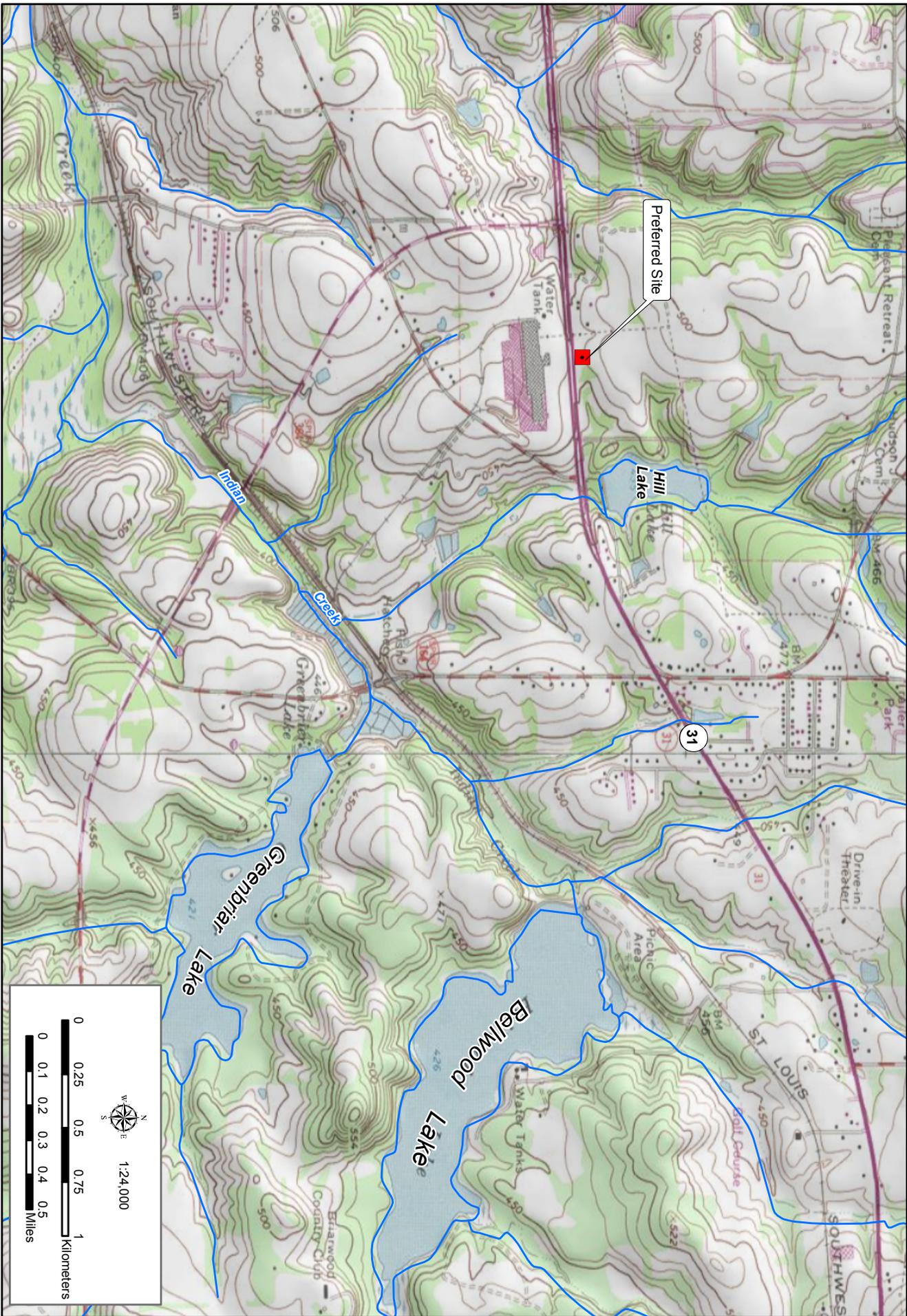


Figure 4-4: Major Streams/Waterbodies near the Preferred Site

the southeastern boundary. A determination of the jurisdiction was recently conducted by representatives from USACE Louisville and Fort Worth Districts. This issue will be discussed later in Section 4.8.1.1.4.

As seen on Figure 4-5, Harris Creek and Wiggins Creek are all located within 1.5 miles of Alternative Site #1. However, no surface waters including potential wetlands are believed to be located within the boundaries of the site. This assumption is based on review of aerial photography, topographic maps, and observation of the site from the public road. If this site is ultimately selected, a field survey would be required to verify these assumptions.

Texas requires the completion of a Stormwater Discharge Permit for construction site erosion control, which is issued by the TCEQ, prior to initiation of construction. Permit requirements established by TCEQ would require that Army to develop BMPs to minimize erosion and control stormwater runoff during and after construction. The Army would develop a site specific Stormwater Pollution Prevention Plan (SWPPP) and Erosion Control Plan describing the BMPs that would be used on-site for erosion control.

#### **4.7.1.2 Hydrogeology/Groundwater**

The preferred site and Alternative Site #1 overly the Carrizo-Wilcox Aquifer. The Carrizo-Wilcox Aquifer is a major aquifer throughout Texas, extending from the Louisiana border in a wide band to Mexico just north of the Gulf Coast Aquifer. It consists primarily of sand locally interbedded with silt, gravel, clay, and lignite. The aquifer reaches a thickness of 3,000 feet with a freshwater saturate thickness of 600 feet. The Carrizo-Wilcox Aquifer is over 25,000 square miles in size with an estimated availability of groundwater greater than 1 million acre-feet. Water quality, although hard, is generally fresh and contains less than 500 milligrams per liter of total dissolved solids (Texas Water Development Board [TWDB] 2008).

Water from the aquifer is primarily used for municipal, irrigation, and recreational purposes. Municipal and irrigation pumpage account for the majority of the total pumpage throughout the aquifer. Several metropolitan areas are reliant on this aquifer for groundwater supply and includes the Lufkin-Nacogdoches, Tyler, and Bryan-College Station areas in the north and the Winter Garden region in south Texas. Significant water level declines have been experienced within the Carrizo-Wilcox Aquifer in the Winter Garden region due to this semiarid region's heavy dependence on groundwater for irrigation purposes. Municipal and commercial pumpage have been the cause of water level declines near Tyler and Nacogdoches (TWDB 2008).

#### **4.7.1.3 Floodplain**

EO 11988 (*Floodplain Management*) directs Federal agencies to avoid developments within floodplains. Floodways are defined as lands within the 100-year floodplain and have at least a 1 percent chance of becoming inundated by peak flows during any given year. According to Federal Emergency Management Agency (FEMA) floodplain map panels (48423C0350C and 48423C0275C) neither the preferred site nor Alternative Site #1 are located within the 100-year floodplain (FEMA 2008).

### **4.7.2 Environmental Consequences**

#### **4.7.2.1 Preferred Alternative**

The Preferred Alternative would not result in significant impacts to either surface water or groundwater resources. Impacts to wetlands are further discussed in Section 4.8.2. A SWPPP would be prepared and implemented to prevent impacts to surface waterbodies, and BMPs would be utilized, as appropriate. Since there would be minimal gain in personnel at the new

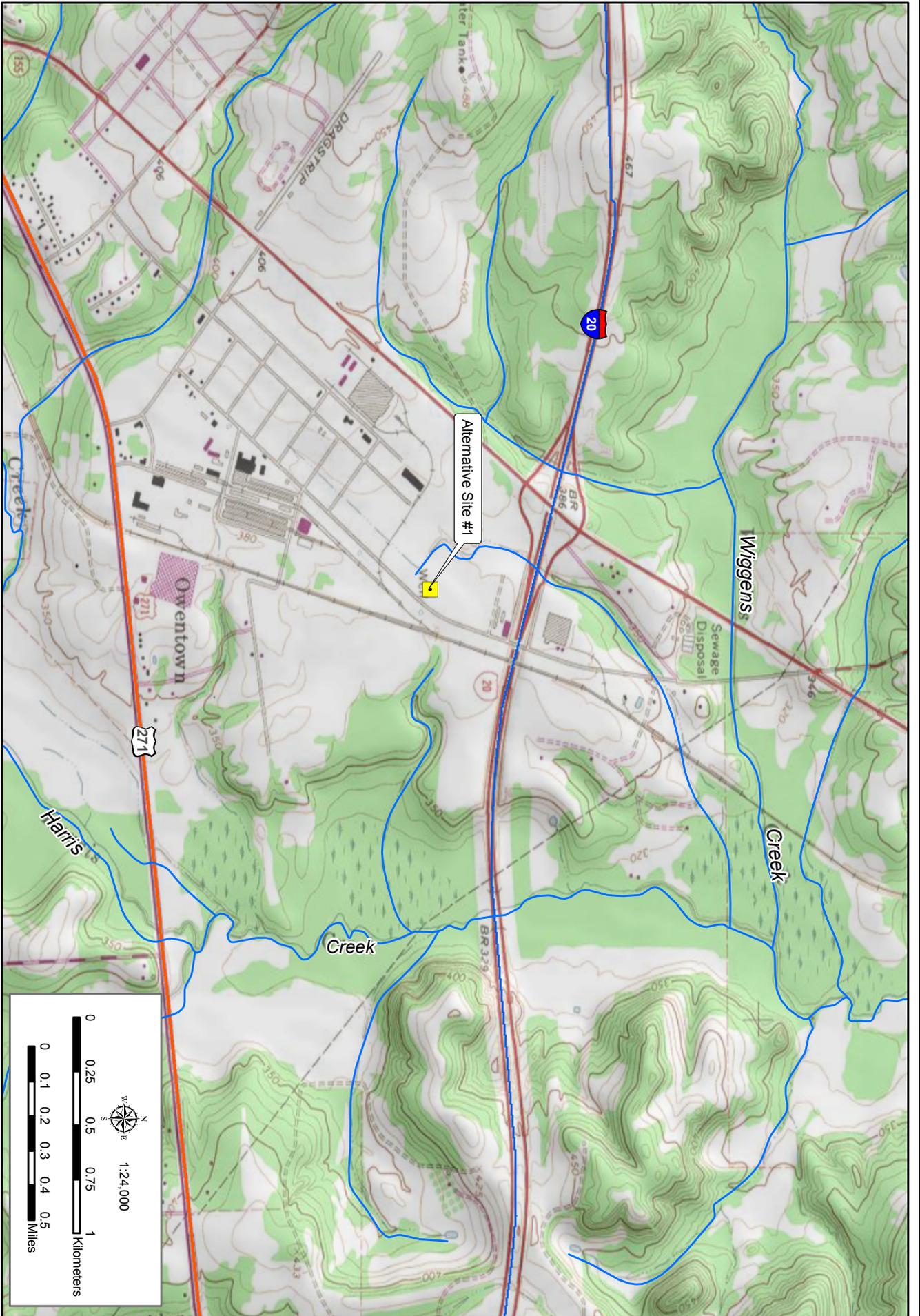


Figure 4-5: Major Streams/Waterbodies near Alternative Site #1

AFRC, water demand would likely be negligibly higher or the same due to new water conservation measures that would be incorporated to the AFRC's design and construction. No impacts would occur within the 100-year floodplain as none exists within the preferred site boundary. Impacts to the jurisdictional Waters of the U.S. and wetlands would be authorized under Nationwide Permit 39, but would require completion of a Pre-construction Notice (PCN). In addition, credits would need to be purchased from the Pineywoods Mitigation Bank, as will be discussed in Section 4.15, to compensate for these losses.

#### **4.7.2.2 Alternate Site #1**

The impacts would be expected to be similar to impacts discussed for the Preferred Alternative. Therefore, no significant impacts would be expected. Wetland delineations would need to be conducted to determine the presence or absence of these resources, however.

#### **4.7.2.3 No Action Alternative**

Under the No Action Alternative, no new development would occur. Baseline conditions for surface and ground waters, as described above, would remain unchanged.

### **4.8 Biological Resources**

#### **4.8.1 Affected Environment**

##### **4.8.1.1 Preferred Alternative**

###### **4.8.1.1.1 Vegetation**

Smith County is located within the Gulf Coastal Plain physiographic province (Bureau of Economic Geology 1996), which contains a number of different plant communities or ecological areas. The Texas Parks and Wildlife Department's (TPWD) report entitled *The Vegetation Types of Texas* indicates the project sites are located within Post Oak Savannah vegetation communities. These communities are characterized by a mixture of grass dominated herbaceous plant species with scattered trees and/or shrubs (Tarleton State University 2008). Common herbaceous species typically found in the Post Oak Savannah include little bluestem (*Schizachyrium scoparium*), silver bluestem (*Bothriochloa saccharoides*), lovegrass (*Eragrostis* spp.), beaked panicum (*Panicum anceps*), and three-awn (*Aristida* spp.). Common tree, shrub, and vine species include blackjack oak (*Quercus marilandica*), eastern red cedar (*Juniperus virginiana*), live oak (*Quercus virginiana*), hackberry (*Celtis laevigata*), yaupon (*Ilex vomitoria*), French mulberry (*Callicarpa americana*), hawthorne (*Crataegus* spp.), trumpet creeper (*Campsis radicans*), and eastern poison ivy (*Toxicodendron radicans*).

A survey of the project site was conducted on September 16, 2008. The site consists of a recently clear cut area containing an early successional grassland with scattered shrubs. The most common species observed included black willow (*Salix nigra*), hogwort (*Croton capitatus*), panic grass (*Dichanthelium* spp.), variable panicgrass (*Dichanthelium commutatum*), persimmon (*Diospyros virginiana*), golden aster (*Heterotheca* spp.), golden rod (*Solidago* sp.), bearded sprangletop (*Leptochloa fusca*), and narrowleaf sumpweed (*Iva angustifolia*).

The site is surrounded by a variety of developments, including residential, SH 31, forest land, pasture, and industry (Goodyear plant), as depicted in Figure 2-1. Photographs 4-2 and 4-3 provide further documentation of the vegetation communities at the site.



**Photograph 4-2. Preferred Site - View Looking North from Center of Preferred Site**



**Photograph 4-3. Preferred Site - View Looking West from Center of Preferred Site**

#### 4.8.1.1.2 Wildlife

Mammal species likely to occur in the Post Oak Savannah vegetation communities of northeastern Texas include, but are not limited to, white-tailed deer (*Odocoileus virginianus*), Virginia opossum (*Didelphis virginiana*), Eastern cottontail (*Sylvilagus floridanus*), coyote (*Canis latrans*), grey fox (*Urocyon cinereoargenteus*), and gray squirrel (*Sciurus carolinensis*). Game and songbird species likely to occur include northern bobwhite quail (*Colinus virginianus*), mourning dove (*Zenaidura macroura*), northern cardinal, blue jay (*Cyanocitta cristata*), tufted titmouse (*Baeolophus bicolor*), Carolina chickadee (*Poecile carolinensis*), Carolina wren (*Thryothorus ludovicianus*), red-eyed vireo (*Vireo olivaceus*), and blue-gray gnatcatcher (*Poliophtila caerulea*). Common reptile and amphibian species likely to be found include green anole (*Anolis carolinensis*), eastern box turtle (*Terrapene carolina*), Woodhouse's toad (*Bufo woodhousei*), and eastern diamondback rattlesnake (*Crotalus horridus*) (U.S. Forest Service 2008).

Wildlife species observed during the field investigation included: scissor-tailed flycatcher (*Tyrannus forficatus*), red-tailed hawk (*Buteo jamaicensis*), northern mockingbird (*Mimus polyglottos*), various grasshoppers, and an Eastern cottontail (*Sylvilagus floridanus*).

#### 4.8.1.1.3 Sensitive Species

##### **4.8.1.1.3.1 Federal**

The USFWS is the primary agency responsible for implementing the Endangered Species Act (ESA) and is responsible for birds and other terrestrial and freshwater species. The USFWS has identified species that are listed as threatened or endangered, as well as candidates for listing as a result of identified threats to their continued existence. Although not protected by the ESA, candidate species may be protected under other Federal or state laws. One Federally listed species is known to occur within Smith County, Texas (Table 4-5) (USFWS 2008). No suitable habitat for this species was observed at either of the two sites. The ESA also calls for the conservation of what is termed critical habitat - the areas of land, water, and air space that an endangered species needs for survival. No critical habitat is located near the preferred site.

**Table 4-5. Federally Listed Species Potentially Occurring Within Smith County, Texas**

Common/ Scientific Name	Federal Status	Habitat	Potential to occur within Project Site
<b>BIRDS</b>			
Bald eagle ( <i>Haliaeetus leucocephalus</i> )	Delisted	Habitat near rivers, lakes, and marshes.	No – No suitable habitat at the project site.
<b>MAMMALS</b>			
Louisiana black bear ( <i>Ursus americanus luteolus</i> )	Threatened	Key habitat requirements of black bears include food, water, cover, and denning sites spatially arranged across sufficiently large, relatively remote blocks of land.	No – No suitable habitat at the project site.

Source: USFWS 2008 & USFWS 1995.

**4.8.1.1.3.2 State**

The TPWD maintains the list of Rare, Threatened, and Endangered Species in Texas. This list includes fauna whose occurrence in Texas is or may be in jeopardy, or with known or perceived threats or population declines (TPWD 2008). These species are not necessarily the same as those protected by the Federal government under the ESA. A total of 41 species listed in Texas as threatened and endangered are known to occur in Smith County; however, only three have the potential to occur within the project area (Table 4-6). None of these species were observed during the site survey and, due to the high levels of disturbance, it is very unlikely that any of these species occur within the project area. A concurrence letter was also submitted to TPWD (Appendix C).

**Table 4-6. State Listed Species Potentially Occurring Within Project Area in Smith County, Texas**

Common/Scientific Name	State Status	Habitat	Potential to occur within Project Site
<b>REPTILES</b>			
<b>Timber/Canebrake rattlesnake</b> ( <i>Crotalus horridus</i> )	Threatened	Swamps, floodplains, upland pine and deciduous woodlands, riparian zones, abandoned farmland; limestone bluffs, sandy soil or black clay; prefers dense ground cover, i.e. grapevines or palmetto.	Yes – Clear cut could provide cover and foraging habitat.
<b>BIRDS</b>			
<b>Bachman's Sparrow</b> ( <i>Aimophila aestivalis</i> )	Threatened	Open pine woods with scattered bushes and grassy understory in Pineywoods region, brushy or overgrown grassy hillsides, overgrown fields with thickets and brambles, grassy orchards; remnant grasslands in Post Oak Savannah region; nests on ground against grass tuft or under low shrub.	Yes – Clear cut could provide nesting and foraging habitat.
<b>Henslow's sparrow</b> ( <i>Ammodramus henslowii</i> )	Rare, but with no regulatory listing status	Wintering individuals (not flocks) found in weedy fields or cut-over areas where numerous bunch grasses occur along with vines and brambles; a key component is bare ground for running and walking.	Yes – Clear cut could provide foraging habitat to wintering birds.

Source: TPWD 2008.

#### 4.8.1.1.4 Wetlands

Section 404 of the CWA of 1977 (PL 95-217) authorizes the Secretary of the Army, acting through the USACE, to issue permits for the discharge of dredged or fill material into Waters of the U.S., including wetlands. Wetlands are those areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (Environmental Laboratory 1987). A wetland delineation was performed in October 2008 and submitted to the USACE Fort Worth District for a jurisdictional determination. Figure 4-6 depicts the location and extent of the non-jurisdictional and jurisdictional wetlands identified during this investigation. The two wetland areas were both classified as palustrine emergent wetlands and totaled 0.18 acre; however, only one site (0.052 acre) is considered jurisdictional. The stream was considered a Waters of the U.S.; approximately 372 linear feet of stream channel fall within the proposed project footprint. A copy of the wetland delineation report and the determination received from the USACE Fort Worth District is contained in Appendix D.

### **4.8.2 Environmental Consequences**

#### **4.8.2.1 Preferred Alternative**

The implementation of the Preferred Alternative would have permanent, but minimal, impacts on biological resources. Because the site consists of a clear cut, there would be limited direct impacts to natural vegetation communities and negligible impacts to wildlife populations. There is no suitable habitat to support Federally-listed threatened or endangered species at the project site; therefore, there would be no impacts to Federally-listed species. Three state listed species have the potential to be encountered within the project area; however, it is highly unlikely that any of these species occur at the project site. Two areas of potential jurisdictional Waters of the U.S., including wetlands, are located within the preferred site. Based upon the jurisdictional determination of the USACE Fort Worth District, approximately 0.052 acres of wetlands and 372 feet of stream channel would be impacted by the Preferred Alternative. Credits would be purchased from the Pineywoods Mitigation Bank to compensate for these losses, as will be discussed later in Section 4.15.

#### **4.8.2.2 Alternative Site #1**

Impacts regarding biological resources would be similar to those discussed for the Preferred Alternative; however, it is unlikely that any impacts to potential jurisdictional wetlands would occur based upon review of aerial photography or during limited observations of the site, which were conducted from the public road.

#### **4.8.2.3 No Action Alternative**

Under the No Action Alternative there would be no direct impacts to vegetation, wildlife, sensitive species, or wetlands. The existing USARC is located in a developed area and there are no sensitive species or vegetation communities nearby.

### **4.9 Cultural Resources**

#### **4.9.1 Affected Environment**

Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, requires Federal agencies to identify and assess the effects of their undertakings on cultural properties included in or eligible for inclusion in the National Register of Historic Places (NRHP), and to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings. Federal agencies must consult with the appropriate state and local officials, including the State Historic Preservation Officer (SHPO), Indian tribes, applicants for Federal assistance, and members of the public and consider their views and concerns about

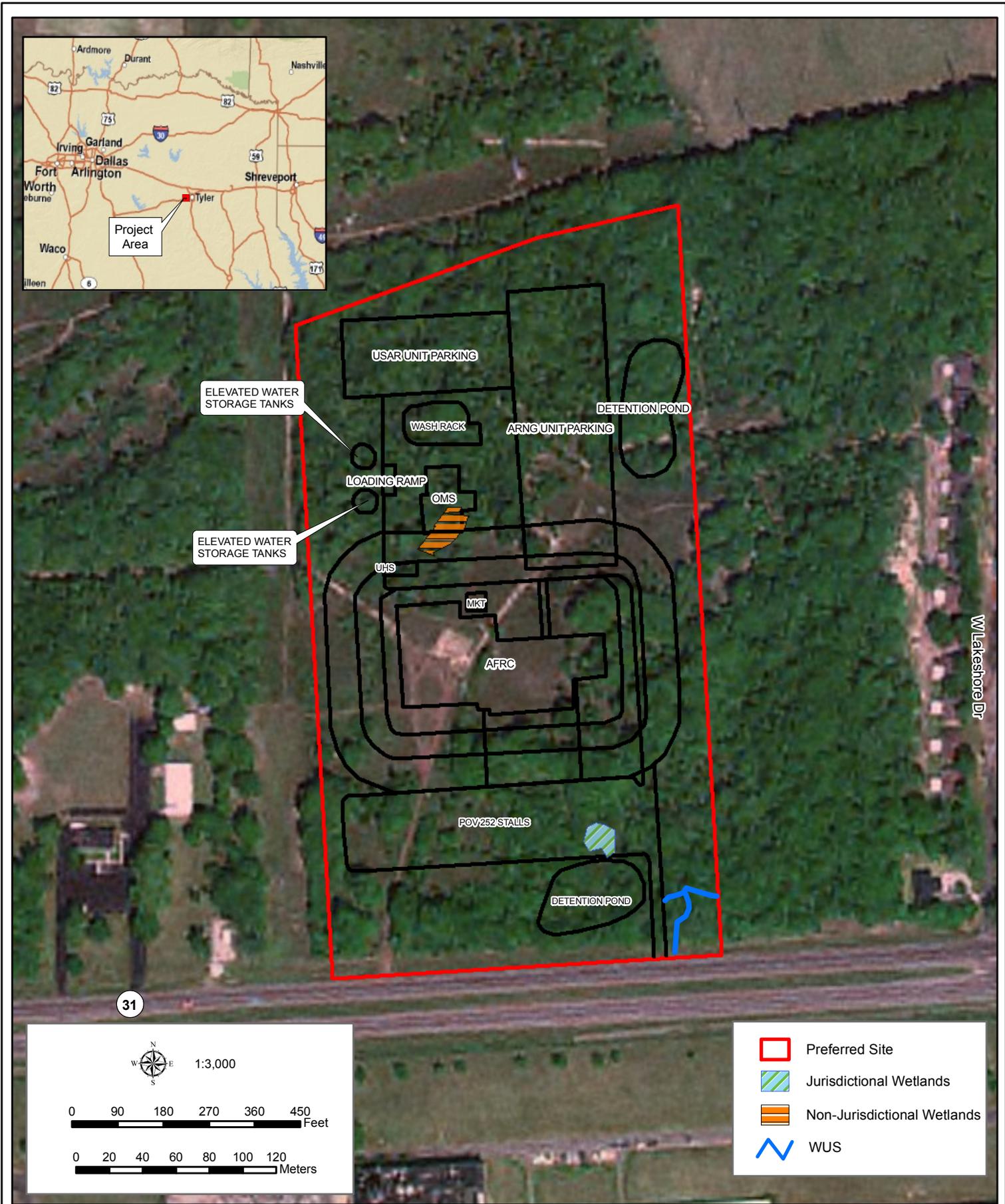


Figure 4-6: Wetland Map - Preferred Site

historic preservation issues. The ACHP is authorized to promulgate such rules and regulations as it deems necessary to govern the implementation of Section 106 in its entirety. Those regulations are contained in 36 CFR Part 800, "Protection of Historic Properties."

#### **4.9.1.1 Cultural Overview**

TEC, Inc. performed a Phase I Cultural Resources Survey of the preferred site from August 21-23, 2008. Prior to the field investigation, an archaeological assessment was conducted of the preferred site using the Texas Archaeological Site Atlas (TASA). The TASA indicated that no previous cultural resources surveys were conducted and no previously reported cultural resources were located on the property. The nearest cultural resources site to the preferred site is the remains of an historic fish hatchery approximately 1 mile to the south/southeast. The historic fish hatchery remains would not be affected by the proposed project. No cultural resources were identified during pedestrian survey or subsurface testing of the proposed AFRC site.

#### **4.9.2 Environmental Consequences**

##### **4.9.2.1 Preferred Alternative**

Cultural resources investigation of the preferred site for the new Tyler AFRC facility resulted in the finding of no previously recorded cultural resources. Pedestrian and subsurface testing of the parcel revealed no previously unrecorded cultural resources. Due to the lack of any identified properties and extensive site disturbance, it is highly unlikely that any buried deposits are present within the preferred site that would be considered significant to Native American or other traditional communities. No traditional cultural properties, resource procurement areas, tribal resources, tribal rights, or sacred sites were identified during the recent investigations and past tribal consultations. As a result, no impacts on cultural resources are anticipated from implementation of the Preferred Alternative.

Native American tribes claiming a cultural affinity with the project area were identified using the Native American Consultation Database (NACD) and the Indian Lands Cessions 1784-1894 located online at the National Park Service's website along with records housed at the USACE and the tribes listed in the U.S. Army Reserve Integrated Cultural Resources Management Plan (ICRMP), 90<sup>th</sup> RRC, Texas. As a result, consultation letters were sent to the Caddo Nation and the Cherokee Nation of Oklahoma. To date, no tribes have expressed interest in the proposed project and no traditional cultural properties, resource procurement areas, tribal resources, tribal rights, or sacred sites were identified during the recent investigations and past tribal consultations. Due to the lack of any identified properties, extensive site disturbance, and prior development of the project site, it is highly unlikely that any buried deposits are present within the project site that would be considered significant to Native American or other traditional communities.

A letter was submitted to the Texas Historical Commission (THC, which is the SHPO) on October 8, 2008, requesting THC's concurrence of the Army's determination of no historic properties affected by the proposed project as per 36CFR800.4(d)(1). A letter of concurrence was received on November 19, 2008.

Prior to construction, the Army would brief the construction crews on procedures to follow in case of an unexpected discovery of cultural resources. If any cultural resources are uncovered during construction, the Army and THC would be notified, and all construction activities would stop until a qualified archaeologist can assess the significance of the cultural remains. If human remains are encountered, the local coroner and law enforcement agency would be contacted. If

the remains are of Native American origin, compliance with the Native American Graves and Repatriation Act regulations would be required.

**4.9.2.2 Alternative Site #1**

The construction and operation of the proposed AFRC at this site would be expected to result in similar impacts as described above for the Preferred Alternative. However, no cultural resources field surveys were conducted at this site so accurate statements regarding the presence/absence of potentially significant historic properties cannot be made at the present time. If Alternative Site #1 is ultimately selected, cultural resources surveys and supplemental NEPA documentation would be required to fully assess the potential impacts to these resources.

**4.9.2.3 No Action Alternative**

No adverse impacts on historical or cultural resources are anticipated from implementation of the No Action Alternative, since no construction would occur.

**4.10 Socioeconomic Resources**

**4.10.1 Affected Environment**

**4.10.1.1 Population**

Gregg, Harrison, Rusk, Smith, and Upshur counties are considered the Region of Influence (ROI) for the Proposed Action relative to socioeconomic effects. The most recent population estimates for Gregg, Harrison, Rusk, Smith, and Upshur counties are presented in Table 4-7. As can be seen, the racial mix of the ROI consists predominantly of Caucasians and African Americans. A small percentage of the ROI claims Hispanic or Latino origins, and the remainder is divided among Native Hawaiian or other Pacific Islanders, Asians, people claiming to be two or more races, and Native Americans (U.S. Census Bureau 2006b, 2000a, 2000b, 2000c, and 2000d).

**Table 4-7. Population and Race**

Geographic Region	Total Population	Race							
		White (%)	African American (%)	Native American (%)	Asian (%)	Native Hawaiian or Other Pacific Islander (%)	Some Other Race (%)	Two or More Races (%)	Hispanic or Latino Origin of any Race (%)
Texas (2006a)	23,507,783	69.8	11.6	0.5	3.3	0.1	13.0	1.8	35.7
Gregg County (2000)	117,090	73.9	12.4	0.8	4.4	0.1	6.3	2.0	14.8
Harrison County (2000)	62,110	71.3	24.0	0.3	0.3	0.0	2.9	1.1	5.3
Rusk County (2000)	47,372	75.1	12.3	0.9	3.6	0.1	5.5	2.4	12.5
Smith County (2006b)	194,635	71.2	17.9	0.1	0.9	0.1	8.1	1.7	14.8
Upshur County (2000)	35,291	75.1	12.3	0.9	3.6	0.1	5.5	2.4	12.5

Source: U.S. Census Bureau 2006a, 2006b, 2000a, 2000b, 2000c, and 2000d

**4.10.1.2 Income and Employment**

The 2006 per capita personal incomes (PCPI) for Gregg, Harrison, Rusk, Smith, and Upshur counties are presented in Table 4-8. These PCPIs ranked 18<sup>th</sup>, 74<sup>th</sup>, 150<sup>th</sup>, 32<sup>nd</sup> and 140<sup>th</sup> in the state and were 104, 85, 75, 95, and 76 percent of the state average (\$35,166), respectively.

The 2006 county PCPIs were 99, 81, 72, 91, and 73 percent of the National average (\$36,714). The 2006 PCPIs for Gregg, Harrison, Rusk, Smith, and Upshur counties reflected an increase of 7.8, 9.4, 7.1, 5.3, and 8.2 percent from 2005, respectively. The 2005-2006 state change was 5.8 percent and the National change was 5.6 percent. In 1996, the PCPI of Gregg County was \$21,996 and ranked 34<sup>th</sup> in the state. In 1996, the PCPI of Harrison County was \$17,507 and ranked 120<sup>th</sup> in the state. The 1996 PCPI of Rusk County was \$17,173 and ranked 137<sup>th</sup> in the state. The 1996 PCPI of Smith County was \$21,826 and ranked 35<sup>th</sup> in the state. Upshur County had a PCPI of \$17,514 in 1996 and ranked 119<sup>th</sup> in the state. According to the Bureau of Economic Analysis (2006b, 2006c, 2006d, 2006e, 2006f, and 2006g), the 1996-2006 average annual growth rate of PCPI for Gregg, Harrison, Rusk, Smith, and Upshur counties was 5.2, 5.5, 4.3, 4.4, and 4.3 percent, respectively. These rates are higher than or equal to the average annual growth rate for the Nation (4.3 percent).

**Table 4-8. 2006 Per Capita Personal Income (PCPI)**

	<b>Per Capita Personal Income</b>	<b>Rank</b>	<b>Percent State Average</b>	<b>Percent National Average</b>	<b>Average Annual Growth Rate 1996-2006 (%)</b>
Nation (Average)	\$36,714	NA	NA	100	4.3
Texas (Average)	\$35,166	21	100	96	4.7
Gregg County	\$36,421	18	104	99	5.2
Harrison County	\$29,920	74	85	81	5.5
Rusk County	\$26,279	150	75	72	4.3
Smith County	\$33,569	32	95	91	4.4
Upshur County	\$26,625	140	76	73	4.3

NA=Not Applicable

Source: BEA 2006a, 2006b, 2006c, 2006d, 2006e, 2006f, and 2006g.

Total personal income (TPI) includes net earnings by place of residence; dividends, interest, and rent; and personal current transfer receipts received by the residents within the ROI. The 1996 and 2006 TPI for Gregg, Harrison, Rusk, Smith, and Upshur counties are presented in Table 4-9. In 2006, TPI for Gregg County ranked 25<sup>th</sup> in the state. TPI for Harrison County ranked 49<sup>th</sup>, Rusk County ranked 65<sup>th</sup>, Smith County ranked 20<sup>th</sup>, and Upshur County ranked 78<sup>th</sup> in the state. The 2006 TPI reflected an increase of 9.1, 11.0, 8.0, 7.7, and 8.7 percent from 2005 for Gregg, Harrison, Rusk, Smith, and Upshur counties, respectively. The 1996-2006 average annual growth rate of TPI was 5.7 percent for Gregg County, 6.0 percent for Harrison County, 4.8 percent for Rusk County, 6.1 percent for Smith County, and 5.4 percent for Upshur County (BEA 2006b, 2006c, 2006d, 2006e, 2006f, and 2006g). The average annual growth rate for the state was 6.8 percent and for the Nation was 5.4 percent (BEA 2006a).

**Table 4-9. Total Personal Income**

Geographic Region	Total Personal Income		2006 State Rank	Percent State Total	Average Annual Growth Rate 1996-2006 (%)
	1996	2006			
Texas	\$427,810,267,000	\$823,159,415,000	NA	100	6.8
Gregg County	\$2,431,082,000	\$4,226,338,000	25	0.5	5.7
Harrison County	\$1,060,368,000	\$1,896,176,000	49	0.2	6.0
Rusk County	\$792,781,000	\$1,263,535,000	65	0.2	4.8
Smith County	\$3,625,079,000	\$6,539,102,000	20	0.8	6.1
Upshur County	\$593,133,000	\$1,001,313,000	78	0.1	5.4

NA=Not Applicable

Source: BEA 2006a, 2006b, 2006c, 2006d, 2006e, 2006f, and 2006g

The total number of jobs in the ROI was over 280,000 for 2006 (Table 4-10). The number of jobs is up significantly from the number of jobs in 2001 across the ROI. The largest employer classification in Gregg County was manufacturing (12,108 jobs), followed by retail trade (11,914 jobs), and healthcare and social assistance (11,253 jobs) (BEA 2006). The largest employer classification in Harrison County was manufacturing (4,762 jobs), followed by retail trade (3,581 jobs), and government and government enterprises (3,548 jobs) (BEA 2006). The largest employer classification in Rusk County was retail trade (1,967 jobs), followed by mining (1,864 jobs), and construction (1,675 jobs) (BEA 2006). The largest employer classification in Smith County was health care and social assistance (18,653 jobs), followed by retail trade (16,509 jobs), and government and government enterprises (12,961 jobs) (BEA 2006). The largest employer classification in Upshur County was government and government enterprises (1,840 jobs), followed by state and local government (1,692 jobs) (BEA 2006). The 2006 unemployment rate in the ROI was lowest in Gregg County and highest in Harrison County (Table 4-10).

**Table 4-10. Total Number of Jobs and Employment**

Geographic Area	Total Number of Jobs			Unemployment Rate	
	2001	2006	% Change	2000 (%)	2006 (%)
Texas	12,356,260	13,514,130	9.37	4.4	4.9
Gregg County	83,841	93,829	10.6	5.5	4.5
Harrison County	29,156	31,719	8.79	5.0	5.1
Rusk County	18,966	19,628	8.08	5.2	4.7
Smith County	110,725	124,489	12.4	4.4	4.7
Upshur County	11,039	11,509	4.08	5.2	4.6

Source: BEA 2001, BEA 2006a, and Tracer 2008

In 2006, the percentage of all people in poverty in Harrison and Smith counties was between 16 and 19 percent (Table 4-11). In 2000, the percentage of all people in poverty in Gregg, Rusk, and Upshur counties ranged between 14 and 17 percent (Table 4-11). The percentage of people living at or below poverty level in all counties in the ROI, with the exception of Harrison

County, is less than the percentage of people living in poverty in the state of Texas. However, the percentage of people living in poverty in all counties is greater than those living in poverty in the Nation. Median household income within the ROI is lower than the state and National household income.

**Table 4-11. 2006 Poverty and Median Income by County**

Geographic Location	Number in Poverty of All Ages	Percentage in Poverty	Median Income
Nation	38,231,474	13.3	\$46,242
Texas	3,886,632	17.5	\$42,165
Gregg County	114,279	16.8	\$39,263
Harrison County	11,352	18.5	\$36,807
Rusk County	44,564	14.6	\$32,898
Smith County	29,739	16.1	\$39,267
Upshur County	34,676	14.9	\$33,347

Source: U.S. Census Bureau 2000 and U.S. Census Bureau 2006

#### 4.10.1.3 Housing

The total number of housing units in the ROI was over 48,000 in Gregg County in 2006, over 26,000 in Harrison County in 2000, over 19,000 in Rusk County in 2000, over 76,000 in Smith County in 2006, and over 14,000 in Upshur County in 2000 (Table 4-12). Approximately 58, 67, 79, 64, and 73 percent of the housing units in Gregg, Harrison, Rusk, Smith, and Upshur counties, respectively, were owner-occupied (U.S. Census Bureau 2006b and 2000). Comparatively, the owner-occupied houses for the state were estimated at 57 percent (U.S. Census Bureau 2006a). Relatively few total housing units are vacant within the ROI.

**Table 4-12. Housing Units**

Location	Total Housing Units	Status		
		Occupied		Vacant
		Owner	Rented	
Texas	9,224,920	5,291,045	2,818,343	1,115,532
Gregg County	48,084	27,989	16,077	4,018
Harrison County	26,271	17,817	5,270	3,184
Rusk County	19,867	13,872	3,492	2,503
Smith County	76,587	49,378	19,686	7,523
Upshur County	14,930	10,865	2,425	1,640

Source: U.S. Census Bureau 2006a, 2006b, 2000a, 2000b, 2000c, and 2000d

#### 4.10.1.4 Environmental Justice

EO 12898 (*Environmental Justice*) requires all Federal agencies to identify and address disproportionately high and adverse effects of their programs, policies, and activities on minority and low-income populations. As indicated previously, although the majority of the population in all counties within the ROI claims to be Caucasians, approximately 12 percent claim to be

African American and 15 percent claim Hispanic origin in Gregg County. In Harrison County, about 5 percent claim Hispanic origin and about 24 percent claim to be African American. Nearly 12 percent of the population in Rusk County claims to be African American. Likewise, 12 percent of the population in Rusk County is of Hispanic origin. In 2006, approximately 14 and 17 percent of persons living in Smith County claimed Hispanic origin or African American ancestry, respectively. Approximately 12 and 13 percent of the population in Upshur County claim African American and Hispanic ancestry, respectively. Additionally, between 15 and 18 percent of the ROI population is considered to live below the poverty level. In light of the demographic composition of several communities within the ROI, the potential for an adverse impact on minority and low-income populations has been considered in compliance with EO 12898; however, there is no indication that the selection of the preferred alternative would result in an adverse effect upon minority or low-income citizens within the ROW.

#### **4.10.1.5 Protection of Children**

EO 13045 (*Protection of Children*) requires each Federal agency “to identify and assess environmental health risks and safety risks that may disproportionately affect children;” and “ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.” Approximately 8 and 27 percent of the population in Gregg County is 5 years old or less and is younger than 18 years, respectively (U.S. Census Bureau 2000a). In Harrison County, about 6 percent of the population is 5 years old or less and 27 percent is younger than 18 years (U.S. Census Bureau 2000). About 6 percent of the population in Rusk County is 5 years old or less, and nearly 25 percent of the population is younger than 18 years (U.S. Census Bureau 2000c). In Smith County, approximately 8 percent of the population is 5 years old or less and 28 percent is younger than 18 years (U.S. Census Bureau 2006b). In Upshur County, nearly 7 percent of the population is 5 years old or less and 27 percent is younger than 18 years (U.S. Census Bureau 2000d). Potential protection of children issues may arise when an action is near residential areas or schools.

### **4.10.2 Environmental Consequences**

#### **4.10.2.1 Preferred Alternative**

The proposed establishment of the AFRC and the relocation of units from the Tyler and Marshall USARCs would support about 25 full-time employees and 160 weekend military trainees. The Preferred Alternative would not adversely affect local income, employment rates, or poverty levels. As indicated above, there is more than adequate housing available within the ROI. There are no concentrations of minority populations or children near the Preferred Alternative. No displacements of residences or businesses would be required and the construction area would be restricted to authorized personnel. Therefore, no disproportionate impacts to minority or low-income families or effects to children would occur as a result of the Proposed Action or alternatives and the project would be in compliance with EO 12898 and EO 13045. Any materials or services purchased locally and any local hiring during construction would result in short-term negligible socioeconomic benefits. The Preferred Alternative would have no adverse effect on the socioeconomic conditions within the ROI. To further document the potential effects, a model of economic effects was run using the Economic Impact Forecast System (EIFS). The EIFS results indicated no net change in the long-term economy within the ROI. A copy of the EIFS results is presented in Appendix E.

#### **4.10.2.2 Alternative Site #1**

The construction and operation of the proposed AFRC at this site would result in similar impacts as described above for the Preferred Alternative.

#### **4.10.2.3 No Action Alternative**

Under the No Action Alternative, socioeconomic conditions would remain status quo.

### **4.11 Transportation**

#### **4.11.1 Affected Environment**

Numerous modes of transportation are available to serve the proposed AFRC, including air, rail, and highway access. The Tyler Pounds Regional Airport is located a few miles north of the preferred site and provides frequent daily service to Dallas/Fort Worth International Airport or Houston's George Bush Intercontinental Airport where connections to hundreds of domestic and international destinations can be made. The major airports near Tyler are the Dallas/Fort Worth International Airport, 115 miles west of Tyler; Houston's George Bush Intercontinental Airport, 200 miles south of Tyler; and Shreveport Regional Airport, 101 miles east of Tyler (Tyler Convention and Visitors Bureau 2008). Union Pacific Railroad provides rail service in Tyler/Smith County (Tyler Economic Development Council [TEDC] 2006). Tyler does not currently have a station for passenger rail service. However, Amtrak's Texas Eagle, which connects San Antonio and Chicago, passes through two nearby east Texas cities twice daily – both stations are within driving distance of Tyler. The Mineola Station is located in Mineola, Texas, and is approximately 25 miles driving distance from Tyler. The Longview Station is located in Longview, Texas, and is approximately 35 miles driving distance from Tyler. The Tyler Transit System, operated by the City of Tyler, provides public transportation service throughout the City of Tyler. The main transfer point is located at the Bergfeld Center on Roseland Boulevard off of US 69 (Tyler Convention and Visitors Bureau 2008).

##### **4.11.1.1 Preferred Alternative**

The preferred site is located on the north side of SH 31 and is served by many state and local roads (Figure 4-7). I-20 is located approximately 9 miles north of the preferred site, and is a main east-west thoroughfare connecting Tyler to Dallas to the west and Shreveport to the east. Other major thoroughfares in and around Tyler include SH 64 (Dallas Hwy), SH 155 (Frankston Hwy), US 69 and Loop 323 that surrounds Tyler (TxDOT 2007).

Average traffic volume on SH 31 near the proposed AFRC site is approximately 13,500 vehicles per day. According to TxDOT 2006 traffic data, an average of 29,000 vehicles per day utilize I-20 near the intersection with US 69, while an average of 31,000 vehicles per day travel on the 323 Loop near the intersection with SH 31. Surface streets located 0.5 miles west of the preferred site average 7,800 vehicles per day and 0.5 miles east of the site average 2,900 vehicles per day (TxDOT 2007).

##### **4.11.1.2 Alternative Site #1**

Alternative Site #1 is located approximately 14 miles to the northeast of the preferred site and 0.25 mile south of I-20. Vehicular access to Alternative Site #1 would likely be provided by SH 155 or Farm to Market (FM) Highway 3311 (Lawhon Avenue). SH 155 near the I-20 and SH 155 interchange has daily traffic volumes of 7,500 vehicles per day, while FM 3311 has daily traffic volumes of 1,250 vehicles per day. I-20 near the intersections of both SH 155 and FM 3311 has daily traffic volumes of 26,000 vehicles per day (TxDOT 2007).

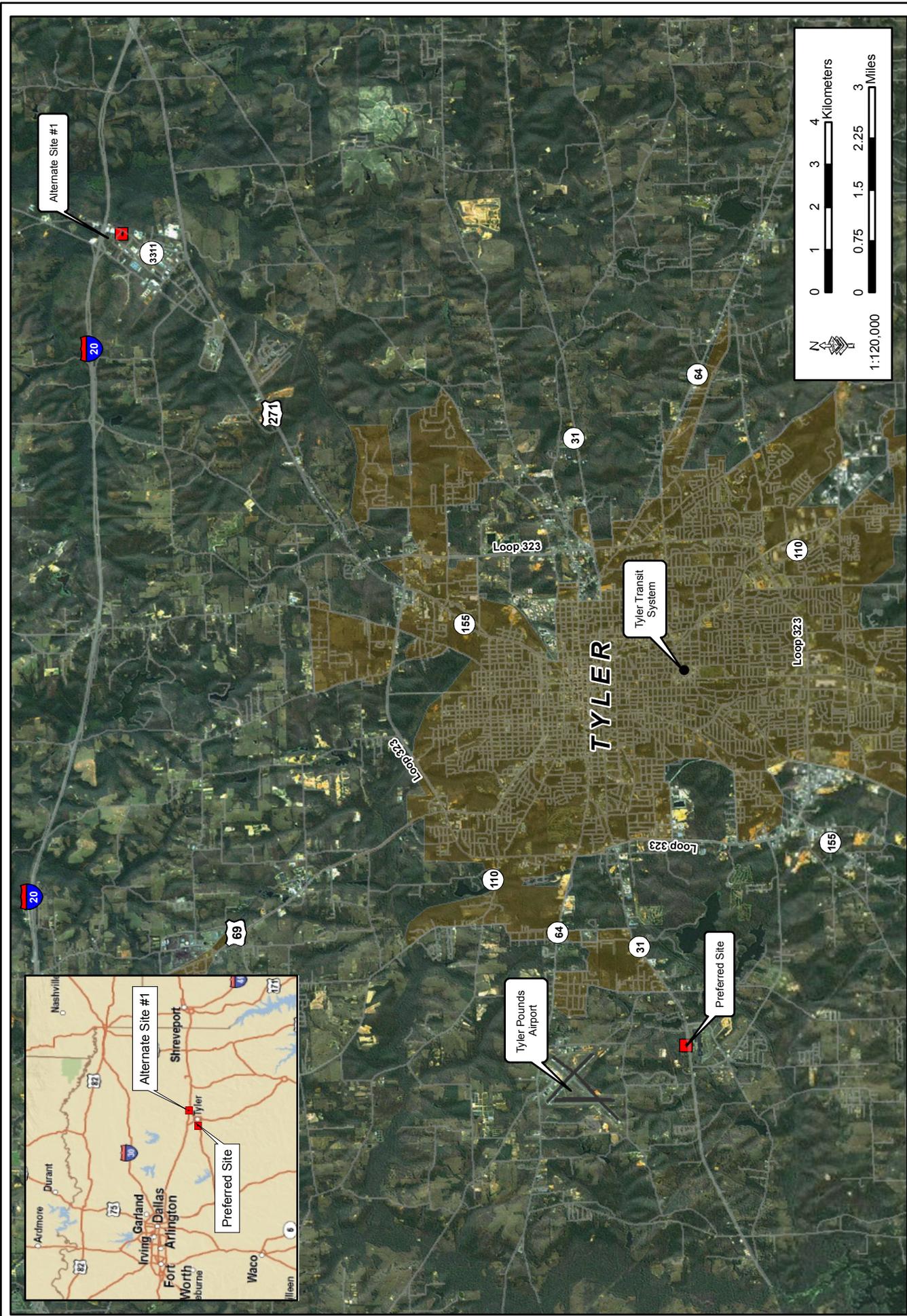


Figure 4-7: Transportation Map in the Project Vicinity

## **4.11.2 Environmental Consequences**

### **4.11.2.1 Preferred Alternative**

Construction of the proposed AFRC would have no effect on regional air or rail service. Vehicle traffic at the preferred site would be increased by approximately 64 vehicles per day during the construction period, primarily along I-20, SH 155, and SH 31. This increase in daily traffic volume would consist of four heavy-duty delivery trucks and approximately 60 construction personnel passenger vehicles.

Operation of the proposed AFRC would also create occasional moderate increases on these same streets. Congestion would occur primarily along I-20, US 271, SH 155, and SH 31 for those commuting from the Marshall area and along State Highways 110, 155, and 31 for those commuting from the Tyler area. Approximately 25 additional vehicles would be expected to access the preferred site 240 days per year, as a result of implementation of the Preferred Alternative. This relatively low number of vehicles represents less than a 0.2 percent addition to the traffic volume in this area. The majority of the increased traffic would primarily occur during three weekends per month, particularly when Reserve units are conducting training activities. During training periods, it is anticipated that daily traffic volumes would increase by approximately 160 vehicles, which accounts for about 1 percent of the average daily traffic volume on major roads near the preferred site and about 2 to 6 percent of the average daily traffic volume on surface streets near the site. Therefore, construction and operation of the proposed AFRC would result in minimal adverse impacts on the traffic around the preferred site.

### **4.11.2.2 Alternative Site #1**

The construction and operation of the proposed AFRC at Alternative Site #1 would result in similar impacts as described above for the Preferred Alternative. Congestion would occur primarily along I-20, US 271, and SH 155 for those commuting from the Marshall area and along State Highways 110, 155, and 271 and Loop 323 for those commuting from the Tyler area. Daily full time employee commute of 25 vehicles represents a 0.1 to 0.3 percent increase on major roads in the area and approximately a 2 percent increase on surface streets (FM 3311) near the site. During training periods, there would be a 1 to 2 percent increase on major roads in the area and approximately a 13 percent increase on surface streets (FM 3311) near the site.

### **4.11.2.3 No Action Alternative**

Under the No Action Alternative, there would be no effect on vehicle traffic at or around the proposed construction site of the Tyler AFRC. Regional air and rail service would also be maintained at status quo.

## **4.12 Utilities**

### **4.12.1 Affected Environment**

#### **4.12.1.1 Potable Water Supply**

The area around the preferred site receives its drinking water supply from the City of Tyler which obtains water from Lake Tyler, Lake Tyler East, and Lake Bellwood. Lake Tyler and Lake Tyler East together have a safe yield of approximately 30 million gallons per day. The depth of the most productive aquifer is greater than 750 feet and ground storage capacity is 9 million gallons. The capacity of the water treatment plant is 32 million gallons per day and the average daily flow is 16.5 million gallons per day (City of Tyler 2008c). The plant is currently operating at 52 percent capacity. Currently no water supply lines are available at the preferred site or Alternative Site #1. A water supply line provided by the City of Tyler is available across SH 31 near the Goodyear plant. Alternative Site #1 is not serviced by the City of Tyler but may be serviced by Southern Utilities which is privately owned (City of Tyler 2008c).

#### **4.12.1.2 Wastewater System**

The City of Tyler has sanitary sewage systems connected to two treatment plants which are permitted by the State of Texas and the EPA. The treatment plant that would likely service the project area is the Westside Wastewater Treatment Plant. It has a design capacity of 13 million gallons per day and the average daily flow of the plant is currently 7 million gallons per day (City of Tyler 2008c). The plant is currently operating at approximately 55 percent capacity. Effluent from the plant is discharged into Blackfork Creek, which flows into Prairie and thence to the Neches River. Currently, no wastewater infrastructure is located at the preferred site or Alternative Site #1. A large wastewater supply line is available across SH 31 near the Goodyear plant (City of Tyler 2008a).

#### **4.12.1.3 Stormwater System**

A stormwater discharge permit from the TCEQ has not previously been issued for the preferred site or Alternative Site #1 nor has water management infrastructure been established on either site. Stormwater on the preferred site would primarily be captured by infiltration or flow to three stormwater conveyances on the property. The new AFRC would require a SWPPP for construction and post construction stormwater discharges. Plans for a stormwater system are not available at this time but they would be included in the SWPPP. A SWPPP permit was obtained for the property by the property owners when the trees were harvested. The owner cancelled the SWPPP in February 2008 (USACE 2008).

#### **4.12.1.4 Electric and Gas**

Texas Utilities supplies electricity in the region and would be the likely provider to the proposed AFRC. CenterPoint Energy is the regional natural gas provider. Texas Utility transmission lines extend along the north and west sides of the preferred site property. Although the property is not currently served by this utility it does have access to it (USACE 2008).

### **4.12.2 Environmental Consequences**

#### **4.12.2.1 Preferred Alternative**

The construction of the proposed new AFRC would have minimal effects on the regional potable water supply, wastewater treatment system and stormwater discharges. Construction crews would bring water on site for their personnel, and portable latrines would collect sanitary waste. Since the site is greater than 1 acre, a Stormwater Discharge Permit for General Construction would be required prior to construction. This permit would require that a SWPPP and Notice of Intent be prepared and filed with the EPA through the TCEQ. The SWPPP would identify BMPs that are required to be implemented to control stormwater erosion and runoff from the site and sedimentation into downstream areas. Upon completion of the construction activities, all disturbed areas that are not going to be landscaped and routinely maintained should be reseeded with native vegetation.

Operation of the proposed AFRC would result in minor increases in demand on the city's drinking water supply and wastewater treatment system. However, as indicated above, there is sufficient capacity with both supply and treatment systems to accommodate the proposed construction and operation of the AFRC.

#### **4.12.2.2 Alternative Site #1**

Since Alternative Site #1 is located within the same county, the construction and operation of the proposed AFRC at this site would result in similar impacts as described above for the Preferred Alternative.

#### **4.12.2.3 No Action Alternative**

Under the No Action Alternative, construction of the AFRC would not occur; thus, no effects would occur to the installation's stormwater system or existing discharges. Furthermore, no additional demands, temporary or long-term, on Tyler's water supply or wastewater treatment systems would occur under this alternative.

### **4.13 Hazardous and Toxic Substances**

#### **4.13.1 Affected Environment**

##### **4.13.1.1 Preferred Alternative**

The preferred site currently consists of low to medium-high grass with only a few mature trees. The site has undeveloped land that contains no existing buildings or structures. Historically, the preferred site was densely wooded; however, trees were harvested on site within the last year. The area in the vicinity of the project consists of undeveloped land, residential properties and a Goodyear Tire facility. Hill Lake is approximately 0.1 mile east of the property. There is no visible evidence of hazardous or toxic materials present at the preferred site. There are no treatment, storage, or disposal facilities located on or adjacent to the preferred site.

According to the Environmental Condition of Property (ECP) Report prepared by Terraine-Ensafe for the USACE for the preferred site, there are no *recognized environmental conditions* (RECs) in connection with the property. RECs are defined by ASTM E 1527-05 as "...the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property." The term includes those hazardous substances or petroleum products that are being used or stored in compliance with laws. The term is not intended to include *de minimis* conditions "...that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies" (USACE 2008).

An inactive oil well that was operated by Buffco Productions was located on the southwestern portion of the property for approximately 19 years. Texas Railroad Commission oil and gas records indicate this well was plugged and abandoned in 2005 (USACE 2008). This plugged and abandoned well is still located on the preferred site property. According to communication with the Texas Railroad Commission, there is nothing in the rules and regulations stating that a structure can not be built over a plugged and abandoned oil well; however, it is generally not recommended in case the oil well requires additional remediation actions (Texas Railroad Commission 2008). Since the oil well was plugged and abandoned in 2005, it is unlikely that the well would require such further actions (Texas Railroad Commission 2008). The well would need to be replugged if there is any indication of oil present at the surface near the well or gases released from the well. The weight and force of the buildings and cement for parking would not be expected to cause the oil well plug to fail (Texas Railroad Commission 2008).

According to a Phase I Environmental Site Assessment prepared by Pinnacle Environmental in 2004, there were two 55-gallon drums, and two above ground storage tanks (AST) once located on the property. The drums and ASTs were presumed to contain oil. Scarred earth and stressed vegetation were observed around the area where the two 55-gallon drums, the inactive oil well, and the ASTs were located; however, the stained soil and stressed vegetation were excavated and disposed offsite in June 2004. Four soil samples were collected in the areas where the soil and vegetation had been removed and around the oil well. Analytical results did

not detect total petroleum hydrocarbons (TPH) concentrations above laboratory method detection limits. The oil staining and stressed vegetation associated with the former oil well, two 55-gallon drums, and two ASTs used for oil storage formerly located on the property constitute an historical REC. The term historical REC means an environmental condition which in the past would have been considered a REC, but which is not currently considered a REC. If a past release of a hazardous substance or petroleum products has occurred in connection with the property and has been remediated, with such remediation accepted by a responsible regulatory agency, this condition shall be considered an historical REC (USACE 2008).

According to the 2008 ECP, there is a potential environmental concern that warrants mentioning. A natural spring reportedly exists on the undeveloped land located north of the preferred site. Under normal conditions, that spring follows a drainage pattern across the northeast portion of the property and flows in a southeasterly direction, exiting the southeastern corner of the property through a culvert. The spring eventually feeds into Hill Lake, east of the preferred site. The property owner to the north constructed a dam in the path of the spring to create a pond on his property. The dam eventually failed and created a rush of water across the drainage way on the northeastern portion of the property. As a result, the drainage pathway eroded extensively in that area. Additionally the property owner reported a small amount of silt was deposited offsite in the adjacent residential area; however, that no silt was deposited into Hill Lake. A contractor removed the silt from the property and mitigated the erosion by installing rip-rap features and silt fencing within the drainage pathway. Erosion in this area appears to have been additionally exaggerated because the trees on the property were harvested within the last year. Additional areas of eroded soil were noted in the northeast, southeast, and southwest portions of the property (USACE, 2008).

#### **4.13.1.2 Alternative Site #1**

No surveys were conducted at this site; however, existing conditions are anticipated to be similar to the preferred site. If this site is ultimately selected, an ECP assessment would be required.

### **4.13.2 Environmental Consequences**

#### **4.13.2.1 Preferred Alternative**

The potential exists for storage of minor amounts of petroleum, oils, and lubricants (POL) at the proposed AFRC to maintain and fuel equipment and vehicles during construction; however, these activities would include primary and secondary containment measures. Clean-up materials (e.g., oil mops) would also be maintained at the site to allow immediate action in case an accidental spill occurs. Drip pans would be provided for stationary equipment to capture any POL accidentally spilled during maintenance activities or leaks from the equipment. In addition, as part of the construction contract, the contractor would follow BMPs to control leaks and spills and submit an application for a TPDES permit, as required, and all personnel would be briefed on the implementation and responsibilities for the BMPs during construction.

Solvents and cleaners could be stored at the AFRC following construction. The AFRC maintenance facility would recycle parts and cleaner solution, and would maintain POL in small quantities for equipment maintenance. Hazardous materials and waste generated would be disposed of through an approved contractor according to state and Federal regulations.

A SWPPP would be developed by the project contractor for the area affected during construction procedures. The SWPPP would include BMPs to control erosion and fugitive dust emissions, including the use of silt fencing and hay bales adjacent to open water, and dust suppression by watering haul roads and construction areas.

The oil well presently located at the preferred site was plugged and abandoned in 2005. It is unlikely that the well would require further remedial actions even with implementation of the Preferred Alternative; therefore, impacts due to the oil would be insignificant. No other significant impacts due to the presence or use of hazardous or toxic substances would occur upon implementation of the Preferred Alternative.

#### **4.13.2.2 Alternative Site #1**

The construction and operation of the proposed AFRC at this site would be expected to result in similar impacts as described above for the Preferred Alternative. If Alternative Site #1 is ultimately selected, supplemental NEPA documentation and surveys would be required to fully assess the potential impacts relative to hazardous or toxic wastes.

#### **4.13.2.3 No Action Alternative**

No impacts due to hazardous or toxic substances would occur, since there would be no new construction of an AFRC on the site.

### **4.14 Cumulative Effects Summary**

This section of the EA addresses the potential cumulative impacts associated with the implementation of the alternatives and other projects/programs that are planned for the region. The CEQ defines cumulative impacts as the incremental impact of multiple present and future actions with individually minor but collectively significant effects. Cumulative impacts can be concisely defined as the total effect of multiple land uses and developments, including their interrelationships, on the environment.

The preferred site and the lands surrounding the site have been used for public, residential, and light industrial purposes and just last year the site was logged. As such, the site is and has been disturbed. The proposed construction and operation of the AFRC would increase the developed areas in the project area by 25 acres.

Operation of the AFRC would not result in cumulative impacts on training ranges or air space, ambient noise levels, water quality or supply, or air quality. Transportation routes and demands would be increased, primarily on the weekends when most or all of the Reserve Units would arrive. There are currently no development or improvement plans for the immediate surrounding lands (City of Tyler 2008a). The Goodyear Tire facility was scheduled to be closed by January 2009. Currently there are no plans for any other use of the facility in the near future although there is potential for the facility to be sold (Tyler Area Chamber of Commerce 2008). The establishment of the AFRC, when combined with other proposed developments, would have insignificant cumulative impacts on land use or biological resources at and surrounding the preferred site.

Cumulative effects on air quality from the Preferred Alternative, when combined with other on-going projects, would be insignificant and would remain below *de minimis* thresholds. Operation of the AFRC would add to the cumulative amount of hazardous wastes generated in the project area. All wastes would be disposed of by licensed contractors in accordance with state and Federal regulations; consequently, insignificant cumulative adverse impacts would be expected.

### **4.15 Best Management Practices**

This section of the EA describes those measures that could be implemented to further reduce or eliminate potential adverse impacts on the human and natural environment. The BMPs are

presented for each resource category that would be potentially affected. These proposed measures would be coordinated through the appropriate regulatory agencies.

#### **4.15.1 Vegetation and Wildlife**

Native seeds or plants compatible with the enhancement of protected species, would be used to the extent feasible, as required under Section 7(a)(1) of the ESA, to reseed temporarily disturbed areas once construction is complete. This effort would apply only to those areas that would not be expected to be part of the permanent landscaped or maintained areas of the AFRC.

The Migratory Bird Treaty Act (MBTA) requires that private contractors obtain a construction permit if the construction activity is scheduled during the nesting season. The nesting season for this area is typically March 15 through September 15. Active nests would need to be identified and avoided to the extent practicable. Another environmental protective measure that would be considered is to schedule all construction activities outside the nesting season.

Additional measures would include BMPs, as described previously, during construction to minimize or prevent erosion and soil loss. If straw bales are used as part of the BMPs, weed seed-free straw bales would be used to eliminate the potential of spreading invasive species.

The loss of 0.052 acre of palustrine emergent wetlands and 372 linear feet of stream channel would be compensated by the purchase of credits from the Pineywoods Mitigation Bank. Using hydrogeomorphic models, these losses would be equivalent to 0.15 and 0.3 functional capacity units (FCU). Therefore, up to 0.5 FCUs would be purchased from the mitigation bank, provided the stream channel cannot be avoided by the project designs.

#### **4.15.2 Air Quality**

As mentioned previously, emissions associated with construction activities would be insignificant and well below *de minimis* thresholds. Proper and routine maintenance of all vehicles and other equipment would be implemented to ensure that emissions are within the design standards of all construction equipment. Dust suppression methods would be implemented to minimize fugitive dust.

#### **4.15.3 Water Resources**

The proposed construction activities would require a SWPPP, which would be prepared and submitted to the TCEQ and EPA, as part of the TPDES permit process. The SWPPP would identify BMPs that would be implemented before, during, and after construction. The wetland issues noted at the preferred site will be addressed in accordance with applicable laws and regulations. Necessary permits and mitigation projects will be coordinated and completed in cooperation with the USACE Fort Worth District, and TCEQ, ultimately resulting in no net loss of wetlands.

#### **4.15.4 Cultural Resources**

Prior to construction, the Army would brief the construction crews on procedures to follow in case of an unexpected discovery of cultural resources. If any cultural resources are uncovered during construction, the Army and THC would be notified and all construction activities would stop until a qualified archaeologist can assess the significance of the cultural remains. If human remains are encountered, the local coroner and law enforcement agency would be contacted. If the remains are of Native American origin, compliance with the Native American Graves and Repatriation Act regulations would be required.

#### **4.15.5 Hazardous and Toxic Substances**

Hazardous and toxic materials/wastes at the project site during construction would likely consist of POL. If hazardous waste is generated, it would be disposed of according to Federal, state and local regulations, as well as existing Army regulations and procedures. No maintenance of construction equipment would be conducted on site, minimizing the potential for spills or direct contact with POLs. Equipment and vehicles parked overnight, or left for lengthy periods on-site, would be fitted with drip pans. On-site use of construction equipment, use of chemical products, and wastes generated during construction would comply with all Federal, state, and local regulations relating to protecting the environment from hazardous materials and containing spills. No large quantities of hazardous wastes would be stored on the site.

***SECTION 5.0***  
***FINDINGS AND CONCLUSIONS***

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## **5.0 Findings and Conclusions**

### **5.1 Findings**

#### **5.1.1 Consequences of the Preferred Alternative**

The Preferred Alternative would result in the permanent conversion of up to 25 acres of undeveloped clear cut land to hard surfaces and buildings. The conversion is consistent with the City of Tyler's zoning ordinances and does not conflict with the city's current development plans for the project area. No impacts on Federal or state protected species would occur. No violations of air or water quality standards would be expected; BMPs would be implemented to ensure stormwater, during and after construction, is controlled and downstream sedimentation is either eliminated or is negligible. Approximately 0.052 acre of wetlands and 372 linear feet of stream channel would be impacted by the Preferred Alternative; these losses would be compensated by the purchase of credits from the Pineywoods Mitigation Bank. Temporary increases in noise would be expected during the construction. Transportation would be increased during and after construction. Approximately 25 full-time employees are expected to commute to the AFRC on a daily basis. Most of the increases in traffic (up to 160 vehicles) associated with the AFRC would occur on weekends, however. No long-term impacts relative to utilities or hazardous waste and materials would be expected from the proposed construction and operation of the AFRC.

Some benefits for local and regional employment and personal income would be expected during the construction. However, these benefits would be insignificant when compared to the Marshall Micropolitan SA and Tyler Metropolitan SA. A summary of the potential effects from the Preferred Alternative and No Action Alternative is presented in Table 5-1 on the following page.

#### **5.1.2 Consequences of the No Action Alternative**

Under the No Action Alternative, the existing human and natural environment at the preferred site would remain status quo, at least for the short-term. Since the area is under private ownership with no existing buildings or structures, there is a possibility that the preferred site could be developed at some point in the future.

### **5.2 Conclusions**

Based on the information presented in the previous sections, it is concluded that the best available site for the proposed construction and operation of the AFRC is at the preferred site, and that development of this site would not result in significant adverse impacts on the area's human and natural environment. To the extent that there would be minor impacts, they will be mitigated to a level of insignificance. Therefore, issuance of a FNSI is warranted and no additional NEPA documentation (i.e., Environmental Impact Statement) is required.

**Table 5-1. Summary Matrix of Potential Impacts**

<b>Affected Resource</b>	<b>No Action Alternative</b>	<b>Preferred Alternative</b>
Land Use	No impacts on land use are expected.	Up to 25 acres of clear cut would be converted to the facility and parking areas. The facility is consistent with the City of Tyler's zoning and planned development.
Aesthetics	No adverse impacts are expected.	Slight degradation during construction, but no significant long-term impacts would occur on the project area's visual qualities.
Air Quality	No adverse effects are anticipated.	Negligible temporary effects on air quality during construction would occur. Pre-project conditions would return upon cessation of construction activities. All emissions would be below <i>de minimis</i> thresholds.
Noise	No adverse impacts are expected.	Negligible temporary increases in ambient noise levels during construction. Pre-project conditions would return upon cessation of construction activities. Operation of the facility would be expected to produce negligible increases in ambient noise levels.
Soils	No impacts on soils are expected.	Up to 25 acres of soil would be disturbed and permanently removed from potential biological and agricultural productivity. Although 6 acres of prime farmland soils would be impacted, the Preferred Alternative would be in compliance with the Farmland Protection Policy Act.
Water Resources	No adverse impacts would occur.	No significant impact on the region's water supply or water quality. Approximately 372 linear feet of stream channel, which were determined to be jurisdictional Waters of the U.S. and 0.052 acres of wetlands would be impacted. These losses would be compensated through the purchase of up to 0.5 FCUs from the Pineywoods Mitigation Bank.
Biological Resources	No impacts are expected.	There would be permanent, but minimal, impacts on biological resources. There is no suitable habitat to support Federally threatened or endangered species at the project site; therefore, there would be no impacts to Federally-listed species. Three state listed species have the potential to be encountered within project area; however, it is highly unlikely that any of these species occur at the project site. Impacts to jurisdictional Waters of the U.S. and wetlands would be mitigated, as noted above.
Cultural Resources	No effects are anticipated.	No impacts are expected.
Socioeconomics	No effect on the regional or local economy would be expected.	Negligible temporary, but beneficial, effects for the City of Tyler during construction.
Transportation	No adverse impacts are expected.	Slight increase in local traffic along I-20, SH 31 and SH 155 during construction; no major congestion is expected. Traffic would be increased (by about 1 percent) on these same streets once the relocation is complete.
Utilities	No adverse impacts are expected.	Slight increase in the demands on the City of Tyler's public systems. More than sufficient capacity is available to meet these demands.
Hazardous Materials	No adverse impacts are expected.	No impacts are expected to occur.

***SECTION 6.0***  
***REFERENCES***





## 6.0 References

- Bureau of Economic Analysis (BEA). 2006a. BEARFACTS 1996-2006 for the State of Texas. Internet URL: <http://www.bea.gov/regional/BEARFACTS/>. Last Accessed: 7 October 2008.
- BEA. 2006b. BEARFACTS 1996-2006 for Gregg County, Texas. Internet URL: <http://www.bea.gov/regional/BEARFACTS/lapipdf.cfm?yearin=2006&fips=48203&areaty pe=48203>. Last Accessed: 7 October 2008.
- BEA. 2006c. BEARFACTS 1996-2006 for Harrison County, Texas. Internet URL: <http://www.bea.gov/regional/BEARFACTS/lapipdf.cfm?yearin=2006&fips=48203&areaty pe=48203>. Last Accessed: 7 October 2008.
- BEA. 2006d. BEARFACTS 1996-2006 for Rusk County, Texas. Internet URL: <http://www.bea.gov/regional/BEARFACTS/lapipdf.cfm?yearin=2006&fips=48423&areaty pe=48000>. Last Accessed: 7 October 2008.
- BEA. 2006e. BEARFACTS 1996-2006 for Smith County, Texas. Internet URL: <http://www.bea.gov/regional/BEARFACTS/lapipdf.cfm?yearin=2006&fips=48203&areaty pe=48203>. Last Accessed: 7 October 2008.
- BEA. 2006f. BEARFACTS 1996-2006 for Upshur County, Texas. Internet URL: <http://www.bea.gov/regional/BEARFACTS/lapipdf.cfm?yearin=2006&fips=48203&areaty pe=48203>. Last Accessed: 7 October 2008.
- BEA. 2006g. 2006 Total Employment by Sector for Harrison County and Smith County, Texas and the State of Texas. Internet URL: <http://www.bea.gov>. Last Accessed: 7 October 2008
- BEA. 2006. BEA: Regional Economic Accounts, Internet URL: <http://www.bea.gov/bea/regional/reis/default.cfm#step3>. Last Accessed: 25 August 2008.
- Bureau of Economic Geology. 1996. Physiographic Map of Texas. The University of Texas at Austin. Internet Resource: <http://www.beg.utexas.edu/UTopia/images/pagesizemaps/physiography.pdf>. Last Accessed: September 17, 2008.
- California Department of Transportation. 1998. Technical Noise Supplement by the California Department of Transportation Environmental Program Environmental Engineering-Noise, Air Quality, and Hazardous Waste Management Office. October 1998 Page 24-28
- City of Tyler. 2008a. Personal communication between Mr. Mitch Maribel, Water Production Supervisor, City of Tyler and Ms. Nicole Forsyth, Gulf South Research Corporation, Baton Rouge, Louisiana, on 25 September 2008.

- City of Tyler. 2008b. Personal communication between Ms. Bernadette Spitz, Planning and Zoning Department, City of Tyler and Ms. Nicole Forsyth, Gulf South Research Corporation, Baton Rouge, Louisiana, on 29 September 2008.
- City of Tyler. 2008c. Water Treatment Plants. Internet Resource:  
<http://www.cityoftyler.org/TylerWaterUtilities/TreatmentPlants/tabid/451/Default.aspx>
- Dillard, J.W. 1963. Bulletin 6302: Availability and Quality of Ground Water in Smith County, Texas. Available at:  
<http://www.twdb.state.tx.us/publications/reports/GroundWaterReports/bulletins/Bull.htm/B6302.htm>
- Environmental Laboratory. 1987. U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual, Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.
- Federal Emergency Management Agency (FEMA), 2008. Floodplain Map, Smith County Texas. Internet Website: <http://map1.msc.fema.gov/idms/IntraView.cgi>. Last Accessed, September 23, 2008.
- Federal Highway Administration (FHWA). 2007. Special Report: Highway construction Noise: Measurement, Prediction, and Mitigation, Appendix A Construction Equipment Noise Levels and Ranges. [www.fhwa.dot.gov/environment/noise/highway/hcn06.htm](http://www.fhwa.dot.gov/environment/noise/highway/hcn06.htm)
- Midwest Research Institute (MRI). 1996. Improvement of Specific Emission Factors (BACM Project No. 1) Prepared for South Coast Air Quality Management District. SCAQMD Contract 95040, Diamond Bar, CA. March 1996.
- Natural Resources Conservation Service (NRCS). 2008. Web Soil Survey.  
<http://websoilsurvey.nrcs.usda.gov/app>.
- Real Estate Center. 2008a. Harrison County, Texas, Unemployment. URL:  
<http://recenter.tamu.edu/data/empc/LAUPA483400.htm>. Last Accessed 25 August 2008.
- Real Estate Center. 2008b. Smith County, Texas, Unemployment. URL:  
<http://recenter.tamu.edu/data/empc/LAUCN484230.htm>. Last Accessed 25 August 2008.
- Spooner, 2008. Personal communication between SGT USAR, and Mr. Steve Kolian, Gulf South Research Corporation, Baton Rouge, Louisiana on 28 August 2008.
- Tarleton State University. 2008. Savannas and Barrens. Internet Resource:  
<http://www.tarleton.edu/~range/Savannas%20and%20Barrens/savanna.html>. Last Accessed September 17, 2008.
- Texas Commission on Environmental Quality (TCEQ). 2008. TCEQ 2008 303(d) List (March 18, 2008). Accessed online August 12, 2008:  
[http://www.tceq.state.tx.us/compliance/monitoring/water/quality/data/wqm/305\\_303.html#y2008](http://www.tceq.state.tx.us/compliance/monitoring/water/quality/data/wqm/305_303.html#y2008).

- Texas Department of Transportation (TxDOT). 2007. Texas Statewide Planning Map. Internet URL: [http://www.dot.state.tx.us/apps/statewide\\_mapping/StatewidePlanningMap.html](http://www.dot.state.tx.us/apps/statewide_mapping/StatewidePlanningMap.html). Last Accessed: September 9, 2008.
- Texas Parks and Wildlife Department (TPWD). 1984. The Vegetation Types of Texas. Internet Resource: [http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd\\_bn\\_w7000\\_0120.pdf](http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_bn_w7000_0120.pdf). Last Accessed: September 17, 2008.
- TPWD. 2008. Annotated County Lists of Rare Species, Smith County, Texas. Internet Resource: <http://gis.tpwd.state.tx.us/TpwEndangeredSpecies/DesktopDefault.aspx?tabindex=0&tabid=9&type=county&parm=Smith>. Last Accessed: September 17, 2008.
- Texas Railroad Commission. 2008. Personal communication between Mr. Mike Vanderworth, Texas Railroad Commission and Ms. Nicole Forsyth, Gulf South Research Corporation, Baton Rouge, Louisiana, on 18 September 2008.
- Texas Water Development Board (TWDB). 2008. State Water Plan, 2007. Internet Website: <http://www.twdb.state.tx.us/wrpi/swp/swp.htm>. Last Accessed August 26, 2008.
- Tracer. 2008. Texas Annual Unemployment Data. <http://www.tracer2.com/cgi/dataanalysis/labForceReport.asp?menuchoice=LABFORCE>. Last Accessed 7 October 2008.
- Tyler Area Chamber of Commerce. 2008. Personal Communication between Ms. Pam Grime, Tyler Area Chamber of Commerce and Ms. Nicole Forsyth, Gulf South Research Corporation, Baton Rouge, Louisiana, on 29 September 2008.
- Tyler Convention and Visitors Bureau. 2008. Travel Options. Internet URL: [http://www.visittyler.com/travel\\_rail.php](http://www.visittyler.com/travel_rail.php). Last Accessed September 12, 2008.
- Tyler Economic Development Council (TEDC). 2006. Transportation. Internet URL: [http://www.tedc.org/profile/pro\\_transportation.php](http://www.tedc.org/profile/pro_transportation.php). Last Accessed: September 12, 2008
- U.S. Army Corps of Engineers. 2008. Environmental Condition of Property, 45-acre undeveloped property 13680 Highway 31, Tyler, Smith County, Texas. Prepared by Terraine-EnSafe 8(a) Joint Venture, 5912 Toole Drive, Suite A, Knoxville, Tennessee 37919-4179, June 25, 2008.
- U.S. Census Bureau. 2006a. American Factfinder for the State of Texas. Internet URL: <http://factfinder.census.gov/>. Last Accessed 7 October 2008.
- U.S. Census Bureau. 2006b. American Factfinder for Smith County, Texas. Internet URL: <http://factfinder.census.gov/>. Last Accessed 7 October 2008.
- U.S. Census Bureau. 2000a. American Factfinder for Gregg County, Texas. Internet URL: <http://factfinder.census.gov/>. Last Accessed 7 October 2008.
- U.S. Census Bureau. 2000b. American Factfinder for Harrison County, Texas. Internet URL: <http://factfinder.census.gov/>. Last Accessed 7 October 2008.

- U.S. Census Bureau. 2000c. American Factfinder for Rusk County, Texas. Internet URL: <http://factfinder.census.gov/>. Last Accessed 7 October 2008.
- U.S. Census Bureau. 2000d. American Factfinder for Upshur County, Texas. Internet URL: <http://factfinder.census.gov/>. Last Accessed 7 October 2008.
- U.S. Environmental Protection Agency (EPA). 2001. Procedures Document for National Emission Inventory, Criteria Air Pollutants 1985-1999. EPA-454/R-01-006. Office of Air Quality Planning and Standards Research Triangle Park NC 27711.
- EPA. 2005. User's Guide for the Final NONROAD2005 Model. EPA420-R-05-013 December 2005.
- EPA. 2005a. Emission Facts: Average In-Use Emissions from Heavy Duty Trucks. EPA 420-F-05-0yy, May 2005.
- EPA. 2005b. EPA Emission Facts: Average In-Use Emission Factors for Urban Buses and School Buses. Office of Transportation and Air Quality EPA420-F-05-024 August 2005
- EPA. 2005c. Emission Facts: Average Annual Emissions and Fuel Consumption for Gasoline-Fueled Passenger Cars and Light Trucks. EPA 420-F-05-022
- EPA. 2008. Welcome to the Green Book Nonattainment Areas for Criteria Pollutants [www.epa.gov/oar/oaqps/greenbk](http://www.epa.gov/oar/oaqps/greenbk)
- U.S. Forest Service. 2008. Chapter 37 - Ecological Subregions of the United States - Southwest Plateau and Plains Dry Steppe and Shrub. Internet Resource: <http://www.fs.fed.us/land/pubs/ecoregions/ch20.html>. Last Accessed: September 17, 2008.
- U.S. Fish and Wildlife Service (USFWS). 1995. Louisiana Black Bear Recovery Plan. Jackson, Mississippi. 52 pp. Internet Resource: [http://www.bbcc.org/web/images/stories/information/pdf/Recovery\\_plan.pdf](http://www.bbcc.org/web/images/stories/information/pdf/Recovery_plan.pdf). Last Accessed: September 17, 2008.
- USFWS. 2008. Endangered Species List - Smith County Texas. Internet Resource: <http://www.fws.gov/southwest/es/EndangeredSpecies/lists/ListSpecies.cfm>. Last Accessed: September 17, 2008.
- U.S. Housing and Urban Development (HUD) 1984. 24 CFR Part 51 - Environmental Criteria and Standards Sec. 51.103 Criteria and standards 44 FR 40861, July 12, 1979, as amended at 49 FR 12214, Mar. 29, 1984.

**SECTION 7.0**  
**LIST OF PREPARERS**





## 7.0 List of Preparers

The following people were primarily responsible for preparing this Environmental Assessment.

NAME	AGENCY/ORGANIZATION	DISCIPLINE/EXPERTISE	EXPERIENCE	ROLE IN PREPARING EA
Larry Olliff	USACE Mobile/Savannah District	Environmental Studies	7 years in NEPA and 18 years in environmental studies	USACE Technical Manager
Suna Adam Knaus	GSRC	Forestry/Wildlife	19 years natural resources	EA review
Chris Ingram	GSRC	Biology/Ecology	33 years NEPA and natural resources	Project Manager, DOPAA, EA Technical Review
Bretton Sommers, Ph.D.	GSRC	Archaeology/GIS	6 years archaeology/GIS	EA preparation; cultural resources
Josh McEnany	GSRC	Forestry/Wildlife	8 years natural resources and NEPA studies	EA preparation; water resources, aesthetics, biological resources
Shanna McCarty	GSRC	Ecology	2 years NEPA and natural resources	EA preparation; socioeconomics
Steve Kolian	GSRC	Environmental Studies	13 years environmental and marine science	EA preparation; air and water quality
Nicole Forsyth	GSRC	Environmental Engineering	6 years environmental and NEPA studies	EA preparation; utilities, hazardous waste, soils and transportation
Carey Perry	GSRC	Biology/Ecology	1 year natural resources	EA preparation; land use
Ron Webster	Ray Clark Group, LLC	Socioeconomics/Civil Engineering	35 years NEPA studies and socioeconomic analyses	EIFS modeling and analysis

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***SECTION 8.0***  
***ACRONYMS AND ABBREVIATIONS***

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## 8.0 Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
AFRC	Armed Forces Reserve Center
ASIV	Available Site Identification and Validation
AST	Above Ground Storage Tanks
ASTM	American Society for Testing and Materials
AT/FP	Anti-Terrorism/Force Protection
BEA	Bureau of Economic Analysis
BMP	Best Management Practices
BRAC Commission	Defense Base Closure and Realignment Commission
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon monoxide
CWA	Clean Water Act
dB	Decibel
dBA	Decibels A-weighted scale
DoD	Department of Defense
DOPAA	Description of Proposed Action and Alternatives
EA	Environmental Assessment
ECHO	Enforcement and Compliance History Online
ECP	Environmental Conditions of Property
EIFS	Economic Impact Forecast System
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FNSI	Finding of No Significant Impact
FY	Fiscal Year
GSRC	Gulf South Research Corporation
HVAC	Heating, Ventilation, and Air Conditioning
I	Interstate
INRMP	Integrated Natural Resources Management Plan
MBTA	Migratory Bird Treaty Act
MGD	Million Gallons Per Day
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Presentation Act
NO <sub>2</sub>	Nitrogen Dioxide
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
O <sub>3</sub>	Ozone
PCPI	Per Capita Personal Income
PM-10	Particulate Matter less than 10 microns
PM-2.5	Particulate Matter less than 2.5 microns
POL	Petroleum, Oils, and Lubricants
REC	Recognized Environmental Conditions
ROI	Region of Influence
RRC	Regional Readiness Command

SA	Statistical Area
SF	Square Feet
SH	State Highway
SHPO	State Historic Preservation Officer
SO <sub>2</sub>	Sulfur Dioxide
SWPPP	Stormwater Pollution Prevention Plan
TASA	Texas Archaeological Site Atlas
TCEQ	Texas Commission on Environmental Quality
TEDC	Tyler Economic Development Council
THC	Texas Historical Commission
TPDES	Texas Pollutant Discharge Elimination System
TPWD	Texas Parks and Wildlife Department
TWDB	Texas Water Development Board
TXARNG	Texas Army National Guard
TPH	Total Petroleum Hydrocarbon
TPI	Total Personal Income
TxDOT	Texas Department of Transportation
USACE	U.S. Army Corps of Engineers
USAR	U.S. Army Reserve
USARC	U.S. Army Reserve Center
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geologic Survey

*APPENDIX A*  
*ASIV and Site Survey Report*







REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT  
600 ARMY PENTAGON  
WASHINGTON DC 20310-2400

OCT 01 2007

DAIM-ODR

MEMORANDUM FOR U.S. Army Corps of Engineers, Louisville District (CELRL-RE),  
P.O. Box 59, Louisville, KY 40201-0059

SUBJECT: Site Approval for Armed Forces Reserve Center (AFRC) Site at Tyler,  
Texas – FY 2009 Base Realignment and Closure Army Reserve Construction Project

1. Reference Memorandum 90<sup>TH</sup> Regional Readiness Command, ARRC-CAR-ENP,  
7 September 2007, subject: Site Survey Report (SSR), Tyler, Texas, enclosure 1.

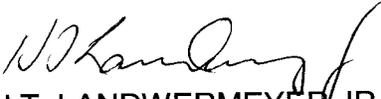
2. Request you acquire an option on site # 3, approximately 45 acres of land located on  
State Highway 31, Smith County, 3 to 5 miles west of the Tyler, Texas city limits. The  
SSR indicates that the property owner is willing to sub-divide the 45 acre parcel. We are  
interested in the far western edge of the property. Approximately 20 acres of the 45 acres is  
required because of the land configuration. Site # 3 is the primary site for the Army  
Reserve Base Realignment and Closure (BRAC) Fiscal Year 09 Military construction  
project Number 64476. The approved secondary site is Site # 2, 311 Highway 155, Tyler,  
Texas. Site # 2 is approximately 20 acres. The Option on Site # 3 will allow the Army time  
to accomplish the appropriate Environmental and Engineering Feasibility studies to  
determine its suitability for the Reserve construction project prior to acquisition. This is a  
FY2009 project and suitability of the site will be determined within fiscal year 08, and  
purchase the land in FY 2009. In addition, request a Real Estate Planning Report (REPR)  
be completed for this acquisition.

3. My POCs are Major Gregory Scott, DAIM-ODR, 703-601-1937,  
[gregory.scott@hqda.army.mil](mailto:gregory.scott@hqda.army.mil) and for Real Estate it is Mr. Ron Edwards, J.M. Waller  
Associates, contractor, DAIM-ODR, 830-393-8961, [Ronald.l.edwards1@us.army.mil](mailto:Ronald.l.edwards1@us.army.mil).

FOR THE ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT

1 Encl  
1. Site Survey Report

CF:  
IMCOM-AR (Mr. Al Golden)  
90<sup>th</sup> RRC (Ms. Rachel White)  
USACE (CERE-AM/Ms. Peggy Mahoney)  
ACSIM (DAIM-ODB/Ms. Renee Terrell/Mr. Ken Harris)

  
H.T. LANDWERMEYER JR.  
BG, USA  
Director, Operations



**DEPARTMENT OF THE ARMY**  
HEADQUARTERS, UNITED STATES ARMY 90TH REGIONAL READINESS COMMAND  
CAPTAIN MAURICE L. BRITT UNITED STATES ARMY RESERVE CENTER  
8000 CAMP ROBINSON ROAD  
NORTH LITTLE ROCK, ARKANSAS 72118-2205

ARRC-CAR-ENP

7 September 2007

MEMORANDUM THRU Installation Management Command, Army Reserve, ATTN: Mr. Alfonso Golden, 2511 Jefferson Davis Highway, Taylor Building 10th Floor, Arlington, VA 22202-3926

Headquarters, Department of the Army, Assistant Chief of Staff for Installation Management, ATTN: DAIM-AR (Ms. Chuck), 600 Army Pentagon, Washington, DC 20310-0600

SUBJECT: Site Survey Report (SSR), Tyler, Texas

1. Enclosed is the Site Survey Report (SSR) pertaining to the acquisition of fourteen (14) (+or-) acres site to support an FY 2009 BRAC Military Construction Army Reserve (MCAR) project (Project Number 64476) to construct an 800 Member Armed Forces Reserve Center in Tyler, Texas, for the 90<sup>th</sup> RSC and the Texas Army National Guard. The new facility will contain an AFRC building with 124,665 square feet of space, a Multi-use Classroom with 14,600 square feet, a Vehicle Maintenance Shop with 7,383 square feet, and an Organizational Unit Storage facility with 7,969 square feet. Based on the center rating and in accordance with AR 140-483, Army Reserve Land and Facilities Management, a fourteen (14) net useable acre site will be required for the AFRC project. A minimum width of 500 linear feet is required for any referred property to meet Anti-Terrorist Force Protection (ATFP) requirements.
2. The 2005 Defense Base Realignment and Closure (BRAC) Commission recommended closure of the Tyler United States Army Reserve Center, Tyler, Texas, and relocation of the units to a new Armed Forces Reserve Center with a Field Maintenance Shop in Tyler, Texas. The BRAC commission also recommended the new AFRC have the capability to accommodate Texas Army National Guard units from Texas Army National Guard Readiness Centers in Athens, Tyler, Henderson, Kilgore, Marshall, and Corsicana, TX, and the Field Maintenance Shop in Marshall, TX, if the state decides to relocate those National Guard units.
3. A Site Survey Team (SST) convened in Tyler on 23 August 2007 to visit and evaluate the only contending site identified in the Available Site Identification and Validation report prepared by the Fort Worth Corps of Engineer District. A list of the SST participants is attached at enclosure 1 to the SSR. A copy of the ASIV to include

ARRC-CAR-ENP

SUBJECT: Site Survey Report (SSR), Tyler, Texas

an electronic copy (CD) was provided to all SST members to include IMA-AR and ACSIM-AR representatives. The ASIV contains site data sheets for each site referred, topography maps, and photographs of each site as well as detailed location maps. Therefore the ASIV document is not included as an enclosure to this Site Survey Report. Recipients of this correspondence should attach this memorandum and the enclosed Site Survey Report to their copy of the ASIV as a cover sheet. The 90<sup>th</sup> RRC concurs with the recommendations of the Site Survey Team (SST) that Site Number 3 be pursued as the Primary Site for acquisition. The SST originally recommended that Site 2 be identified as an Alternate Site; however, due to the extreme amount of easements that traverse the site it has been decided that an alternate site cannot be referred for consideration.

4. Ms. Rachel White, (AC 501-771-8927), 90<sup>th</sup> Regional Readiness Command (RRC) established and chaired the Site Survey Team (SST). BRAC Planning and Design funds will be used to fund this project. Major Gregory Scott is the MILCON POC for this project (AC 703-601-1937).

FOR THE DCSARIM:



Ronald D. Hancock  
BRAC Transition Coordinator

Enclosure  
as

CF: w/Encls

HQDA, ATTN: DAIM-AR (Ms. Chuck)

Cdr, USACE, ATTN: CERE-AM (Ms. Mahoney)

Cdr, Fort Worth Corps of Engineer District, ATTN: CESWF-Real Estate (Ms Hyla Head)

Site Survey Team Members

TYLER, TEXAS  
SITE SURVEY REPORT  
23 August 2007

1. This site survey was conducted on 23 August 2007 to evaluate and select a suitable fourteen (14) (+or-) acre site to support the FY 09 Base Realignment and Closure (BRAC) Military Construction Army Reserve (MCAR) Project #64467. The new facility will contain an AFRC building with 124,665 square feet of space, a Multi-use Classroom with 14,600 square feet, a Vehicle Maintenance Shop with 7,383 square feet, and an Organizational Unit Storage facility with 7,969 square feet.
2. A minimum width of 500 linear feet is required for any referred property to meet Anti-Terrorist Force Protection (ATFP) requirements. The 800 Member Armed Forces Reserve Center in Tyler, Texas, will accommodate USAR Units from the 90<sup>th</sup> RSC and the Texas Army National Guard. A list of the Site Survey Team participants is attached as enclosure 1.
3. On 23 August 2007, Mr. Ronald Edwards, ACSIM-AR, a contract Real Estate Project Coordinator, JMWaller presented a briefing to all team members prior to visiting the only site referred by the Fort Worth Corps of Engineer District. The ASIV prepared by the Fort Worth Corps of Engineers is poorly organized, i.e. site plans, identification of easements and utilities is lacking, identification of the sites referred on the maps are incorrect, and site data photographs provide more views of surrounding "contiguous neighbors" than of the actual sites referred. Therefore, a map has been acquired from Google Earth Aerial views than is contained in the ASIV as well as views of the primary site selected by the SST. Site 4 is known locally as the Oil Palace a former exhibition hall existing building had an asking price of \$6,750,000.00 and was rejected from consideration although the SST did in fact visit the site for evaluation.
  - a. **The Site Survey Team unanimously identified Site 3 as the Primary Site to be pursued for acquisition.** This site is located on State Highway 31 and is located approximately 3 to 5 miles west of the Tyler, Texas City Limits. There are abundant restaurants and hotels within a short commuting distance in Tyler situated on State Highway 64 and Loop 323. This site is situated across HWY 31 from the Good Year Plant which is scheduled to close per the local real estate agent accompanying the SST. There are forty five (45) (+or-) acres located in the entire site and the owner is willing to sub-divide. The far eastern side of the site is closest to some residential housing and the site appears to drain from the north to the south and eventually to the east. There is a drop in elevation from the highway and the site gains elevation toward the northern back site of the property. The SST recommended the "sub-divided" portion be sought on the far western edge of this site. Further, the ASIV indicates there are "some road and utilities easements on site and a Title Policy would have to be acquired to identify the specific locations". Strongly recommend that, although this site has been identified as the Primary Site for potential acquisition, the Fort Worth Corps of Engineers should perform more due diligence by contacting the Smith County Courthouse to identify all

easements of record prior to entering into negotiations for fee purchase. Additionally, acquisition of this site may require purchase of more than 14 acres in order to provide a total of 14 net build able acres – recommend 20 acres be considered by the ACSIM-AR Project Officer, Major Gregory Scott, and the Louisville Program Manager, Mr. Craig T. Bush. The vast majority of Site 3 has been cleared of the trees and scrub brush. All utilities appear to be available from Highway 31 frontage. This is the only site considered suitable during the site visits. The following provides additional information relative to this site:

ASIV Site # 3 Data:

Address: FM 13680 HWY 31, Tyler, Texas  
Congressional District: 7th  
Senior Senator: John Corin  
Junior Senator: Kevin Eltife  
Representative: Louis Gohrmet  
Site Access: FM 13680 HWY 31-Smith County  
Owner/Authorized Representative Contact Information:  
Marmak, Inc, Smith County, TX 75781, Tyler, Texas

Site Description:

Size: 45 Acres - will sub-divide

Environmental Concerns Present: None

Flood Plan Data: FEMA Flood Zone A

Topography Aspects:

Utilities: All located on site along frontage with immediate site access.

Current Use: Vacant

Buildings on Site: None

Relocation of Current occupants Required: N/A

Demolition Required: N/A

Cut and fill Requirements: Minor

Zoning: Industrial

Fenced: No

Parking sufficient net useable land available: Sufficient parking available

Distance to nearest Fire Station: Located Approximately 6 Miles

Distance to nearest Fire Hydrant: unknown

Distance to nearest Police Station/Extended Territorial Jurisdiction (ETJ): 6 Miles.

Subject to Easements: There are some roads and utility easements (Title Policy will be necessary)

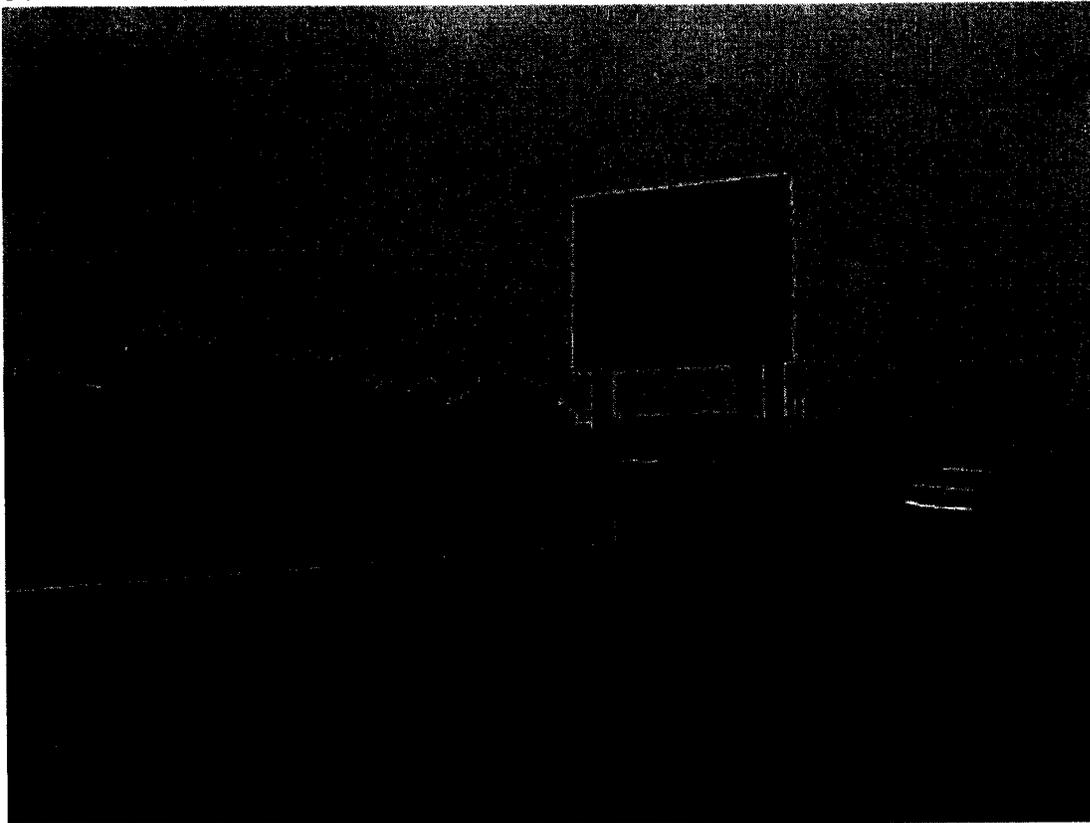
Mineral Rights Reserved: Mineral Rights are owned by owner and will be included if site is purchased).

Available Date: Available Immediately Asking Price:  
\$1,750,000M for the entire 45 acre site. Asking price for  
fourteen acres is \$544,444K

Contending Site 3  
31 W HWY 155



Contending Site 3  
31 W HWY 155



Contending Site 3  
31 W HWY 155



b. **The Site Survey Team unanimously rejected Site 1 from consideration. Access to this site is also via Highway 31 and site is approximately 800 to 1,000 feet further west of Site 4; the primary site identified.** Access to this site would require major road construction. Access is through a very roughed in road and there is strong evidence of erosion along the road. The United Auto Workers Union Hall is located on the front portion of the site – the acreage referred is located behind the hall as well as a "firing range" that aims directly at the site referred. The following provides additional information relative to this site:

ASIV Site # 1 Data:

Address: F13680 HWY 31

Congressional District: 7<sup>th</sup>

Senior Senator: John Cornin

Junior Senator: Kevin Eltife

Representative: Louie Gohmert

Site Access: F13680 Hwy 31-Smith County

Owner/Authorized Representative Contact Information:

[REDACTED]  
[REDACTED]  
[REDACTED]

Site Description: Size: 25 + - Acres  
Environmental Concerns Present: None  
Flood Plan Data: FEMA Flood Zone- A  
Topography Aspects:  
Utilities: All located on site along frontage with immediate site access.  
Current Use: Vacant  
Buildings on Site: None  
Relocation of Current occupants Required: N/A  
Demolition Required: N/A  
Cut and fill Requirements: Minor  
Zoning: Industrial  
Fenced: No  
Parking sufficient net useable land available: Sufficient parking available  
Distance to nearest Fire Station: Located Approximately 6 Miles  
Distance to nearest Fire Hydrant: unknown  
Distance to nearest Police Station/Extended Territorial Jurisdiction (ETJ): 6

Miles.

Subject to Easements: There are some roads and utility easements (Title Policy will be necessary)

Mineral Rights Reserved: Mineral Rights are owned by owner and will be included if site is purchased).

Available Date: Available Immediately Asking Price: \$8,500.00 (per acre)

Contending Site 1

13680 HWY 31 W



c. The Site Survey Team originally unanimously identified Site 2 as the Alternate Site to be pursued for acquisition. Later discussions however took place in reference to the fact this site is riddled with various easements throughout the two tracts of land that would be needed to meet the acreage requirement. Site two would also entail negotiations with two, and possibly, 3 land owners of record per the real estate agent referring the site for consideration. This site is located on FM 311 and Highway 155 and is contiguous to a Post Office. Access is via a narrow two lane road, and, per the local Unit Administrator, the area is well known for traffic accidents. The site is remote and would require lost drill time for the drilling reservists to travel for food and lodging. **Site 2 should be rejected from consideration as an Alternate Site.** The following provides additional information relative to this site:

ASIV Site # 2 Data:

Address: FM 311 HWY 155, Tyler, Texas

Congressional District: 7th

Senior Senator: John Corin

Junior Senator: Kevin Eltife

Representative: Louis Gohrmet

Site Access: FM 311-Hwy 155-Smith County

Owner/Authorized Representative Contact Information:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Site Description:

Size: 20 + Acres

Environmental Concerns Present: None

Flood Plan Data: FEMA Flood Zone A

Topography Aspects:

Utilities: All located on site along frontage with immediate site access.

Current Use: Vacant

Buildings on Site: None

Relocation of Current occupants Required: N/A

Demolition Required: N/A

Cut and fill Requirements: Minor

Zoning: Industrial

Fenced: No

Parking sufficient net useable land available: Sufficient parking available

Distance to nearest Fire Station: Located Approximately 6 Miles

Distance to nearest Fire Hydrant: unknown

Distance to nearest Police Station/Extended Territorial Jurisdiction (ETJ): 6 Miles.

Subject to Easements: There are some roads and utility easements (Title Policy will be necessary)

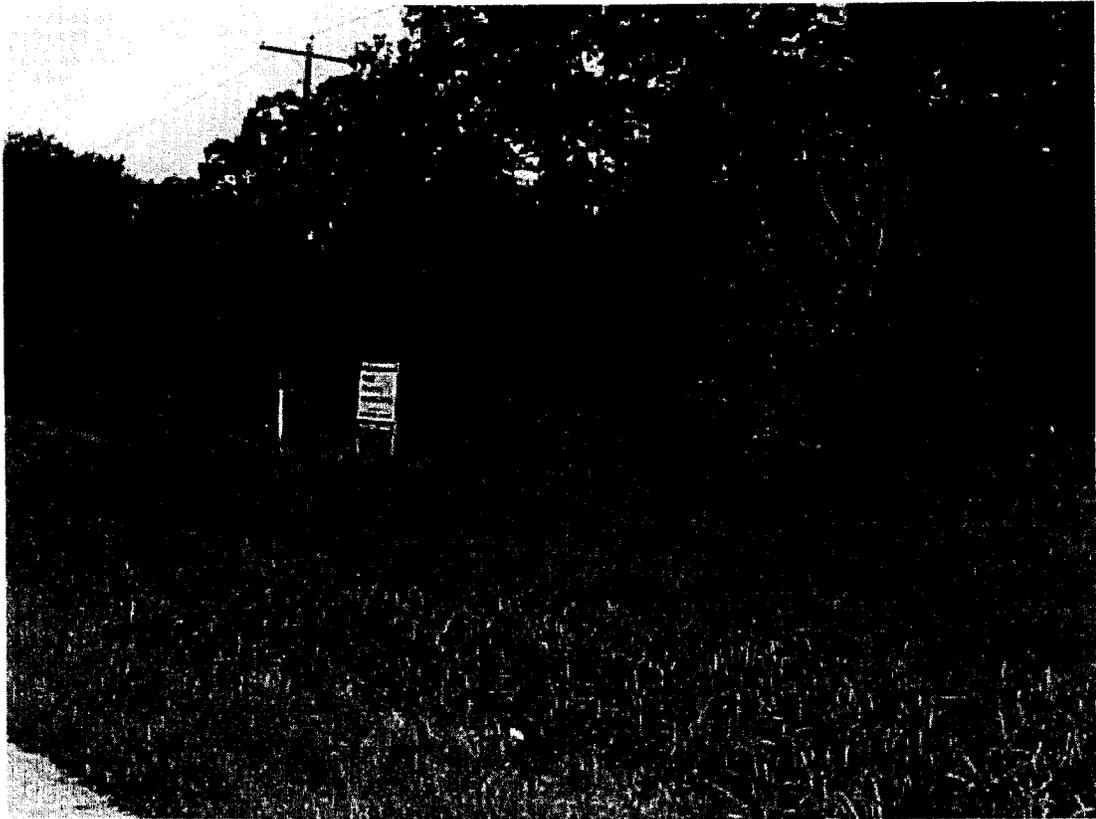
Mineral Rights Reserved: Mineral Rights are owned by owner and will be included if site is purchased).

Available Date: Available Immediately Asking Price: \$20,000.00 (per acre)

Contending Site 2- Aerial Map



Contending Site 2  
FM 3311 & HWY 155





***APPENDIX B***  
***Air Emission Calculations***

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CALCULATION SHEET-COMBUSTABLE EMISSIONS-SMITH COUNTY

Assumptions for Combustable Emissions					
Type of Construction Equipment	Num. of Units	HP Rated	Hrs/day	Days/yr	Total hp-hrs
Water Truck	1	300	8	240	576000
Diesel Road Compactors	0	100	8	240	0
Diesel Dump Truck	2	300	8	240	1152000
Diesel Excavator	1	300	8	90	216000
Diesel Hole Trenchers	0	175	8	90	0
Diesel Bore/Drill Rigs	0	300	8	90	0
Diesel Cement & Mortar Mixers	1	300	8	240	576000
Diesel Cranes	2	175	8	240	672000
Diesel Graders	1	300	8	90	216000
Diesel Tractors/Loaders/Backhoes	2	100	8	240	384000
Diesel Bull Dozers	1	300	8	240	576000
Diesel Front End Loaders	1	300	8	240	576000
Diesel Fork Lifts	2	100	8	240	384000
Diesel Generator Set	3	40	8	240	230400

Emission Factors							
Type of Construction Equipment	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	PM-10 g/hp-hr	PM-2.5 g/hp-hr	SO2 g/hp-hr	CO2 g/hp-hr
Water Truck	0.440	2.070	5.490	0.410	0.400	0.740	536.000
Diesel Road Compactors	0.370	1.480	4.900	0.340	0.330	0.740	536.200
Diesel Dump Truck	0.440	2.070	5.490	0.410	0.400	0.740	536.000
Diesel Excavator	0.340	1.300	4.600	0.320	0.310	0.740	536.300
Diesel Trenchers	0.510	2.440	5.810	0.460	0.440	0.740	535.800
Diesel Bore/Drill Rigs	0.600	2.290	7.150	0.500	0.490	0.730	529.700
Diesel Cement & Mortar Mixers	0.610	2.320	7.280	0.480	0.470	0.730	529.700
Diesel Cranes	0.440	1.300	5.720	0.340	0.330	0.730	530.200
Diesel Graders	0.350	1.360	4.730	0.330	0.320	0.740	536.300
Diesel Tractors/Loaders/Backhoes	1.850	8.210	7.220	1.370	1.330	0.950	691.100
Diesel Bull Dozers	0.360	1.380	4.760	0.330	0.320	0.740	536.300
Diesel Front End Loaders	0.380	1.550	5.000	0.350	0.340	0.740	536.200
Diesel Fork Lifts	1.980	7.760	8.560	1.390	1.350	0.950	690.800

CALCULATION SHEET-COMBUSTABLE EMISSIONS-SMITH COUNTY

Diesel Generator Set	1.210	3.760	5.970	0.730	0.710	0.810	587.300
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Emission factors (EF) were generated from the NONROAD2005 model for the 2006 calendar year. The VOC EFs includes exhaust and evaporative emissions. The VOC evaporative components included in the NONROAD2005 model are diurnal, hotsoak, running loss, tank permeation, hose permeation, displacement, and spillage. The construction equipment age distribution in the NONROAD2005 model is based on the population in U.S. for the 2006 calendar year.

Emission Calculations							
Type of Construction Equipment	VOC tons/yr	CO tons/yr	NOx tons/yr	PM-10 tons/yr	PM-2.5 tons/yr	SO2 tons/yr	CO2 tons/yr
Water Truck	0.279	1.314	3.485	0.260	0.254	0.470	340.227
Diesel Road Paver	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Dump Truck	0.559	2.628	6.970	0.520	0.508	0.939	680.454
Diesel Excavator	0.081	0.309	1.095	0.076	0.074	0.176	127.657
Diesel Hole Cleaners\Trenchers	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Bore/Drill Rigs	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Cement & Mortar Mixers	0.387	1.473	4.621	0.305	0.298	0.463	336.228
Diesel Cranes	0.326	0.963	4.236	0.252	0.244	0.541	392.636
Diesel Graders	0.083	0.324	1.126	0.079	0.076	0.176	127.657
Diesel Tractors/Loaders/Backhoes	0.783	3.474	3.055	0.580	0.563	0.402	292.451
Diesel Bull Dozers	0.229	0.876	3.021	0.209	0.203	0.470	340.417
Diesel Front End Loaders	0.241	0.984	3.174	0.222	0.216	0.470	340.354
Diesel Aerial Lifts	0.838	3.284	3.622	0.588	0.571	0.402	292.324
Diesel Generator Set	0.307	0.955	1.516	0.185	0.180	0.206	149.116
<b>Total Emissions</b>	<b>4.113</b>	<b>16.583</b>	<b>35.921</b>	<b>3.277</b>	<b>3.188</b>	<b>4.715</b>	<b>3419.522</b>

Conversion factors	
Grams to tons	1.102E-06

CALCULATION SHEET-TRANSPORTATION COMBUSTABLE EMISSIONS-SMITH COUNTY

Construction Worker Personal Vehicle Commuting to Construction Site-Passenger and Light Duty Trucks									
Pollutants	Emission Factors		Assumptions				Results by Pollutant		
	Passenger Cars g/mile	Pick-up Trucks, SUVs g/mile	Mile/day	Day/yr	Number of cars	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	1.36	1.61	60	240	30	30	0.65	0.77	1.41
CO	12.4	15.7	60	240	30	30	5.90	7.47	13.38
NOx	0.95	1.22	60	240	30	30	0.45	0.58	1.03
PM-10	0.0052	0.0065	60	240	30	30	0.00	0.00	0.01
PM 2.5	0.0049	0.006	60	240	30	30	0.00	0.00	0.01

Heavy Duty Trucks Delivery Supply Trucks to Construction Site									
Pollutants	Emission Factors		Assumptions				Results by Pollutant		
	10,000-19,500 lb Delivery Truck	33,000-60,000 lb semi trailer rig	Mile/day	Day/yr	Number of trucks	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	0.29	0.55	60	90	2	2	0.00	0.01	0.01
CO	1.32	3.21	60	90	2	2	0.02	0.04	0.05
NOx	4.97	12.6	60	90	2	2	0.06	0.15	0.21
PM-10	0.12	0.33	60	90	2	2	0.00	0.00	0.01
PM 2.5	0.13	0.36	60	90	2	2	0.00	0.00	0.01

Daily AFRC Commute to New Site									
Pollutants	Emission Factors		Assumptions				Results by Pollutant		
	Passenger Cars g/mile	Pick-up Trucks, SUVs g/mile	Mile/day	Day/yr	Number of Cars	Number of trucks	Total Emissions cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	1.36	1.61	30	240	12	12	0.13	0.15	0.28
CO	12.4	15.7	30	240	12	12	1.18	1.49	2.68
NOx	0.95	1.22	30	240	12	12	0.09	0.12	0.21
PM-10	0.0052	0.0065	30	240	12	12	0.00	0.00	0.00
PM 2.5	0.0049	0.006	30	240	12	12	0.00	0.00	0.00

Truck Emission Factor Source: USEPA 2005 Emission Facts: Average annual emissions and fuel consumption for gasoline-fueled passenger cars and light trucks. EPA 420-F-05-022 August 2005. Emission rates were generated using MOBILE.6 highway vehicle emission factor model.

COMMUTER COMBUSTABLE EMISSIONS - SMITH COUNTY

Weekend Training AFRC Commute to New Site									
Pollutants	Emission Factors		Assumptions				Results by Pollutant		
	Passenger Cars g/mile	Pick-up Trucks, SUVs g/mile	Mile/day	Day/yr	Number of Cars	Number of trucks	Total Emissions cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	1.36	1.61	30	108	80	80	0.39	0.46	0.85
CO	12.4	15.7	30	108	80	80	3.54	4.48	8.03
NOx	0.95	1.22	30	108	80	80	0.27	0.35	0.62
PM-10	0.0052	0.0065	30	108	80	80	0.00	0.00	0.00
PM 2.5	0.0049	0.006	30	108	80	80	0.00	0.00	0.00

Truck Emission Factor Source: USEPA 2005 Emission Facts: Average annual emissions and fuel consumption for gasoline-fueled passenger cars and light trucks. EPA 420-F-05-022 August 2005. Emission rates were generated using MOBILE.6 highway vehicle emission factor model.

Assume 3 weekends a month of training Friday evening through Sunday = three days a weekend driving and three times a month. Assume vehicle composition for trainees to be 50% cars and 50% pickup trucks or SUVs.

Conversion fact	gms to tons
	0.000001102

CALCULATION SHEET-FUGITIVE DUST-SMITH COUNTY

**Construction Fugitive Dust Emissions**

**Construction Fugitive Dust Emission Factors**

	<b>Emission Factor</b>	<b>Units</b>	<b>Source</b>
General Construction Activities	0.19 ton PM10/acre-month		MRI 1996; EPA 2001; EPA 2006
New Road Construction	0.42 ton PM10/acre-month		MRI 1996; EPA 2001; EPA 2006

**PM2.5 Emissions**

PM2.5 Multiplier	0.10	(10% of PM10 emissions assumed to be PM2.5)	EPA 2001; EPA 2006
------------------	------	---	--------------------

**Control Efficiency**

0.50	(assume 50% control efficiency for PM10 and PM2.5 emissions)	EPA 2001; EPA 2006
------	--	--------------------

**Project Assumptions**

**Costruction Area (0.19 ton PM10/acre-month)**

Duration of Construction Project	12	months
Length	0	miles
Length (converted)	0	feet
Width	0	feet
Area	12.00	acres

**Conversion Factors**

0.000022957	acres per feet
5280	feet per mile

**Staging Areas**

Duration of Construction Project		months
Length		miles
Length (converted)		feet
Width		feet
Area	0.00	acres

	<b>Project Emissions (tons/year)</b>			
	<b>PM10 uncontrolled</b>	<b>PM10 controlled</b>	<b>PM2.5 uncontrolled</b>	<b>PM2.5 controlled</b>
Costruction Area (0.19 ton PM10/acre-month)	27.36	13.68	2.74	1.37
Staging Areas	0.00	0.00	0.00	0.00
<b>Total</b>	<b>27.36</b>	<b>13.68</b>	<b>2.74</b>	<b>1.37</b>

## Construction Fugitive Dust Emission Factors

### General Construction Activities Emission Factor

**0.19 ton PM10/acre-month** Source: MRI 1996; EPA 2001; EPA 2006

The area-based emission factor for construction activities is based on a study completed by the Midwest Research Institute (MRI) Improvement of Specific Emission Factors (BACM Project No. 1), March 29, 1996. The MRI study evaluated seven construction projects in Nevada and California (Las Vegas, Coachella Valley, South Coast Air Basin, and the San Joaquin Valley). The study determined an average emission factor of 0.11 ton PM10/acre-month for sites without large-scale cut/fill operations. A worst-case emission factor of 0.42 ton PM10/acre-month was calculated for sites with active large-scale earth moving operations. The monthly emission factors are based on 168 work-hours per month (MRI 1996). A subsequent MRI Report in 1999, Estimating Particulate Matter Emissions From Construction Operations, calculated the 0.19 ton PM10/acre-month emission factor by applying 25% of the large-scale earthmoving emission factor (0.42 ton PM10/acre-month) and 75% of the average emission factor (0.11 ton PM10/acre-month). The 0.19 ton PM10/acre-month emission factor is referenced by the EPA for non-residential construction activities in recent procedures documents for the National Emission Inventory (EPA 2001; EPA 2006). The 0.19 ton PM10/acre-month emission factor represents a refinement of EF

### New Road Construction Emission Factor

**0.42 ton PM10/acre-month** Source: MRI 1996; EPA 2001; EPA 2006

The emission factor for new road construction is based on the worst-case conditions emission factor from the MRI 1996 study described above (0.42 tons PM10/acre-month). It is assumed that road construction involves extensive earthmoving and heavy construction vehicle travel resulting in emissions that are higher than other general construction projects. The 0.42 ton PM10/acre-month emission factor for road construction is referenced in recent procedures documents for the EPA National Emission Inventory (EPA 2001; EPA 2006).

### PM2.5 Multiplier

**0.10**

PM2.5 emissions are estimated by applying a particle size multiplier of 0.10 to PM10 emissions. This methodology is consistent with the procedures documents for the National Emission Inventory (EPA 2006).

### Control Efficiency for PM10 and PM2.5

**0.50**

The EPA National Emission Inventory documentation recommends a control efficiency of 50% for PM10 and PM2.5 in PM nonattainment areas. Wetting controls will be applied during project construction (EPA 2006).

### References:

EPA 2001. *Procedures Document for National Emissions Inventory, Criteria Air Pollutants, 1985-1999*. EPA-454/R-01-006. Office of Air Quality Planning and Standards, United States Environmental Protection Agency. March 2001.

EPA 2006. *Documentation for the Final 2002 Nonpoint Sector (Feb 06 version) National Emission Inventory for Criteria and Hazardous Air Pollutants*. Prepared for: Emissions Inventory and Analysis Group (C339-02) Air Quality Assessment Division Office of Air Quality Planning and Standards, United States Environmental Protection Agency. July 2006.

MRI 1996. *Improvement of Specific Emission Factors (BACM Project No. 1)*. Midwest Research Institute (MRI). Prepared for the California South Coast Air Quality Management District, March 29, 1996.

CALCULATION SHEET-SUMMARY OF EMISSIONS-SMITH COUNTY

<b>Proposed Action Construction Emissions for Criteria Pollutants (tons per year)</b>						
Emission source	VOC	CO	NOx	PM-10	PM-2.5	SO2
Combustable Emissions	4.11	16.58	35.92	3.28	3.19	4.71
Construction Site-fugitive PM-10	NA	NA	NA	13.68	1.37	NA
Construction Workers Commuter & Trucking	1.42	13.43	1.24	0.01	0.01	NA
<b>Total emissions</b>	<b>7.54</b>	<b>45.66</b>	<b>43.20</b>	<b>17.42</b>	<b>5.01</b>	<b>5.39</b>
De minimis threshold	NA	NA	NA	NA	NA	NA
Weekend Commute to AFRC	0.85	8.03	0.62	0.00	0.00	NA
Daily Commute AFRC Staff	0.28	2.68	0.21	0.00	0.00	NA
<b>Total Ongoing Emissions</b>	<b>1.13</b>	<b>10.70</b>	<b>0.83</b>	<b>0.00</b>	<b>0.00</b>	<b>-</b>



*APPENDIX C*  
*Correspondence*





## FARMLAND CONVERSION IMPACT RATING

<b>PART I (To be completed by Federal Agency)</b>		Date Of Land Evaluation Request 10/9/2008			
Name of Project Tyler AFRC, Texas		Federal Agency Involved Department of the Army			
Proposed Land Use New Armed Forces Reserve Center		County and State Smith County, Texas			
<b>PART II (To be completed by NRCS)</b>		Date Request Received By NRCS 10/16/2008		Person Completing Form: L. Kiniry	
Does the site contain Prime, Unique, Statewide or Local Important Farmland? <i>(If no, the FPPA does not apply - do not complete additional parts of this form)</i>		YES x	NO <input type="checkbox"/>	Acres Irrigated 2,220	Average Farm Size 127
Major Crop(s) Improved bermudagrass	Farmable Land in Govt. Jurisdiction Acres: 339,567 56%	Amount of Farmland As Defined in FPPA Acres: 109,465 18%			
Name of Land Evaluation System Used LESA	Name of State or Local Site Assessment System NONE	Date Land Evaluation Returned by NRCS 1/13/2009			
<b>PART III (To be completed by Federal Agency)</b>		<b>Alternative Site Rating</b>			
		Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly		25			
B. Total Acres To Be Converted Indirectly					
C. Total Acres In Site		25			
<b>PART IV (To be completed by NRCS) Land Evaluation Information</b>					
A. Total Acres Prime And Unique Farmland		6			
B. Total Acres Statewide Important or Local Important Farmland		-			
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted		.002			
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value		.9			
<b>PART V (To be completed by NRCS) Land Evaluation Criterion</b> Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)		79			
<b>PART VI (To be completed by Federal Agency) Site Assessment Criteria</b> <i>(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)</i>		Maximum Points	Site A	Site B	Site C
1. Area In Non-urban Use		(15)			
2. Perimeter In Non-urban Use		(10)			
3. Percent Of Site Being Farmed		(20)			
4. Protection Provided By State and Local Government		(20)			
5. Distance From Urban Built-up Area		(15)			
6. Distance To Urban Support Services		(15)			
7. Size Of Present Farm Unit Compared To Average		(10)			
8. Creation Of Non-farmable Farmland		(10)			
9. Availability Of Farm Support Services		(5)			
10. On-Farm Investments		(20)			
11. Effects Of Conversion On Farm Support Services		(10)			
12. Compatibility With Existing Agricultural Use		(10)			
<b>TOTAL SITE ASSESSMENT POINTS</b>		160			
<b>PART VII (To be completed by Federal Agency)</b>					
Relative Value Of Farmland (From Part V)		100	79		
Total Site Assessment (From Part VI above or local site assessment)		160			
<b>TOTAL POINTS (Total of above 2 lines)</b>		260			
Site Selected:		Date Of Selection		Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>	
Reason For Selection:					
Name of Federal agency representative completing this form:					Date:

United States Department of Agriculture



Natural Resources Conservation Service

101 S. Main Street  
Temple, TX 76501-6624  
Phone: 254-742-9861  
FAX: 254-742-9859

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January 13, 2009

Gulf South Research Corporation  
8081 GSRI Avenue  
Baton Rouge, LA 70820  
Attention: Nicole Forsyth

Subject: LNU-Farmland Protection  
Proposed New Armed Forces Reserve Center in Tyler  
Smith County, Texas

We have reviewed the information provided concerning the proposed new Armed Forces Reserve Center as outlined in your letter dated October 9, 2008. This review is part of the National Environmental Policy Act (NEPA) evaluation for the U.S. Army Corps of Engineers. We have evaluated the proposed site as required by the Farmland Protection Policy Act (FPPA).

We have incorporated the information provided in form CPA-106, which you provided, and instead have used the Farmland Conversion Impact Rating Form (AD-1006). This form is more appropriate for a site-specific area while the other is more appropriate for transportation and utility corridors. From your resource material, we determined that the project area was approximately 25 acres in size with 6 acres of prime farmland soil (Raino fine sandy loam, 0 to 2 percent slopes). We have completed Parts I, II, III, IV, and V of form AD-1006 and are returning it to you so that Parts VI and VII can be completed. The criteria for filling out Part VI are found at the following website [http://www.nrcs.usda.gov/programs/fppa/pdf\\_files/AD1006.PDF](http://www.nrcs.usda.gov/programs/fppa/pdf_files/AD1006.PDF). We request a copy of the final document when the site assessment has been completed.

Thank you for the resource materials you provided. If you have any questions, please contact me at 254-742-9861. I apologize for the lateness of this reply to your request.

Sincerely,

Laurie N. Kiniry  
Soil Scientist

Enclosure

USACE\_Jurisdictional\_Determination.txt

From: Walker, Jennifer R SWF [Jennifer.R.Walker2@usace.army.mil]  
Sent: Monday, November 24, 2008 8:25 AM  
To: Colleen.Reilly@CH2M.com; Gunnell, Lenard P LRL; Mitchell, Cristie L LRL; Walker, Thomas P LRL; Borchardt, David J Mr USAR HQUSARC IMAAR  
Cc: Chris.McCarthy@CH2M.com; Rene.Hinojosa@CH2M.com; Madden, David E SWF  
Subject: RE: U. S. Army Reserve Center, Tyler, TX

Colleen,

I concur with the revised JD report. You may use the waters of the U.S. determination contained in the report as the basis for the PCN submittal. Feel free to email me this submittal in order to expedite our review. I also wanted to inform you that I will be out of the office from Wednesday Nov. 26 until Wednesday Dec. 3. If you have any questions during that timeframe please contact Mr. David Madden. Thank you and have a great day.

Jennifer Walker  
Chief, Permits Section Regulatory Branch USACE Critical Incident Peer Supporter Ft. Worth District U.S. Army Corps of Engineers  
819 Taylor Street  
P.O. Box 17300  
Ft. Worth, Texas 76102-0300  
(817) 886-1863  
Email - Jennifer.R.Walker2@usace.army.mil Homepage -  
<http://www.swf.usace.army.mil/pubdata/evniron/Regulatory/index.asp>

Please assist the Regulatory Program improve its service by completing the survey on the following website:  
<http://per2.nwp.usace.army.mil/survey.html>

"Always do right. This will amuse some people and astonish the rest".

Mark Twain

---

From: Colleen.Reilly@CH2M.com [mailto:Colleen.Reilly@CH2M.com]  
Sent: Friday, November 21, 2008 2:16 PM  
To: Gunnell, Lenard P LRL; Mitchell, Cristie L LRL; Walker, Thomas P LRL; David.Borchardt@usar.army.mil; Walker, Jennifer R SWF  
Cc: Chris.McCarthy@CH2M.com; Rene.Hinojosa@CH2M.com  
Subject:

All,

Attached is the revised wetland evaluation technical memorandum based on further discussions with Jennifer Walker of the Fort Worth District.

Assuming the Fort Worth District concurs with the conclusions in this revised memo, we offer the following next steps for consideration:

USACE\_Jurisdictional\_Determination.txt

1. Assuming the design remains the same (or similar), determine mitigation plans. We are still waiting to hear back from the Pineywoods Mitigation Bank, but typically, the mitigation bank costs are \$15K/acre, with a 1-acre minimum purchase.
2. Once the design plans are final, prepare and submit the Pre-construction Notification to the Fort Worth District (note: this may not be required if the design changes to avoid impacts to the wetlands).

Please let me know if you have any questions or additional comments.

Thank you,

Colleen Reilly

Colleen K. Reilly

Program Manager

CH2M HILL

135 S. 84th Street, Suite 325

Milwaukee, WI 53214

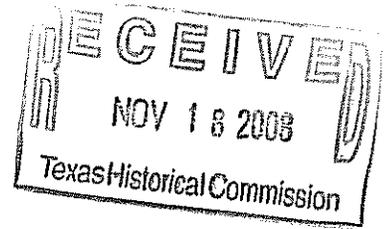
Ph: 414-202-5730

Fx: 414-454-8884

creilly@ch2m.com



DEPARTMENT OF THE ARMY  
MOBILE DISTRICT, CORPS OF ENGINEERS  
P.O. BOX 2288  
MOBILE, ALABAMA 36628-0001



REPLY TO  
ATTENTION  
OF:

November 14, 2008

BRAC NEPA Support Team  
Planning and Environmental Division

Mr. F. Lawrence Oaks  
State Historic Preservation Officer  
ATTN: Ms. Debra L. Beene  
Texas Historical Commission  
1511 Colorado Street  
Austin, Texas 78701

RE: Transmittal of Phase I Cultural Resources Survey of the Proposed Tyler Armed Forces Reserve Center, Smith County, Texas

Dear Mr. Oaks:

On October 8, 2008, the U.S. Army, 90<sup>th</sup> Regional Readiness Command requested your concurrence on our determination of "no historic properties affected" by building the proposed Armed Forces Reserve Center (AFRC) in Tyler, Texas (Enclosure 1). Unfortunately, the supporting documentation for this effect determination was not provided. The Army understands that you cannot begin your comment period and review of our effects determination to Historic Properties as per the National Historic Preservation Act without receipt of this data. Please accept our apologies for this over-site. The report entitled "Phase I Cultural Resources Survey of the Proposed Tyler Armed Forces Reserve Center, Smith County, Texas" is enclosed for your review (Enclosure 2).

The U.S. Army request that you review the enclosed report and concur with our determination of "no historic properties affected" by the construction of the proposed AFRC Tyler as per 36CFR800.4(d)(1). If you have questions or concerns about this project, please contact Mr. James Wheeler, II, Environmental Manager, 90<sup>th</sup> Regional Readiness Command at (501) 771-7992 or myself at (251)694-4114. Thank you for your patience and understanding concerning this matter.

NO HISTORIC  
PROPERTIES AFFECTED  
PROJECT MAY PROCEED

By *William D. Mauer*  
for F. Lawrence Oaks  
State Historic Preservation Officer  
Date 11/19/08  
Track# \_\_\_\_\_

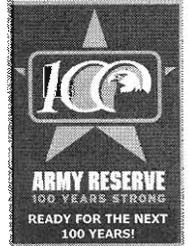
Sincerely,  
*Joseph A. Giliberti*  
Joseph A. Giliberti  
Archaeologist  
BRAC NEPA Support Team

Enclosures (2)





**DEPARTMENT OF THE ARMY**  
HEADQUARTERS, UNITED STATES ARMY 90TH REGIONAL READINESS COMMAND  
CAPTAIN MAURICE L. BRITT UNITED STATES ARMY RESERVE CENTER  
8000 CAMP ROBINSON ROAD  
NORTH LITTLE ROCK, ARKANSAS 72118-2205



October 19, 2008

Environmental Office

Mr. Richard L. Allen  
Cherokee Nation of Oklahoma  
P.O. Box 948  
Tahlequah, OK 74465-0948

Dear Mr. Allen:

The Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended, implements recommendations made during the fall of 2005, by the Defense Base Closure and Realignment Commission (BRAC Commission). One of the proposed actions is to close the U.S. Army Reserve Centers (USARC) in Tyler and Marshall and relocate the units to a new Armed Forces Reserve Center (AFRC) at Tyler, Texas.

The new facility will have the capability to accommodate up to 800 military and civilian personnel at the new AFRC during training activities if all U.S. Army Reserve (USAR) units assigned to the AFRC conduct training exercises simultaneously. To accommodate the proposed AFRC, a new 123,084 square foot building is proposed to be constructed. In addition, parking, vehicle and equipment maintenance, storm water detention ponds and storage facilities would also be constructed. Total building space proposed for construction at the AFRC is 165,248 square feet. The construction would permanently convert approximately 25 acres of clear cut lands to hard surfaces.

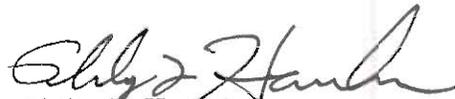
Two locations were considered for the location of the new AFRC in Tyler, Texas. The preferred site at Tyler, Texas, was identified as suitable for the construction of the AFRC. The U.S. Army Corps of Engineers (USACE), Mobile District is in the process of preparing an Environmental Assessment (EA), which will assess the potential impacts of constructing and operating the new AFRC at this location.

After a thorough search of the archaeological, historic building, and burial indices at the Texas State Historic Preservation Office, we have determined that there are no recorded archaeological sites, no recorded historic structures, and no recorded human burials on the preferred site described above. If your Tribe, or members of your Tribe, have knowledge of traditional cultural properties, sacred sites, or burials on or near the sites of our project, we request that you notify our representative listed below.

The construction and operation of the proposed AFRC at the alternative site would be expected to result in similar impacts as described above for the preferred site. However, no cultural resources field surveys were conducted at this site, so accurate statements regarding the presence/absence of potentially significant historic properties cannot be made at the present time. If Alternative Site #1 is ultimately selected cultural resources surveys and, supplemental NEPA documentation would be required to fully assess the potential impacts to these resources.

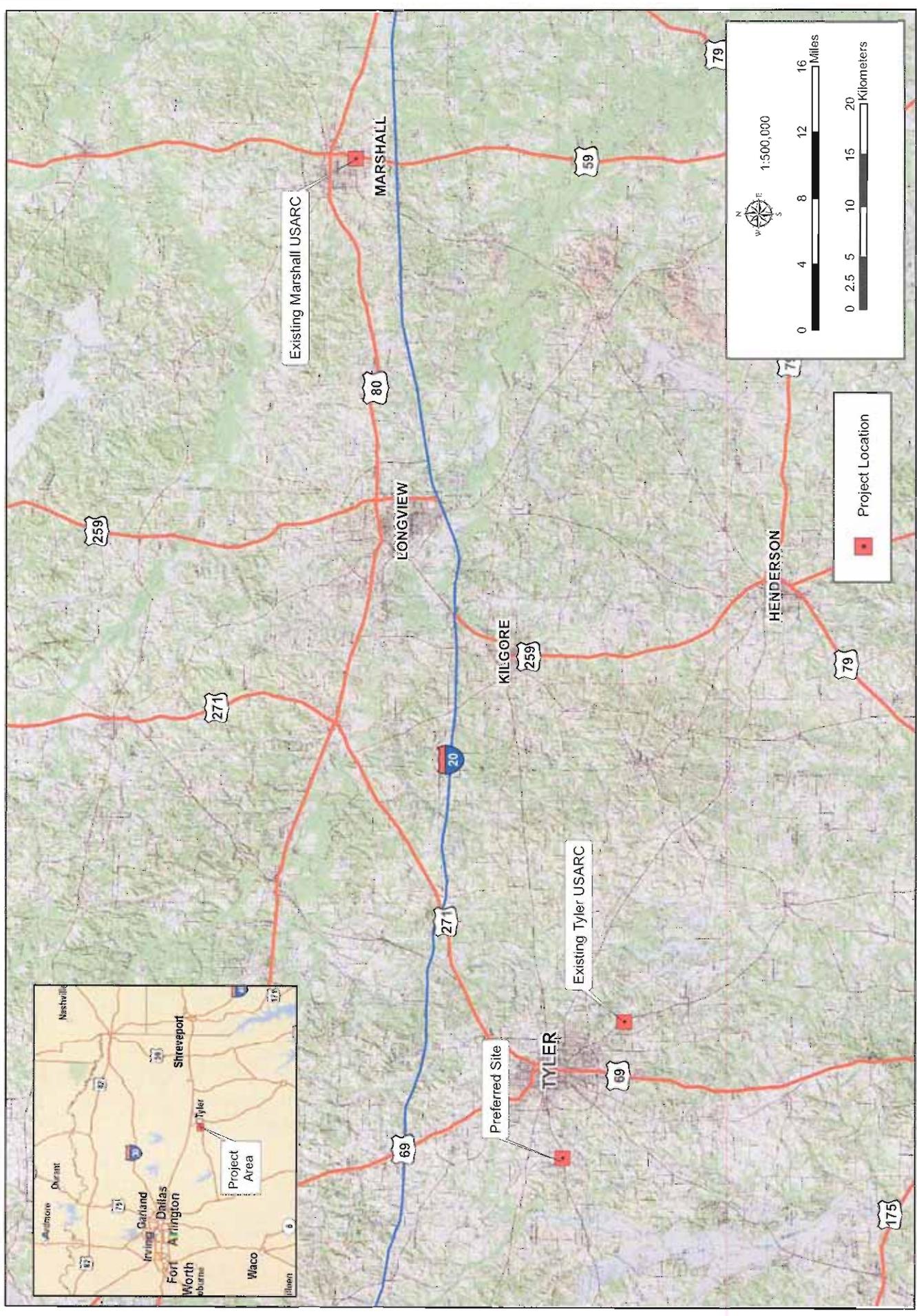
This notification is an invitation for your Tribe to participate in the cultural resources consultation process as required by the National Historic Preservation Act of 1966 (NHPA), as amended, and Presidential Executive Order 13175 Consultation and Coordination with Native American Tribal Governments. The Army wishes to ensure that issues of concern to your Tribe are addressed, and welcomes any comments you may have about the proposed AFRC construction. If you have questions or concerns about this project, please contact Mr. James Wheeler II, Environmental Manager, 90<sup>th</sup> Regional Readiness Command at (501) 771-7992, within thirty days of receipt of this letter.

Sincerely,



Philip L. Hanrahan  
Brigadier General, U.S. Army Reserve  
Commanding

Enclosure

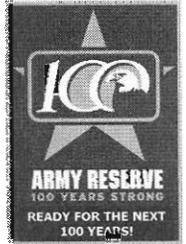


Enclosure A: Vicinity Map





**DEPARTMENT OF THE ARMY**  
HEADQUARTERS, UNITED STATES ARMY 90TH REGIONAL READINESS COMMAND  
CAPTAIN MAURICE L. BRITT UNITED STATES ARMY RESERVE CENTER  
8000 CAMP ROBINSON ROAD  
NORTH LITTLE ROCK, ARKANSAS 72118-2205



October 19, 2008

Environmental Office

The Honorable La Rue Parker, Chairwoman  
Caddo Nation of Oklahoma  
ATTN: Mr. Gonzalez  
P.O. Box 487  
Binger, OK 73009

Dear Chairwoman Parker:

The Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended, implements recommendations made during the fall of 2005, by the Defense Base Closure and Realignment Commission (BRAC Commission). One of the proposed actions is to close the U.S. Army Reserve Centers (USARC) in Tyler and Marshall and relocate the units to a new Armed Forces Reserve Center (AFRC) at Tyler, Texas.

The new facility will have the capability to accommodate up to 800 military and civilian personnel at the new AFRC during training activities if all U.S. Army Reserve (USAR) units assigned to the AFRC conduct training exercises simultaneously. To accommodate the proposed AFRC, a new 123,084 square foot building is proposed to be constructed. In addition, parking, vehicle and equipment maintenance, storm water detention ponds and storage facilities would also be constructed. Total building space proposed for construction at the AFRC is 165,248 square feet. The construction would permanently convert approximately 25 acres of clear cut lands to hard surfaces.

Two locations were considered for the location of the new AFRC in Tyler, Texas. The preferred site at Tyler, Texas, was identified as suitable for the construction of the AFRC. The U.S. Army Corps of Engineers (USACE), Mobile District is in the process of preparing an Environmental Assessment (EA), which will assess the potential impacts of constructing and operating the new AFRC at this location.

After a thorough search of the archaeological, historic building, and burial indices at the Texas State Historic Preservation Office, we have determined that there are no recorded archaeological sites, no recorded historic structures, and no recorded human burials on the preferred site described above. If your Tribe, or members of your Tribe, have knowledge of traditional cultural properties, sacred sites, or burials on or near the sites of our project, we request that you notify our representative listed below.

The construction and operation of the proposed AFRC at the alternative site would be expected to result in similar impacts as described above for the preferred site. However, no cultural resources field surveys were conducted at this site, so accurate statements regarding the presence/absence of potentially significant historic properties cannot be made at the present time. If Alternative Site #1 is ultimately selected cultural resources surveys and, supplemental NEPA documentation would be required to fully assess the potential impacts to these resources.

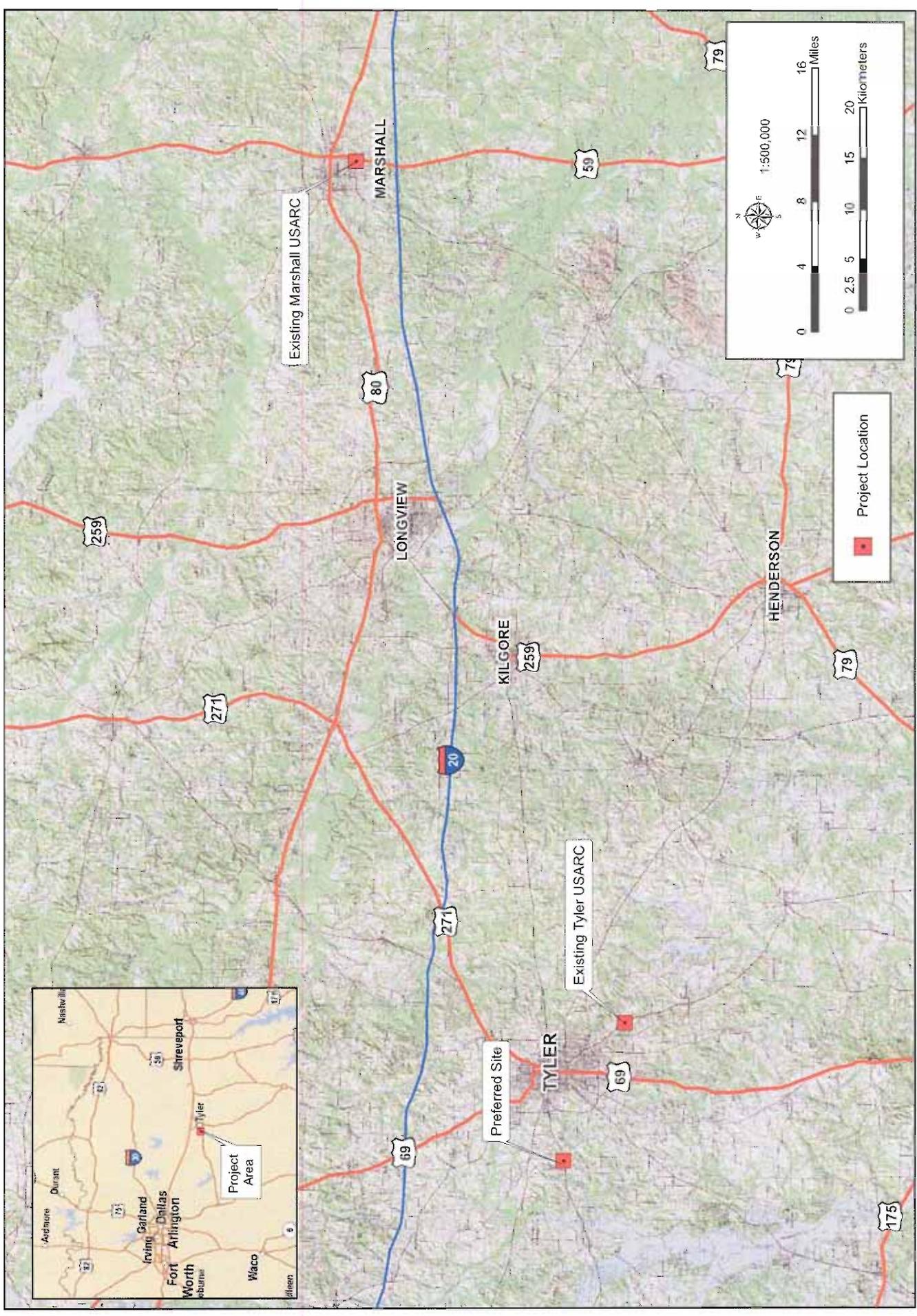
This notification is an invitation for your Tribe to participate in the cultural resources consultation process as required by the National Historic Preservation Act of 1966 (NHPA), as amended, and Presidential Executive Order 13175 Consultation and Coordination with Native American Tribal Governments. The Army wishes to ensure that issues of concern to your Tribe are addressed, and welcomes any comments you may have about the proposed AFRC construction. If you have questions or concerns about this project, please contact Mr. James Wheeler II, Environmental Manager, 90<sup>th</sup> Regional Readiness Command at (501) 771-7992, within thirty days of receipt of this letter.

Sincerely,

A handwritten signature in black ink, appearing to read "Philip L. Hanrahan". The signature is fluid and cursive, with the first name "Philip" and last name "Hanrahan" clearly legible.

Philip L. Hanrahan  
Brigadier General, U.S. Army Reserve  
Commanding

Enclosure

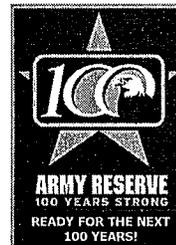


Enclosure A: Vicinity Map





**DEPARTMENT OF THE ARMY**  
HEADQUARTERS, UNITED STATES ARMY 90TH REGIONAL READINESS COMMAND  
CAPTAIN MAURICE L. BRITT UNITED STATES ARMY RESERVE CENTER  
8000 CAMP ROBINSON ROAD  
NORTH LITTLE ROCK, ARKANSAS 72118-2205



October 8, 2008

Environmental Office

Mr. F. Lawrence Oaks  
State Historic Preservation Officer  
ATTN: Mr. Bill Martin  
Texas Historical Commission  
1511 Colorado Street  
Austin, Texas 78701

Dear Mr. Oaks:

The Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended, implements recommendations made during the fall of 2005, by the Defense Base Closure and Realignment Commission (BRAC Commission). One of the proposed actions is to close the Tyler U.S. Army Reserve Center (USARC) in Tyler, Texas and the Marshall USARC in Marshall, Texas and relocate the units to a new Armed Forces Reserve Center (AFRC) in Tyler, Texas.

The new facility will have the capability to accommodate Texas National Guard units from the following Texas Army National Guard Readiness Centers: Athens, Tyler, Henderson, Kilgore, Marshall, and Corsicana, Texas if the state decides to relocate these National Guard units. The total amount of disturbed area is expected to be approximately 25 acres. No additional weapons systems or demands on training ranges are required for the proposed action.

Two locations, the preferred site and one alternate site at Tyler, Texas, were identified as suitable for the construction of the AFRC (see Enclosure A). The U.S. Army Corps of Engineers (USACE), Mobile District is in the process of preparing an Environmental Assessment (EA), which will assess the potential impacts of constructing and operating the new AFRC at one of these locations. The preferred site is surrounded by undeveloped land to the north and west, residential properties to the east, transportation (i.e., State Highway 31) and industry (Goodyear Tire facility) to the south, as depicted in the aerial photograph (Enclosure B).

After a thorough search of the Texas Archaeological Sites Atlas to identify any known archaeological sites, historic structures, historic districts, or historic markers within 1-mile of the preferred project area, we have determined that there are no recorded archaeological sites, no recorded historic structures, and no recorded human burials on the preferred site described above.

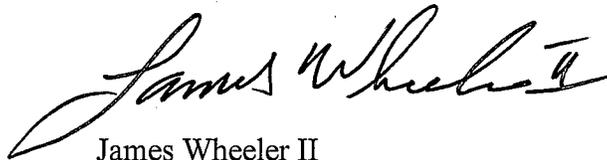
No cultural resources were identified during pedestrian survey or subsurface testing of the preferred Tyler, Texas site. In addition, a pedestrian reconnaissance was performed of the viewshed of the preferred tract. No structures or buildings that meet the 50 year age minimum for historic structures. As a result, no impacts to cultural resources are anticipated from the implementation of the preferred action alternative.

The construction and operation of the proposed AFRC at the alternative site would be expected to result in similar impacts as described above for the preferred site. However, cultural resources field surveys were not conducted at this site, so accurate statements regarding the presence/absence of potentially significant historic properties cannot be made at the present time. If Alternative Site #1 is ultimately selected, cultural resources surveys and supplemental NEPA documentation would be required to fully assess the potential impacts to these resources.

If activities were to impact cultural resources not previously identified, we will immediately inform you of the discovery and to invite you to assist in the development of procedures for minimizing adverse impacts to the newly discovered cultural resources.

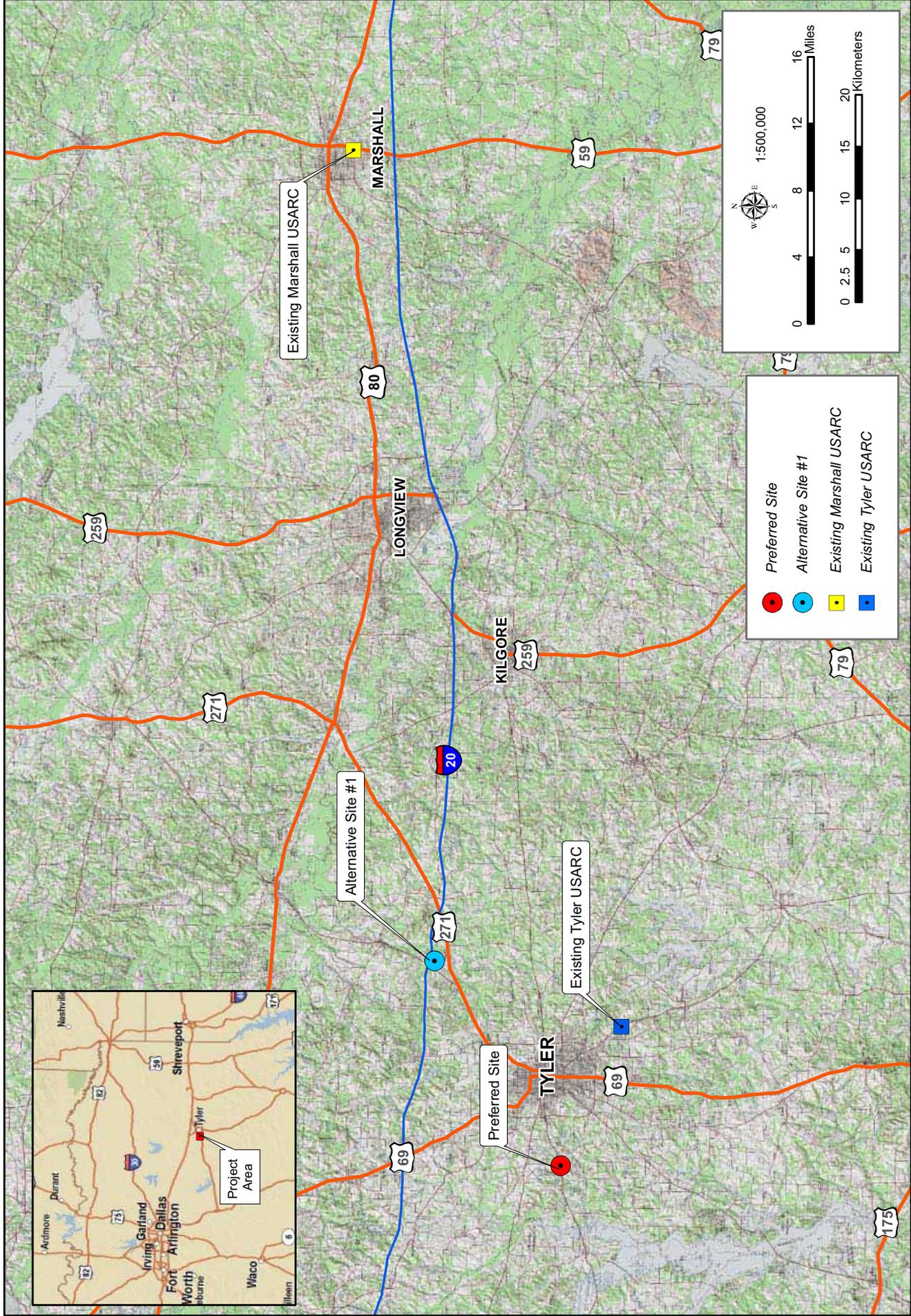
We request your concurrence on our determination that there are "no historic properties affected" by building the proposed AFRC, Tyler. If you have questions or concerns about this project, please contact me at (501) 771-7992, at your earliest convenience.

Sincerely,

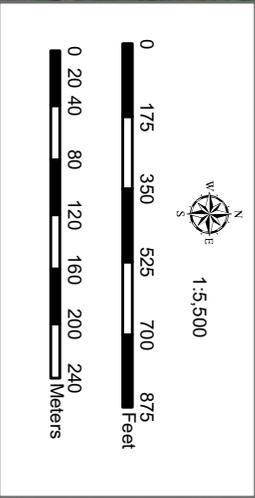
A handwritten signature in cursive script that reads "James Wheeler II". The signature is written in dark ink and is positioned above the typed name and title.

James Wheeler II  
Chief, Environmental Division  
90th Regional Readiness Command

Enclosures (2)



Enclosure A: Vicinity Map

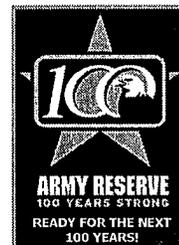


Preferred Site

Enclosure B: Preferred Site



**DEPARTMENT OF THE ARMY**  
HEADQUARTERS, UNITED STATES ARMY 90TH REGIONAL READINESS COMMAND  
CAPTAIN MAURICE L. BRITT UNITED STATES ARMY RESERVE CENTER  
8000 CAMP ROBINSON ROAD  
NORTH LITTLE ROCK, ARKANSAS 72118-2205



October 06, 2008

Reply to the Attention of Environmental Office

Mr. Tom Cloud, Field Supervisor  
U.S. Fish and Wildlife Service  
Arlington, Texas Ecological Services Field Office  
711 Stadium Drive, Suite 252  
Arlington, Texas 76011

Dear Mr. Cloud:

The Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended, implements recommendations made during the fall of 2005, by the Defense Base Closure and Realignment Commission (BRAC Commission). One of the proposed actions is to close the Tyler U.S. Army Reserve Center (USARC) in Tyler, Texas and the Marshall USARC in Marshall, Texas and relocate the units to a new Armed Forces Reserve Center (AFRC) in Tyler, Texas.

The new facility will have the capability to accommodate Texas National Guard units from the following Texas Army National Guard Readiness Centers: Athens, Tyler, Henderson, Kilgore, Marshall, and Corsicana, Texas if the state decides to relocate these National Guard units. The total amount of disturbed area is expected to be approximately 25 acres. No additional weapons systems or demands on training ranges are required for the proposed action.

Two locations, the preferred site and one alternate site at Tyler, Texas, were identified as suitable for the construction of the AFRC (see Enclosure A). The U.S. Army Corps of Engineers (USACE), Mobile District is in the process of preparing an Environmental Assessment (EA), which will assess the potential impacts of constructing and operating the new AFRC at one of these locations.

A search of the U.S. Fish and Wildlife Service's website indicated two Federally sensitive species could potentially occur within Smith County: bald eagle (*Haliaeetus leucocephalus*) and Louisiana black bear (*Ursus americanus luteolus*). As you know, the bald eagle has been delisted and no habitat for the black bear exists on either of the project sites.

Pedestrian surveys have been completed at the preferred site and none of these species or suitable habitat capable of supporting these species was observed at the project site. The site consists of a clear cut containing various grasses and shrubs such as black willow (*Salix nigra*),

hogwort (*Croton capitatus*), panic grass (*Dichanthelium* spp.), variable panicgrass (*Dichanthelium commutatum*), persimmon (*Diospyros virginiana*), Golden aster (*Heterotheca* spp.), golden rod (*Solidago* sp.), bearded sprangletop (*Leptochloa fusca*), and narrowleaf sumpweed (*Iva angustifolia*). The preferred site is surrounded by a variety of developments, including residential, State Highway 31, forest land, pasture, and industry (Goodyear Plant), as depicted in the aerial photograph (Enclosure B) and photographs taken during the field surveys (Enclosure C).

Wildlife species observed during the field investigation included: scissor-tailed flycatcher (*Tyrannus forficatus*), red-tailed hawk (*Buteo jamaicensis*), northern mockingbird (*Mimus polyglottos*), various grasshoppers, and an Eastern cottontail.

Based on these surveys and the existing conditions at and surrounding the preferred site, we have determined that the proposed action would have no effect on Federal or state-listed species. Because of the limited size of the proposed construction footprint and the low quality of habitat at the site, insignificant impacts to general wildlife populations would occur as a result of the proposed construction and operation of the AFRC.

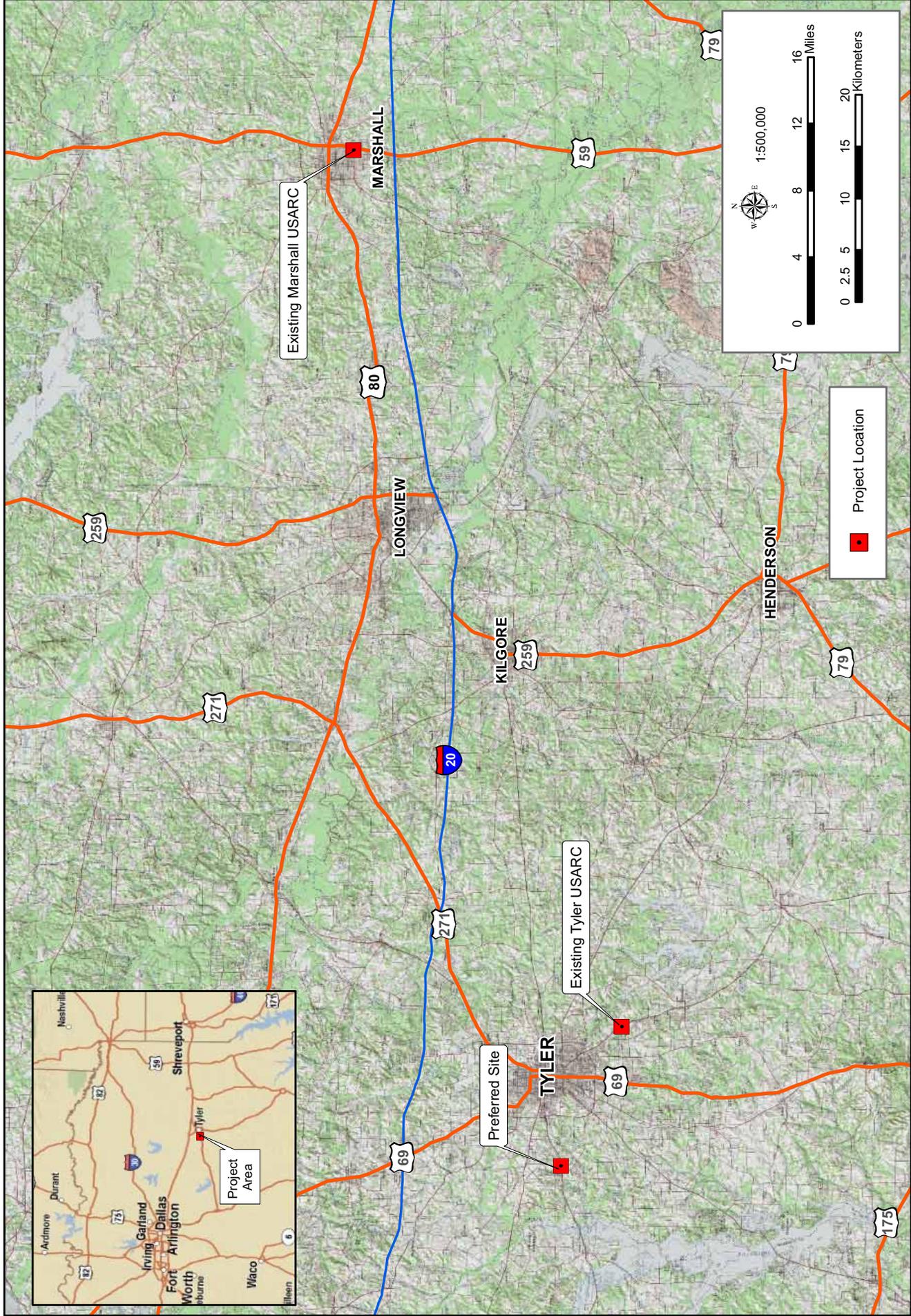
We respectfully request that you provide a written concurrence with our determination. Your prompt attention and cooperation would be greatly appreciated. If you have questions or concerns about this project, please do not hesitate to call me at (501) 771-7992.

Sincerely,



James Wheeler II  
Chief, Environmental Division  
90<sup>th</sup> RRC

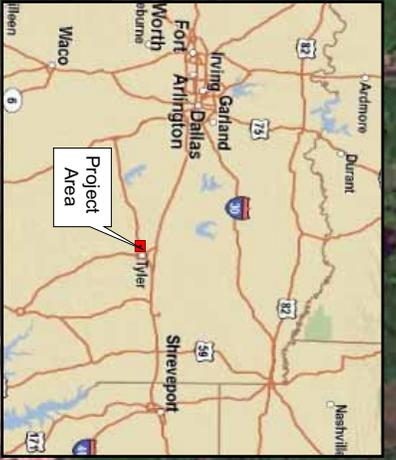
Enclosures (3)



Project Location

Enclosure A: Vicinity Map





 Preferred Site

Enclosure B: Preferred Site

**Enclosure C  
Photographs of Preferred Site  
Tyler AFRC**



**Photograph 1: Preferred Site - View Looking North from Center of Preferred Site**

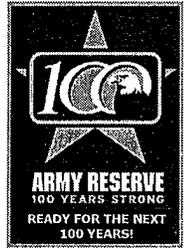


**Photograph 2: Preferred Site - View looking West from Center of Preferred Site**





**DEPARTMENT OF THE ARMY**  
HEADQUARTERS, UNITED STATES ARMY 90TH REGIONAL READINESS COMMAND  
CAPTAIN MAURICE L. BRITT UNITED STATES ARMY RESERVE CENTER  
8000 CAMP ROBINSON ROAD  
NORTH LITTLE ROCK, ARKANSAS 72118-2205



October 6, 2008

Reply to the Attention of Environmental Office

Ms. Kathy Boydson  
Wildlife Diversity Program  
Texas Parks and Wildlife Department  
4200 Smith School Road  
Austin, TX 78744

Dear Ms. Boydson:

The Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended, implements recommendations made during the fall of 2005, by the Defense Base Closure and Realignment Commission (BRAC Commission). One of the proposed actions is to close the Tyler U.S. Army Reserve Center (USARC) in Tyler, Texas and the Marshall USARC in Marshall, Texas and relocate the units to a new Armed Forces Reserve Center (AFRC) in Tyler, Texas.

The new facility will have the capability to accommodate Texas National Guard units from the following Texas Army National Guard Readiness Centers: Athens, Tyler, Henderson, Kilgore, Marshall, and Corsicana, Texas if the state decides to relocate these National Guard units. The total amount of disturbed area is expected to be approximately 25 acres. No additional weapons systems or demands on training ranges are required for the proposed action.

Two locations, the preferred site and one alternate site at Tyler, Texas, were identified as suitable for the construction of the AFRC (see Enclosure A). The U.S. Army Corps of Engineers (USACE), Mobile District is in the process of preparing an Environmental Assessment (EA), which will assess the potential impacts of constructing and operating the new AFRC at one of these locations.

A search of the U.S. Fish and Wildlife Service's website indicated two Federally sensitive species could potentially occur within Smith County: bald eagle (*Haliaeetus leucocephalus*) and Louisiana black bear (*Ursus americanus luteolus*). As you know, the bald eagle has been delisted and no habitat for the black bear exists on either of the project sites. In addition to these species, the Texas Parks and Wildlife Department indicates that the following sensitive species has known or expected occurrences within Smith County: Timber/Canebrake rattlesnake (*Crotalus horridus*), Bachman's Sparrow (*Aimophila aestivalis*), and Henslow's sparrow (*Ammodramus henslowii*).

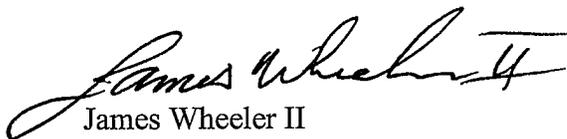
Pedestrian surveys have been completed at the preferred site and none of these species or suitable habitat capable of supporting these species was observed at the project site. The site consists of a clear cut containing various grasses and shrubs such as black willow (*Salix nigra*), hogwort (*Croton capitatus*), panic grass (*Dichanthelium* spp.), variable panicgrass (*Dichanthelium commutatum*), persimmon (*Diospyros virginiana*), Golden aster (*Heterotheca* spp.), golden rod (*Solidago* sp.), bearded sprangletop (*Leptochloa fusca*), and narrowleaf sumpweed (*Iva angustifolia*). The preferred site is surrounded by a variety of developments, including residential, State Highway 31, forest land, pasture, and industry (Goodyear Plant), as depicted in the aerial photograph (Enclosure B) and photographs taken during the field surveys (Enclosure C).

Wildlife species observed during the field investigation included: scissor-tailed flycatcher (*Tyrannus forficatus*), red-tailed hawk (*Buteo jamaicensis*), northern mockingbird (*Mimus polyglottos*), various grasshoppers, and an Eastern cottontail.

Based on these surveys and the existing conditions at and surrounding the preferred site, we have determined that the proposed action would have no effect on Federal or state-listed species. Because of the limited size of the proposed construction footprint and the low quality of habitat at the site, insignificant impacts to general wildlife populations would occur as a result of the proposed construction and operation of the AFRC.

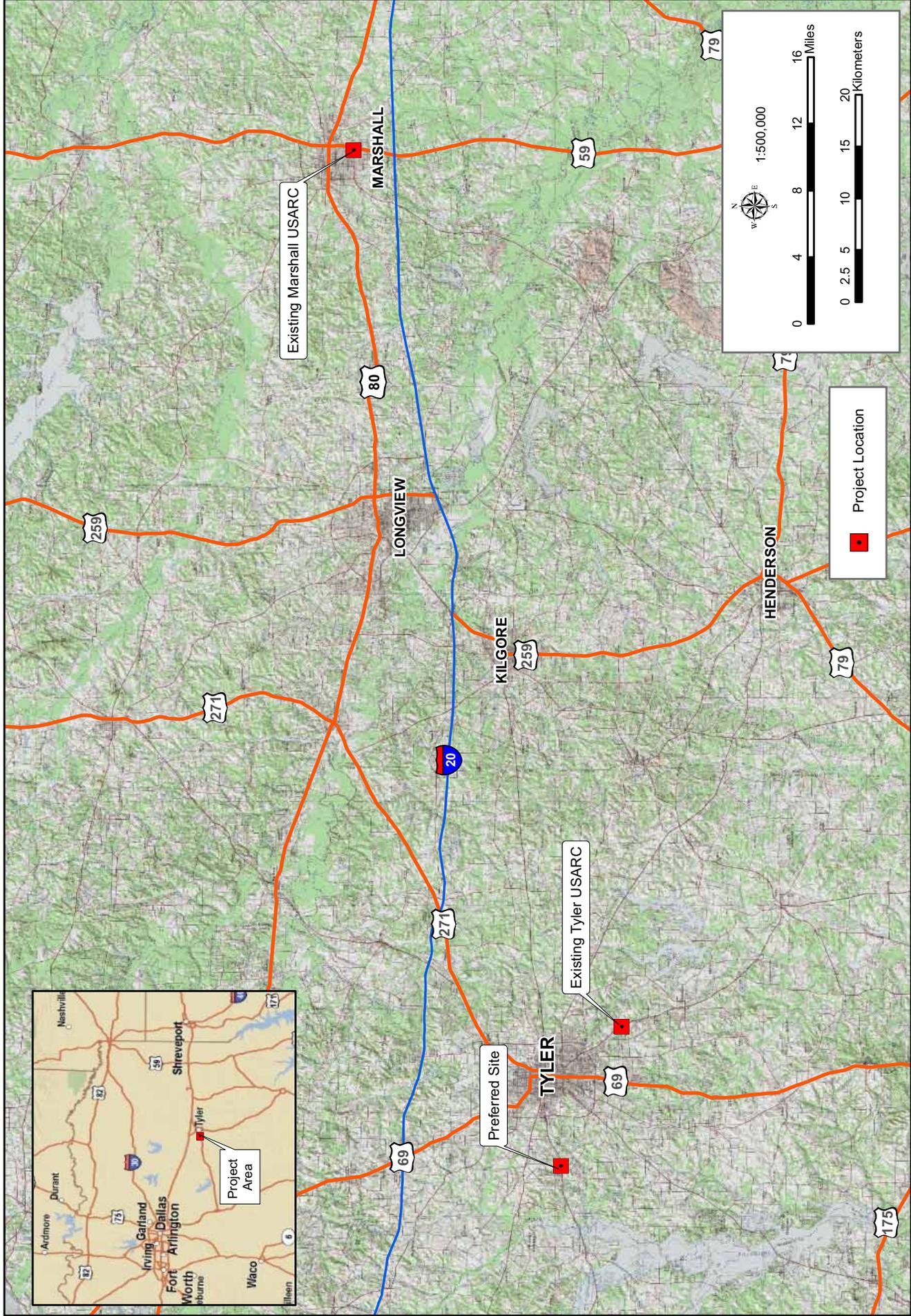
We respectfully request that you provide a written concurrence with our determination. Your prompt attention and cooperation would be greatly appreciated. If you have questions or concerns about this project, please do not hesitate to call me at (501) 771-7992.

Sincerely,



James Wheeler II  
Chief, Environmental Division  
90<sup>th</sup> RRC

Enclosures (3)



Project Location



Enclosure A: Vicinity Map





 Preferred Site

Enclosure B: Preferred Site

**Enclosure C  
Photographs of Preferred Site  
Tyler AFRC**



**Photograph 1: Preferred Site - View Looking North from Center of Preferred Site**

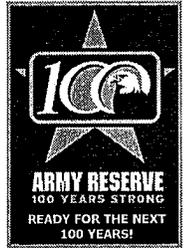


**Photograph 2: Preferred Site - View looking West from Center of Preferred Site**





**DEPARTMENT OF THE ARMY**  
HEADQUARTERS, UNITED STATES ARMY 90TH REGIONAL READINESS COMMAND  
CAPTAIN MAURICE L. BRITT UNITED STATES ARMY RESERVE CENTER  
8000 CAMP ROBINSON ROAD  
NORTH LITTLE ROCK, ARKANSAS 72118-2205



October 6, 2008

Reply to the Attention of Environmental Office

Mr. Georgie Volz, Regional Director  
Region 10, Beaumont  
Texas Commission on Environmental Quality  
3870 Eastex Fwy.  
Beaumont, TX 77703-1830

Dear Mr. Volz:

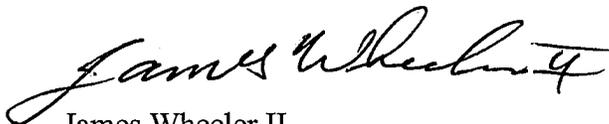
The Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended, implements recommendations made during the fall of 2005, by the Defense Base Closure and Realignment Commission (BRAC Commission). One of the proposed actions is to close the Tyler U.S. Army Reserve Center (USARC) in Tyler, Texas and the Marshall USARC in Marshall, Texas and relocate the units to a new Armed Forces Reserve Center (AFRC) in Tyler, Texas.

The new facility will have the capability to accommodate Texas National Guard units from the following Texas Army National Guard Readiness Centers: Athens, Tyler, Henderson, Kilgore, Marshall, and Corsicana, Texas if the state decides to relocate these National Guard units. The total amount of disturbed area is expected to be approximately 25 acres. No additional weapons systems or demands on training ranges are required for the proposed action.

Two locations, the preferred site and one alternate site at Tyler, Texas, were identified as suitable for the construction of the AFRC (see Enclosure A). The U.S. Army Corps of Engineers (USACE), Mobile District is in the process of preparing an Environmental Assessment (EA), which will assess the potential impacts of constructing and operating the new AFRC at one of these locations. An aerial photograph of the preferred site is presented in Enclosure B. As you can see, this site consists of clear cut containing various grasses and shrubs. The site is surrounded by a variety of developments including residential, industry and undeveloped land. Photographs taken during the field surveys are presented in Enclosure C.

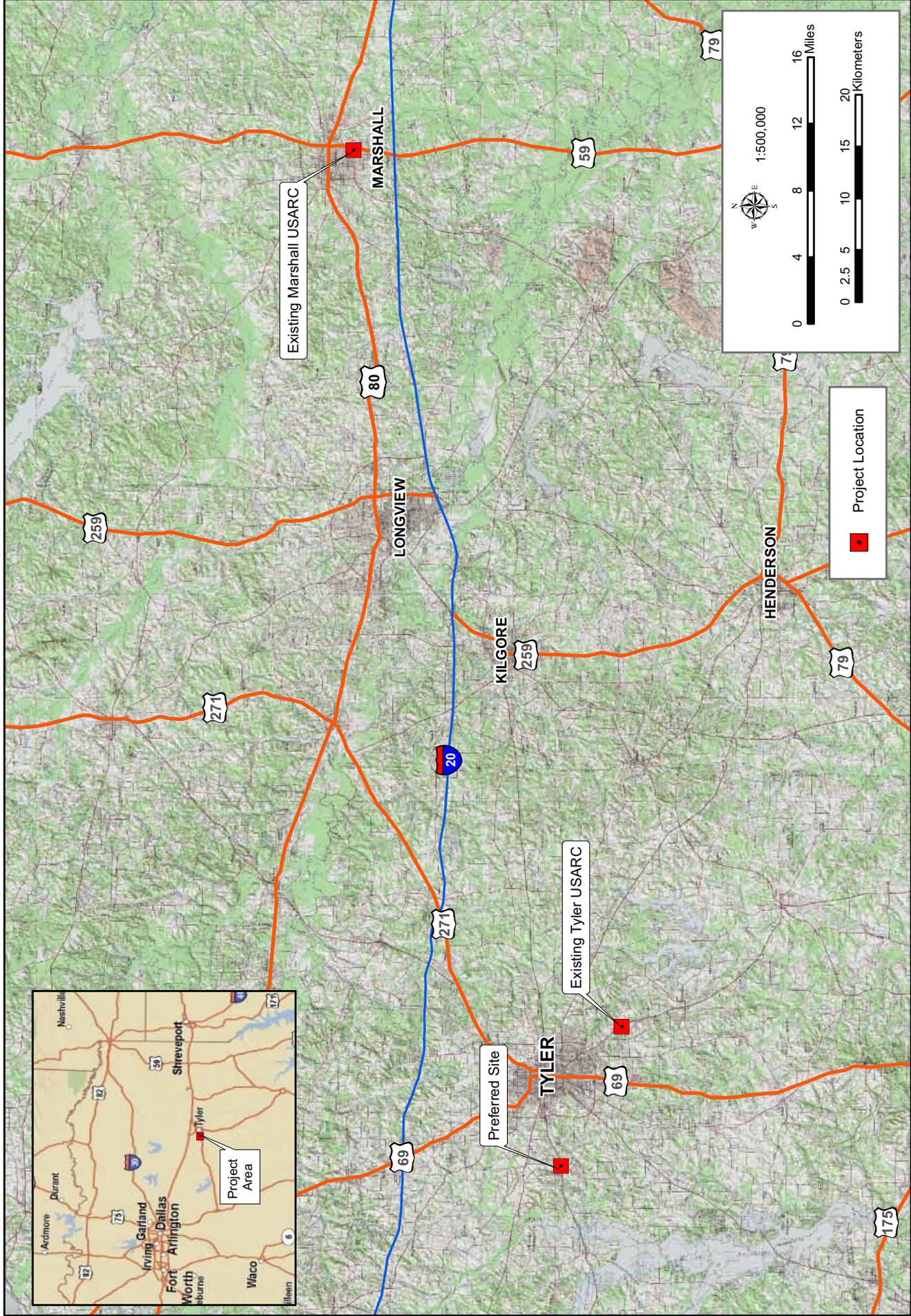
We respectfully request that you provide us with any concerns or issues that you feel should be addressed in this EA. We will send you a copy of the EA when it is released to the public, which is currently anticipated to occur in early October 2008. If you have any questions, please do not hesitate to call me at (501)771-7992.

Sincerely,

A handwritten signature in cursive script that reads "James Wheeler II".

James Wheeler II  
Chief, Environmental Division  
90<sup>th</sup> RRC

Enclosures (3)

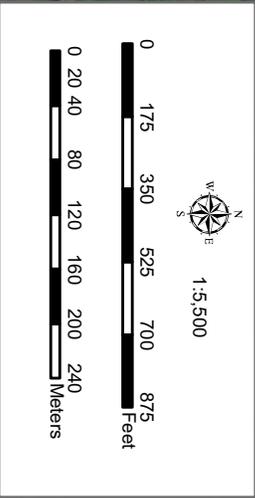
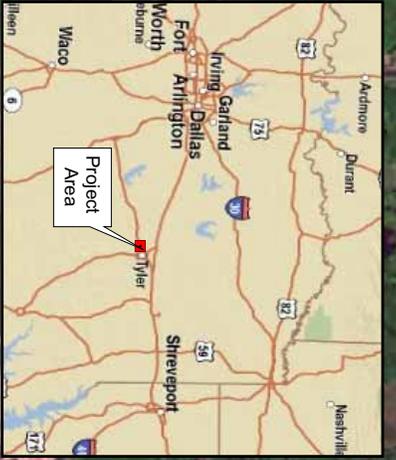


Project Location



Enclosure A: Vicinity Map





Preferred Site

Enclosure B: Preferred Site

**Enclosure C  
Photographs of Preferred Site  
Tyler AFRC**



**Photograph 1: Preferred Site - View Looking North from Center of Preferred Site**



**Photograph 2: Preferred Site - View looking West from Center of Preferred Site**





September 17, 2008

Darin Smith, District Conservationist  
USDA Natural Resources Conservation Service  
Tyler Service Center  
4209 Republic Drive  
Tyler, TX 75701-8421

Re: Farmland Conversion Impact Assessment for the Proposed New Armed Forces Reserve Center in Tyler, Texas

Dear Mr. Smith:

On behalf of the U. S. Army Corps of Engineers, Mobile District, who is preparing an Environmental Assessment of a Base Closure and Realignment (BRAC) action requiring relocation of Army and state reserve forces to a new Armed Forces Reserve Center in Tyler, Texas; we are forwarding to you for your evaluation a Farmland Conversion Impact Rating on form AD-1006. We have determined that the soils on the preferred site, as shown in the attached figures, are rated as prime farmland, subject to the Farmland Protection Policy Act of 1981.

Please review and assess the attached information, and advise if additional information or clarification is required. Please return all correspondence to my attention at the address on this letterhead. I can also be reached at the following email address: [nforsyth@gsrcorp.com](mailto:nforsyth@gsrcorp.com). Thank you for your assistance.

Sincerely,

  
Nicole Forsyth  
GSRC

attachments

**FARMLAND CONVERSION IMPACT RATING  
FOR CORRIDOR TYPE PROJECTS**

<b>PART I (To be completed by Federal Agency)</b>		3. Date of Land Evaluation Request <b>9/17/08</b>	4. Sheet 1 of <b>1</b>
1. Name of Project <b>Tyler AFRC, Texas</b>		5. Federal Agency Involved <b>Department of the Army</b>	
2. Type of Project <b>New Armed Forces Reserve Center</b>		6. County and State <b>Smith County, Texas</b>	
<b>PART II (To be completed by NRCS)</b>		1. Date Request Received by NRCS	2. Person Completing Form
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES <input type="checkbox"/> NO <input type="checkbox"/>		4. Acres Irrigated   Average Farm Size	
5. Major Crop(s)	6. Farmable Land in Government Jurisdiction Acres: _____ %	7. Amount of Farmland As Defined in FPPA Acres: _____ %	
8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS	

<b>PART III (To be completed by Federal Agency)</b>	<b>Alternative Corridor For Segment</b>			
	<b>Corridor A</b>	<b>Corridor B</b>	<b>Corridor C</b>	<b>Corridor D</b>
A. Total Acres To Be Converted Directly	<b>3</b>			
B. Total Acres To Be Converted Indirectly, Or To Receive Services	<b>0</b>			
C. Total Acres In Corridor	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>

<b>PART IV (To be completed by NRCS) Land Evaluation Information</b>				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value				

**PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)**

<b>PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))</b>	<b>Maximum Points</b>				
1. Area in Nonurban Use	15				
2. Perimeter in Nonurban Use	10				
3. Percent Of Corridor Being Farmed	20				
4. Protection Provided By State And Local Government	20				
5. Size of Present Farm Unit Compared To Average	10				
6. Creation Of Nonfarmable Farmland	25				
7. Availability Of Farm Support Services	5				
8. On-Farm Investments	20				
9. Effects Of Conversion On Farm Support Services	25				
10. Compatibility With Existing Agricultural Use	10				
<b>TOTAL CORRIDOR ASSESSMENT POINTS</b>	<b>160</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

<b>PART VII (To be completed by Federal Agency)</b>					
Relative Value Of Farmland (From Part V)	100				
Total Corridor Assessment (From Part VI above or a local site assessment)	160	0	0	0	0
<b>TOTAL POINTS (Total of above 2 lines)</b>	<b>260</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>
-----------------------	---	-----------------------	--

5. Reason For Selection:

Signature of Person Completing this Part: \_\_\_\_\_ DATE \_\_\_\_\_

**NOTE: Complete a form for each segment with more than one Alternate Corridor**

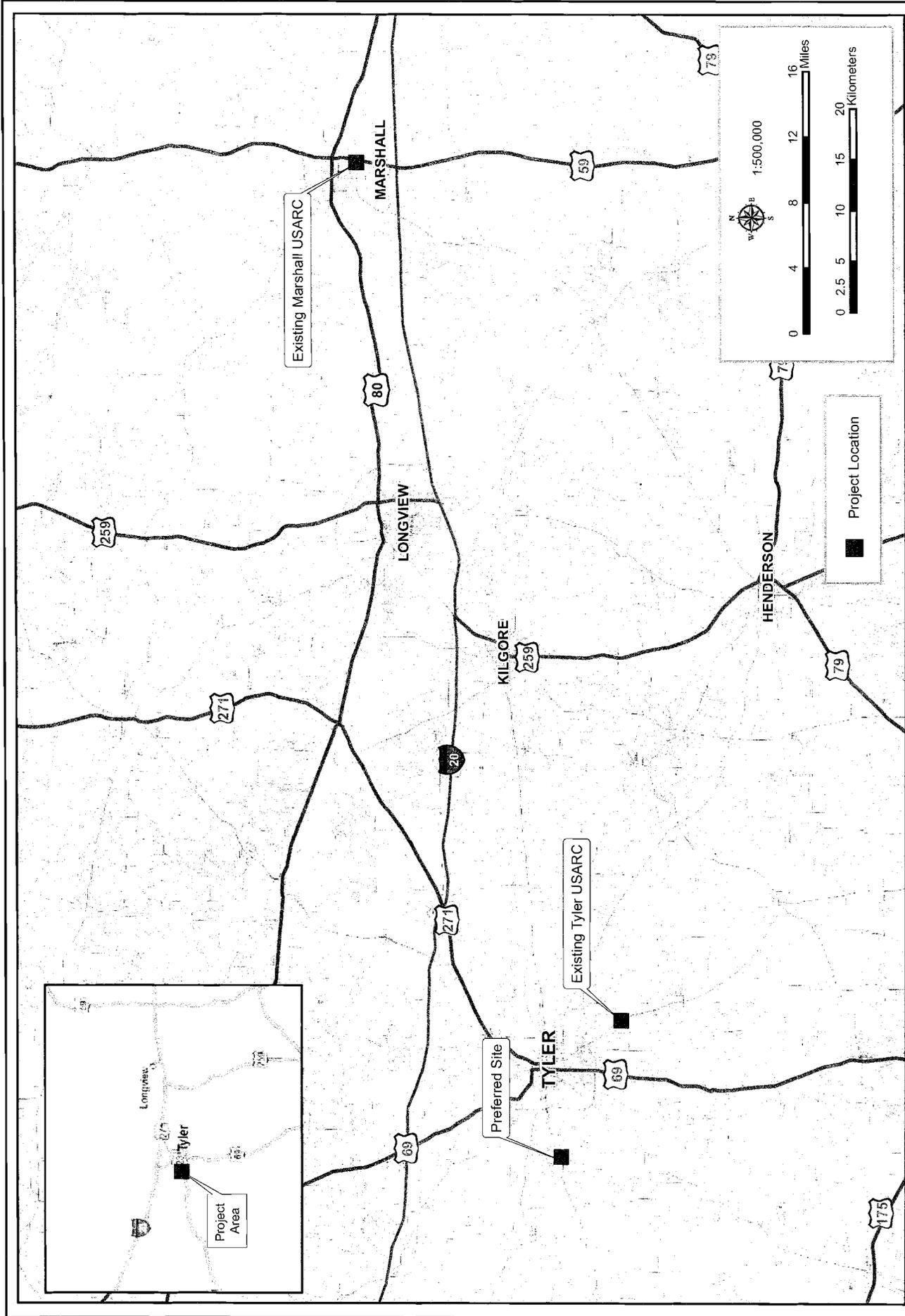


Figure 1: Vicinity Map

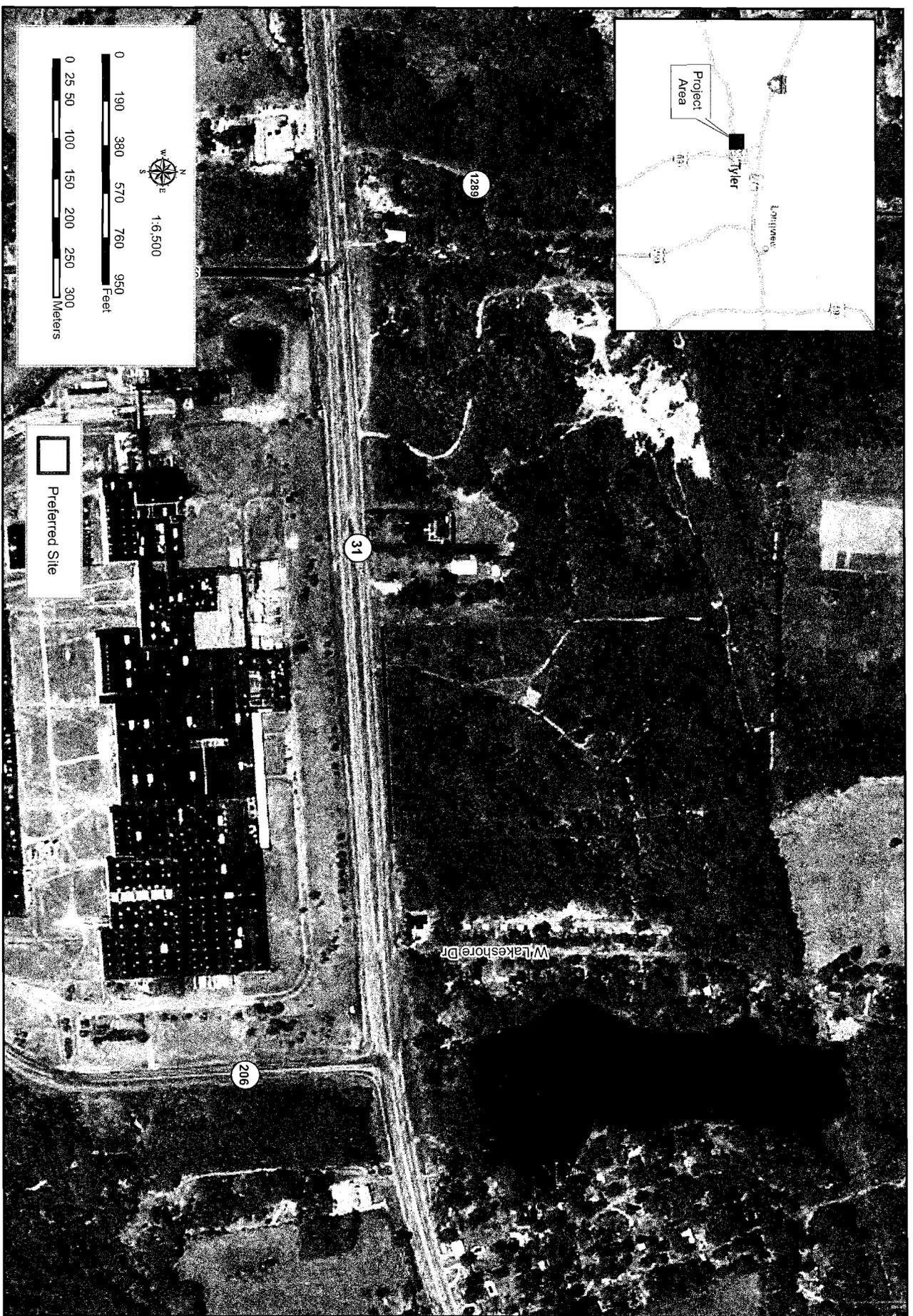


Figure 2-1: Project Site Map - Preferred Site

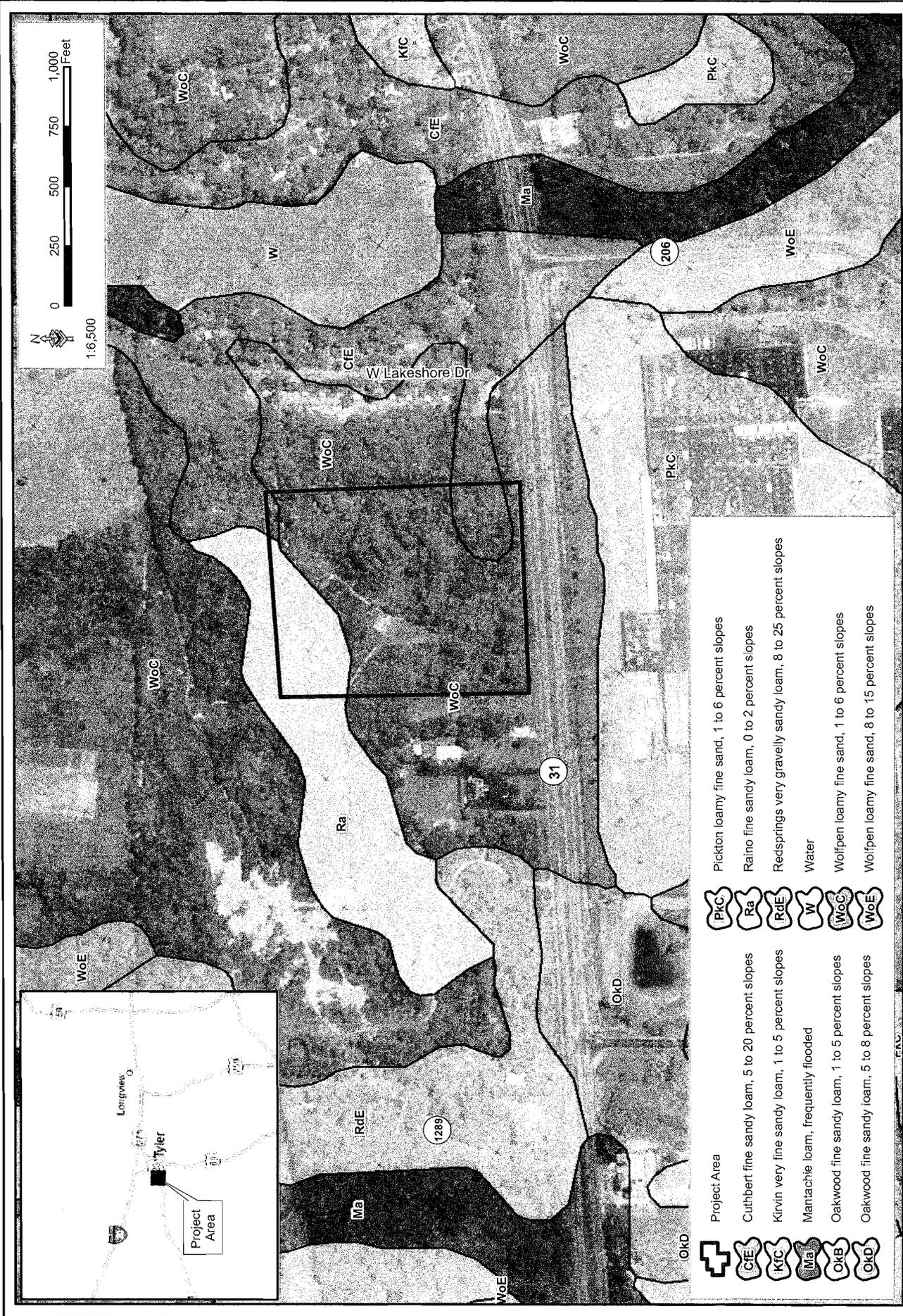


Figure 1: Preferred Site Soils Map



*APPENDIX D*  
*Wetland Delineation Report*





# Proposed Construction Site Tyler, TX -- Wetland Evaluation

PREPARED FOR: Louisville District, U.S. Army Corps of Engineers  
PREPARED BY: CH2M HILL  
DATE: October 31, 2008; revised November 21, 2008

## INTRODUCTION

The U.S. Army Corps of Engineers proposes to construct an U.S. Army Reserve Center at the proposed 25 acre site. This project will be located in Smith County, Texas. The objective of this project is to install facilities, including all necessary buildings and parking areas. To evaluate the potential impact to waters of the United States as a result of this construction, CH2M HILL conducted a wetland survey within and surrounding the project area.

## SITE DESCRIPTION

The project area is located north of State Highway 31 approximately 2.99 miles west of Loop 323 in Tyler, TX. The land which will be used for the construction lies north of the Kelly Springfield Tire manufacturing facility. Residential neighborhoods lie to the east and west of the proposed site, and agricultural areas are located to the north (Figure 1).

## METHODOLOGY

A field visit was conducted on October 13 and 14, 2008, to conduct a routine wetland evaluation. At the time of the site visit, Tyler Pounds field, 1.5 miles north of the project area, had received 1.66 inches of precipitation for the month of October, which is 35.3% of the monthly average for this area. Also, the region had received average rainfall totals for the months of August and September.

A survey for wetlands and other waters of the United States was conducted within the proposed project area. Delineations were conducted using the Routine Onsite Determination Method as described in the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (U.S. Army Corps of Engineers [USACE], 1987), which defines wetlands as:

*"... those areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."*

The Routine Onsite Determination Method involves the following steps.

- Locate the project area
- Identify the community type(s)
- Select representative observation points

- Characterize each plant community type
- Record the indicator status of dominant species
- Determine whether hydrophytic vegetation is present and dominant
- Determine whether wetland hydrology is present
- Determine whether hydric soils are present

Under this method, areas exhibiting a presence of wetland hydrology, hydric soils, and a dominance of hydrophytic vegetation are defined as wetlands. The method requires that additional consideration be given to sites with atypical conditions (i.e., evidence of sufficient natural or human-induced alterations that significantly alter the soils, vegetation, or hydrology) and sites where normal environmental conditions are not present during the wetland delineation (e.g., no hydrophytic vegetation due to annual or seasonal fluctuations in precipitation or groundwater levels).

The project area was walked to make field wetland evaluations. Standard USACE wetland data forms were completed for a representative wetland point, a representative upland point, and habitat points. These data forms are provided in Appendix B, as well as photographs taken at each sampling location (Appendix C).

Sample locations were classified using the United States Fish and Wildlife Service (USFWS) classification system (Cowardin et al., 1979). Dominant vegetation was noted according to category: tree; shrub/sapling; woody vine; herb; or bryophyte. The wetland indicator status (Table 1) for each species was identified using the *National Wetlands Inventory List of Plants that Occur in Wetlands* (Reed, 1988) and subsequent approved modifications to this list. Plants were identified using current taxonomic references, such as *Aquatic and Wetland Plants of the Southeastern United States* (Godfrey and Wooten, 1980 and 1981). Where recent taxonomic changes resulted in plant names that were not included in the *National Wetlands Inventory List of Plants that Occur in Wetlands*, appropriate synonymy was used to reference the national list.

Within the area investigated, soil samples were inspected for hydric soil indicators as provided for on the wetland data forms. Using the *Munsell Soil Color Charts* (1994), hue and chroma of soil samples were recorded. Soil composition information and any observation of mottling were also recorded. Wetland hydrology observations included soil saturation, evidence of any standing or ponded water, and presence of drainage patterns, drift lines, oxidized root channels and/or water-stained leaves (primary and secondary hydrology indicators).

TABLE 1  
 Definitions for Wetland Indicator Status  
*Proposed Military Construction Project, Tyler, TX*

Code <sup>a</sup>	Term	Definition
OBL	Obligate	Species occurs in wetlands greater than 99% of time.
FACW	Facultative Wetland	Species occurs in wetlands 67 to 99% of time.
FAC	Facultative	Species occurs in wetlands 34 to 66% of time.
FACU	Facultative Upland	Species occurs in wetlands 1 to 33% of time.
UPL	Upland	Species occurs in wetlands less than 1% of time.

<sup>a</sup>An indicator status with a "+" added indicates a plant that would be in the wetter third of the indicated range of the status, while a "-" would indicate the drier third of the range of the status.

## RESULTS

In general, habitat points were recorded in topographical depressions throughout the project site, which typically exhibited a hydrophytic plant community dominated by *Arundinaria gigantea*, *Salix nigra*, and *Solidago altissima* and contained primary or secondary wetland hydrology indicators. However no hydric soils were present at these locations. Other habitat points exhibited a hydrophytic plant community, hydric soils, but did not have the presence of wetland hydrology. Two ephemeral streams and one intermittent stream were mapped at the proposed site. Stream S1 was located just outside the project boundary, ran from north to south, and never enters the project site. Streams S2 and S3 originate within the project site and either terminate into a wetland area (S2) or continue off the project site (S3). All streams identified exhibit bed and banks that are highly susceptible to erosion, and probably formed as a result of deforestation. At the time of the site visit no water flow was observed and there was a maximum depth of two inches.

Two areas meeting the three mandatory criteria for wetlands were located within the project area, and are classified as palustrine emergent wetlands. These areas were dominated by hydrophytic vegetation such as, *Eleocharis parvula*, *Salix nigra*, and *Juncus scirpoides*. They also exhibited hydric soils, and primary and secondary wetland hydrology indicators. Six representative points were chosen to document the lack of wetland characteristics in marginal areas. A map of these representative locations, wetland features, and water bodies located on the site is included in Appendix A, Figure 1 and datasheets are provided in Appendix B.

Wetland PEM1 is an isolated wetland surrounded by uplands. At its capacity, overland flow would run south west to the ditch line of highway 31, then flow west to relatively permanent water (RPW) 0.4 miles away. The RPW is a tributary of a named stream, Indian Creek. Indian Creek is a tributary of a Traditional Navigable Waterway (TNW), the Naches River.

Wetland PEM2 abuts Stream S2. These two features are separated from a third feature, Stream S3, by 40 feet of upland. Thus, these two features are isolated from other water features. However, the wetland PEM2 would qualify as being adjacent to Stream 3 and there is a hydrological connection via overland flow. Stream S3 flows into a RPW that is a tributary of Indian Creek (Figure 2). Hence, because PEM2 is adjacent (only 40 feet away), this wetland is considered jurisdictional.

**TABLE 2**  
Potential Impacted Water Bodies  
*Proposed Military Construction Project, Tyler, TX*

<b>Feature ID</b>	<b>Type</b>	<b>Potential Impacted Area</b>
PEM1	Palustrine Emergent Wetland	0.124 Acres
PEM2	Palustrine Emergent Wetland	0.052 Acres
S1	Ephemeral Stream	200.1 Linear Feet / 0.014 Acres
S2	Ephemeral Stream	188.2 Linear Feet / 0.013 Acres
S3	Intermittent Stream	372 Linear Feet / 0.026 Acres

Notes: All measurements generated using ArcGIS 9.2.

## CONCLUSION

On the basis of the data evaluation previously described, the construction of the Army Reserve Center could impact 0.18 acres of wetlands and 560 linear feet of stream bed that may be considered waters of the United States. Only 0.052 acres of wetlands (PEM2) and 372 feet of stream would be jurisdictional and require mitigation. Mitigation for this area is available from the Pineywoods Mitigation Bank. Construction activities resulting in the placement of fill materials within these features would require a permit under Section 404 of the Clean Water Act and the USACE will have to be notified of this construction project.

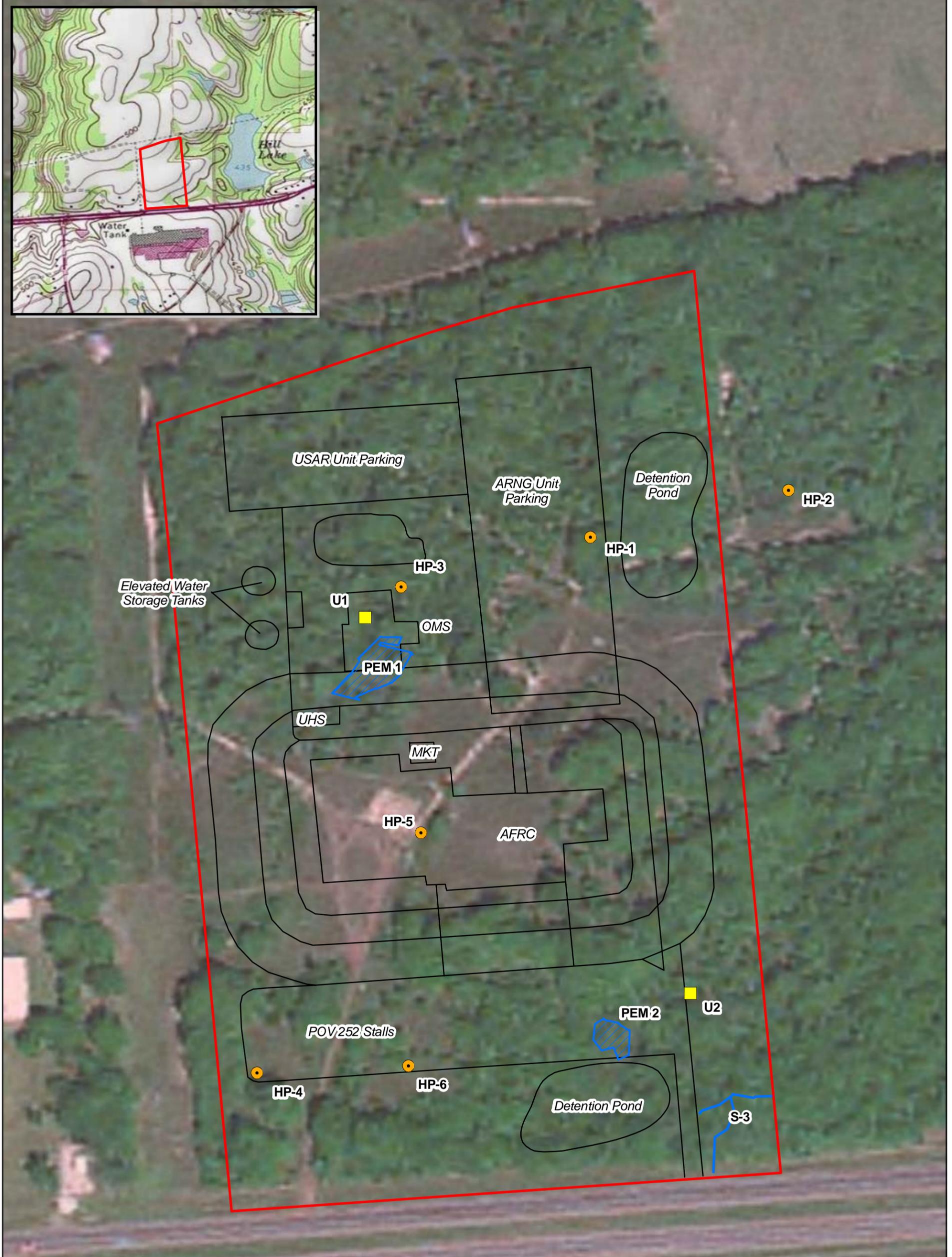
The Corps of Engineers may also be requested to complete a jurisdictional determination for each wetland to further assess the need for an individual permit. It is apparent that the proposed work would be covered under Nationwide Permit (NWP) 39, Commercial and Industrial Developments. Therefore, a Pre-construction Notification (PCN) would be submitted to the USACE Fort Worth District for permit approval prior to construction. Additional considerations will also be given to compliance with the Endangered Species Act and the National Historic Preservation Act 1966.

## REFERENCES

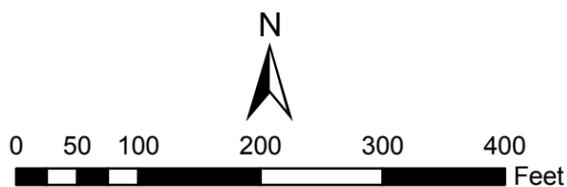
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Service, Biological Services Program. USFWS/OBS-79/31. 103pp.
- Godfrey, R.K. and J.W. Wooten. 1980. *Aquatic and Wetland Plants of the Southeastern United States: Monocotyledons*. The University of Georgia Press.
- Godfrey, R.K. and J.W. Wooten. 1981. *Aquatic and Wetland Plants of the Southeastern United States: Dicotyledons*. The University of Georgia Press.
- Munsell Color. 1994. Munsell soil color charts, Kollmorgen Corporation, Baltimore, Maryland.
- Reed, P.B. 1988. *National List of Plant Species That Occur in Wetlands*. For U.S. Fish and Wildlife Service in cooperation with the U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Soil Conservation Service.
- U.S. Army Corps of Engineers Environmental Laboratory (USACE). 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

# **APPENDIX A**

## **Figures**



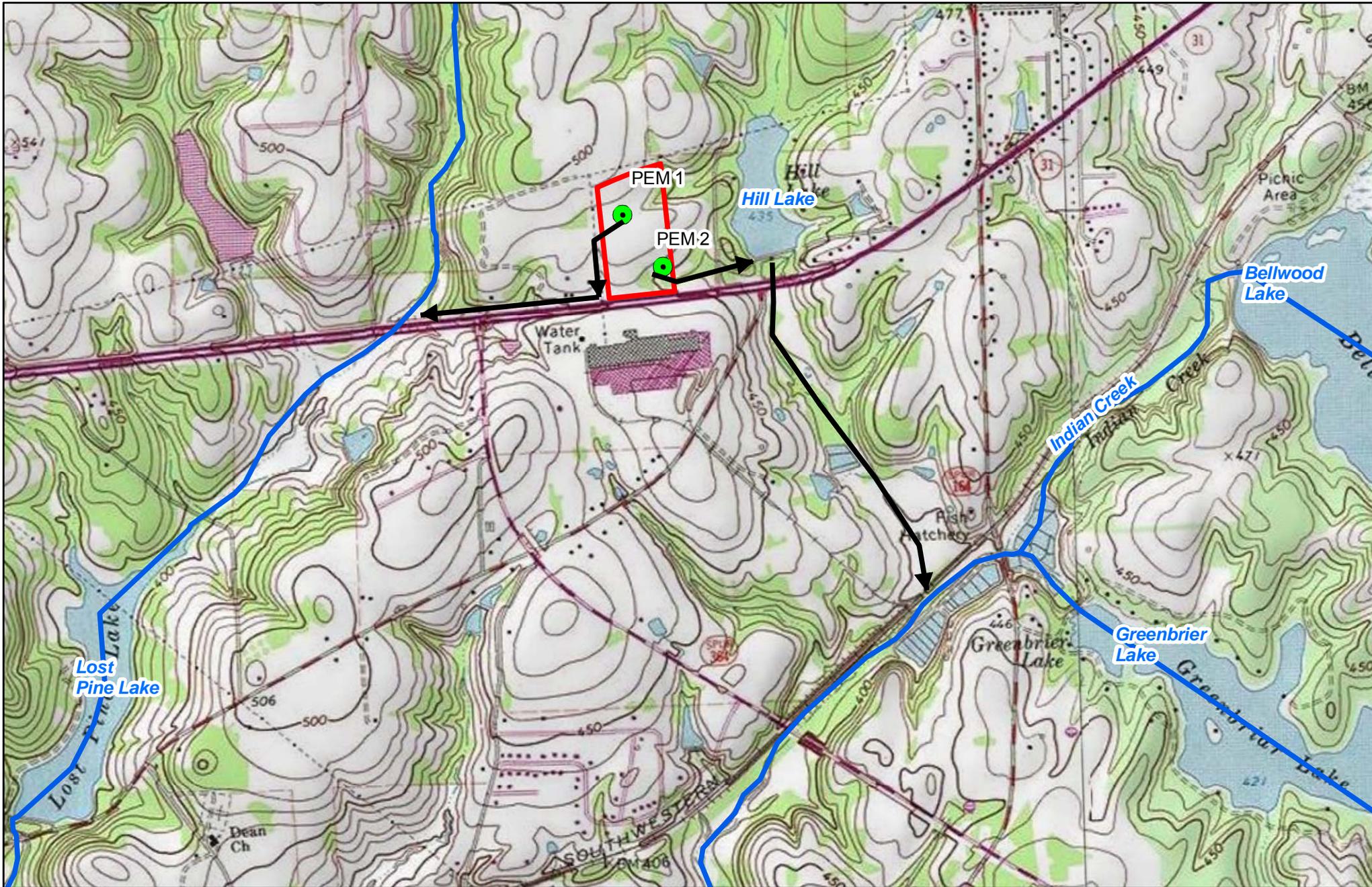
-  Palustrine Emergent Wetland
-  Upland Point
-  Habitat Point
-  Site Boundary
-  wetlands
-  Stream



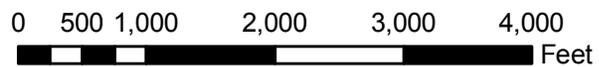
**FIGURE 1**  
Wetland Survey Results  
Armed Forces  
Reserve Center  
Tyler Texas



Note: Data was collected October 13-14, 2008



- Surface Hydrology Flow
- Stream
- Site Boundary
- Wetland



**FIGURE 2**  
 Surface Hydrology  
 Armed Forces  
 Reserve Center  
 Tyler Texas



## **APPENDIX B**

### **Datasheets**

Site ID # HP1

**DATA FORM  
ROUTINE ONSITE WETLAND DETERMINATION**

**Project Site:** Louisville USACE **Project #:** \_\_\_\_\_ **Date:** 13-Oct-08  
**Location:** Tyler, Tx **Investigator:** Jason Speights, Barry Frenzel

Do normal circumstances exist on the site? Yes  
 Is the site significantly disturbed (Atypical Situation) No  
 Is the area a potential Problem Area? No

**VEGETATION (use back of form for remarks)**

Dominant Species	Stratum	Indicator	Dominant Species	Stratum	Indicator
Arundinaria gigantea	H	FACW			
Silax nigra	S/S	FACW+			
Juncus scirpoides	H	FACW			

Percent of Dominant Species that are OBL, FACW, or FAC: 100%

**HYDROLOGY (Use back of form for remarks)**

Primary Hydrology Indicators	Secondary Hydrology Indicators
<input type="checkbox"/> Inundated	<input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12"
<input type="checkbox"/> Saturated in Upper 12"	<input type="checkbox"/> Water-stained leaves
<input type="checkbox"/> Water marks	<input type="checkbox"/> FAC-Neutral Test
<input type="checkbox"/> Drift Lines	<input type="checkbox"/> Other (explain on back of form)
<input type="checkbox"/> Sediment Deposits	
<input type="checkbox"/> Drainage Patterns in Wetland	
<input type="checkbox"/> Springs Present	

**Field Observations**

Depth of Surface Water: 0      Depth to Saturated Soil: >16  
 Depth to Free Water in Pit: >16      Slope: \_\_\_\_\_

**SOILS (Use back of form for remarks)**

Mapping Unit Name: \_\_\_\_\_ Hydric Soils List? Yes No  
 Drainage class: \_\_\_\_\_ Confirmed in Field: No

**Profile Description:**

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/contrast	Texture, concretions, structure, etc.
0-4		10YR 3/2			Sandy Loam
4-18		10YR 6/3	10YR 5/6	20%	Sand

**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Reducing conditions	<input type="checkbox"/> Organic streaking in sandy soils
<input type="checkbox"/> Histoc Epipedon	<input type="checkbox"/> Gleyed or low chroma	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Sulfidic odor	<input type="checkbox"/> Concretions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Aquic Moisture regime	<input type="checkbox"/> High organic content in surface layer of sandy soils	<input type="checkbox"/> Other (explain in remarks)

Few faint oxidized root channels

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<u>Yes</u>	Hydric Soils Present?	<u>No</u>
Wetland Hydrology Present?	<u>No</u>	Is this Sampling Point Within a Wetland?	<u>No</u>

Site ID # HP2

**DATA FORM  
ROUTINE ONSITE WETLAND DETERMINATION**

Project Site: Louisville USACE Project #: \_\_\_\_\_ Date: 13-Oct-08  
 Location: Tyler, Tx Investigator: Jason Speights, Barry Frenzel

Do normal circumstances exist on the site? Yes  
 Is the site significantly disturbed (Atypical Situation) No  
 Is the area a potential Problem Area? No

**VEGETATION (use back of form for remarks)**

Dominant Species	Stratum	Indicator	Dominant Species	Stratum	Indicator
Erigeron annuus	H	FAC			
Solidago altissima	H	FACU			
Robinia pseudoacacia	S/S	FACU-			
Silax nigra	S/S	FACW+			
Percent of Dominant Species that are OBL, FACW, or FAC:			<u>50%</u>		

**HYDROLOGY (Use back of form for remarks)**

Primary Hydrology Indicators	Secondary Hydrology Indicators
<u>      </u> Inundated	<u>      </u> Oxidized Root Channels in Upper 12"
<u>      </u> Saturated in Upper 12"	<u>      </u> Water-stained leaves
<u>      </u> Water marks	<u>      </u> FAC-Neutral Test
<u>      </u> Drift Lines	<u>      </u> Other (explain on back of form)
<u>      </u> Sediment Deposits	
<u>      </u> Drainage Patterns in Wetland	
<u>      </u> Springs Present	

**Field Observations**  
 Depth of Surface Water: 0 Depth to Saturated Soil: >16  
 Depth to Free Water in Pit: >16 Slope: \_\_\_\_\_  
 No indicators present.

**SOILS (Use back of form for remarks)**

Mapping Unit Name: \_\_\_\_\_ Hydric Soils List? Yes No  
 Drainage class: \_\_\_\_\_ Confirmed in Field: No

**Profile Description:**

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/contrast	Texture, concretions, structure, etc.
0-4		7.5YR 3/1	7.5YR 4/4	10%	Sandy Clay
4-18		10YR 4/2	7.5YR 4/6	10	Sandy Clay

**Hydric Soil Indicators:**

<u>      </u> Histosol	<u>      </u> Reducing conditions	<u>      </u> Organic streaking in sandy soils
<u>      </u> Histoc Epipedon	<u>      </u> Gleyed or low chroma	<u>      </u> Listed on Local Hydric Soils List
<u>      </u> Sulfidic odor	<u>      </u> Concretions	<u>      </u> Listed on National Hydric Soils List
<u>      </u> Aquic Moisture regime	<u>      </u> High organic content in surface layer of sandy soils	<u>      </u> Other (explain in remarks)

Soil appeared disturbed. No organic layer.

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<u>No</u>	Hydric Soils Present?	<u>Yes</u>
Wetland Hydrology Present?	<u>No</u>	Is this Sampling Point Within a Wetland?	<u>No</u>

Site ID # HP3

**DATA FORM  
ROUTINE ONSITE WETLAND DETERMINATION**

**Project Site:** Louisville USACE **Project #:** \_\_\_\_\_ **Date:** 13-Oct-08  
**Location:** Tyler, Tx **Investigator:** Jason Speights, Barry Frenzel

Do normal circumstances exist on the site? Yes  
 Is the site significantly disturbed (Atypical Situation) No  
 Is the area a potential Problem Area? No

**VEGETATION (use back of form for remarks)**

Dominant Species	Stratum	Indicator	Dominant Species	Stratum	Indicator
Arundinaria gigantea	H	FACW			
Percent of Dominant Species that are OBL, FACW, or FAC:			<u>100%</u>		

**HYDROLOGY (Use back of form for remarks)**

Primary Hydrology Indicators	Secondary Hydrology Indicators
<u>      </u> Inundated	<u>      </u> Oxidized Root Channels in Upper 12"
<u>      </u> Saturated in Upper 12"	<u>      </u> Water-stained leaves
<u>      </u> Water marks	<u>      </u> FAC-Neutral Test
<u>      </u> Drift Lines	<u>      </u> Other (explain on back of form)
<u>      </u> Sediment Deposits	
<u>      </u> Drainage Patterns in Wetland	
<u>      </u> Springs Present	

**Field Observations**

Depth of Surface Water: 0                      Depth to Saturated Soil: >18  
 Depth to Free Water in Pit: >18                      Slope: \_\_\_\_\_

**SOILS (Use back of form for remarks)**

**Mapping Unit Name:** \_\_\_\_\_ **Hydric Soils List?** Yes No  
**Drainage class:** \_\_\_\_\_ **Confirmed in Field:** No

**Profile Description:**

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/contrast	Texture, concretions, structure, etc.
0-3		10YR 3/2			Sandy Loam
3-18		10YR 6/3	10YR 5/6	20%	Sand

**Hydric Soil Indicators:**

<u>      </u> Histosol	<u>      </u> Reducing conditions	<u>      </u> Organic streaking in sandy soils
<u>      </u> Histoc Epipedon	<u>      </u> Gleyed or low chroma	<u>      </u> Listed on Local Hydric Soils List
<u>      </u> Sulfidic odor	<u>      </u> Concretions	<u>      </u> Listed on National Hydric Soils List
<u>      </u> Aquic Moisture regime	<u>      </u> High organic content in surface layer of sandy soils	<u>      </u> Other (explain in remarks)

No indicators present.

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<u>Yes</u>	Hydric Soils Present?	<u>No</u>
Wetland Hydrology Present?	<u>No</u>	Is this Sampling Point Within a Wetland?	<u>No</u>

Site ID # PEM1

**DATA FORM  
ROUTINE ONSITE WETLAND DETERMINATION**

**Project Site:** Louisville USACE **Project #:** \_\_\_\_\_ **Date:** 13-Oct-08  
**Location:** Tyler, Tx **Investigator:** Jason Speights, Barry Frenzel

Do normal circumstances exist on the site? Yes  
 Is the site significantly disturbed (Atypical Situation) No  
 Is the area a potential Problem Area? No

**VEGETATION (use back of form for remarks)**

Dominant Species	Stratum	Indicator	Dominant Species	Stratum	Indicator
Silax nigra	S/S	FACW+			
Typha latifolia	H	OBL			
Eleocharis parvula	H	OBL			

Percent of Dominant Species that are OBL, FACW, or FAC: 100%

**HYDROLOGY (Use back of form for remarks)**

Primary Hydrology Indicators	Secondary Hydrology Indicators
<input checked="" type="checkbox"/> Inundated	<input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12"
<input checked="" type="checkbox"/> Saturated in Upper 12"	<input checked="" type="checkbox"/> Water-stained leaves
<input type="checkbox"/> Water marks	<input type="checkbox"/> FAC-Neutral Test
<input type="checkbox"/> Drift Lines	<input type="checkbox"/> Other (explain on back of form)
<input type="checkbox"/> Sediment Deposits	
<input type="checkbox"/> Drainage Patterns in Wetland	
<input type="checkbox"/> Springs Present	

**Field Observations**

Depth of Surface Water: 2 in      Depth to Saturated Soil: Surface  
 Depth to Free Water in Pit: 11 in      Slope: \_\_\_\_\_

**SOILS (Use back of form for remarks)**

Mapping Unit Name: \_\_\_\_\_ Hydric Soils List? Yes No  
 Drainage class: \_\_\_\_\_ Confirmed in Field: No

**Profile Description:**

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/contrast	Texture, concretions, structure, etc.
0-3		10YR 4/1			Sandy Loam
3-18		10YR 5/1	10YR 3/4	30%	Sandy Loam

**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Reducing conditions	<input type="checkbox"/> Organic streaking in sandy soils
<input type="checkbox"/> Histoc Epipedon	<input type="checkbox"/> Gleyed or low chroma	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Sulfidic odor	<input type="checkbox"/> Concretions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Aquic Moisture regime	<input type="checkbox"/> High organic content in surface layer of sandy soils	<input type="checkbox"/> Other (explain in remarks)

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<u>Yes</u>	Hydric Soils Present?	<u>Yes</u>
Wetland Hydrology Present?	<u>Yes</u>	Is this Sampling Point Within a Wetland?	<u>Yes</u>

Site ID # U1

**DATA FORM  
ROUTINE ONSITE WETLAND DETERMINATION**

**Project Site:** Louisville USACE **Project #:** \_\_\_\_\_ **Date:** 13-Oct-08  
**Location:** Tyler, Tx **Investigator:** Jason Speights, Barry Frenzel

Do normal circumstances exist on the site? Yes  
 Is the site significantly disturbed (Atypical Situation) No  
 Is the area a potential Problem Area? No

**VEGETATION (use back of form for remarks)**

Dominant Species	Stratum	Indicator	Dominant Species	Stratum	Indicator
Arundinaria gigantea	H	FACW			
Percent of Dominant Species that are OBL, FACW, or FAC:			<u>100%</u>		

**HYDROLOGY (Use back of form for remarks)**

Primary Hydrology Indicators	Secondary Hydrology Indicators
<u>      </u> Inundated	<u>      </u> Oxidized Root Channels in Upper 12"
<u>      </u> Saturated in Upper 12"	<u>      </u> Water-stained leaves
<u>      </u> Water marks	<u>      </u> FAC-Neutral Test
<u>      </u> Drift Lines	<u>      </u> Other (explain on back of form)
<u>      </u> Sediment Deposits	
<u>      </u> Drainage Patterns in Wetland	
<u>      </u> Springs Present	

**Field Observations**

Depth of Surface Water: 0                      Depth to Saturated Soil: >18  
 Depth to Free Water in Pit: >18                      Slope: \_\_\_\_\_

**SOILS (Use back of form for remarks)**

**Mapping Unit Name:** \_\_\_\_\_ **Hydric Soils List?** Yes No  
**Drainage class:** \_\_\_\_\_ **Confirmed in Field:** No

**Profile Description:**

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/contrast	Texture, concretions, structure, etc.
0-3		10YR 3/2			Sandy Loam
3-18		10YR 6/3	10YR 5/6	20%	Sand

**Hydric Soil Indicators:**

<u>      </u> Histosol	<u>      </u> Reducing conditions	<u>      </u> Organic streaking in sandy soils
<u>      </u> Histoc Epipedon	<u>      </u> Gleyed or low chroma	<u>      </u> Listed on Local Hydric Soils List
<u>      </u> Sulfidic odor	<u>      </u> Concretions	<u>      </u> Listed on National Hydric Soils List
<u>      </u> Aquic Moisture regime	<u>      </u> High organic content in surface layer of sandy soils	<u>      </u> Other (explain in remarks)

No indicators present.

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<u>Yes</u>	Hydric Soils Present?	<u>No</u>
Wetland Hydrology Present?	<u>No</u>	Is this Sampling Point Within a Wetland?	<u>No</u>

Site ID # HP4

**DATA FORM  
ROUTINE ONSITE WETLAND DETERMINATION**

**Project Site:** Louisville USACE **Project #:** \_\_\_\_\_ **Date:** 13-Oct-08  
**Location:** Tyler, Tx **Investigator:** Jason Speights, Barry Frenzel

Do normal circumstances exist on the site? Yes  
 Is the site significantly disturbed (Atypical Situation) No  
 Is the area a potential Problem Area? No

**VEGETATION (use back of form for remarks)**

Dominant Species	Stratum	Indicator	Dominant Species	Stratum	Indicator
Arundinaria gigantea	H	FACW			
Croton capitatus	H	NL			
Liquidambar styraciflua	S/S	FAC			
Percent of Dominant Species that are OBL, FACW, or FAC:			<u>67%</u>		

**HYDROLOGY (Use back of form for remarks)**

Primary Hydrology Indicators	Secondary Hydrology Indicators
<input type="checkbox"/> Inundated	<input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12"
<input type="checkbox"/> Saturated in Upper 12"	<input type="checkbox"/> Water-stained leaves
<input type="checkbox"/> Water marks	<input type="checkbox"/> FAC-Neutral Test
<input type="checkbox"/> Drift Lines	<input type="checkbox"/> Other (explain on back of form)
<input type="checkbox"/> Sediment Deposits	
<input type="checkbox"/> Drainage Patterns in Wetland	
<input type="checkbox"/> Springs Present	

**Field Observations**

Depth of Surface Water: 0      Depth to Saturated Soil: >18  
 Depth to Free Water in Pit: >18      Slope: \_\_\_\_\_  
 No primary indicators present.

**SOILS (Use back of form for remarks)**

Mapping Unit Name: \_\_\_\_\_ Hydric Soils List? Yes No  
 Drainage class: \_\_\_\_\_ Confirmed in Field: No

**Profile Description:**

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/contrast	Texture, concretions, structure, etc.
0-6		10YR 3/2			Sandy Loam
6-18		10YR 6/3			Sand

**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Reducing conditions	<input type="checkbox"/> Organic streaking in sandy soils
<input type="checkbox"/> Histoc Epipedon	<input type="checkbox"/> Gleyed or low chroma	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Sulfidic odor	<input type="checkbox"/> Concretions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Aquic Moisture regime	<input type="checkbox"/> High organic content in surface layer of sandy soils	<input type="checkbox"/> Other (explain in remarks)

No indicators present.

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<u>Yes</u>	Hydric Soils Present?	<u>No</u>
Wetland Hydrology Present?	<u>No</u>	Is this Sampling Point Within a Wetland?	<u>No</u>

Site ID # HP5

**DATA FORM  
ROUTINE ONSITE WETLAND DETERMINATION**

**Project Site:** Louisville USACE **Project #:** \_\_\_\_\_ **Date:** 14-Oct-08  
**Location:** Tyler, Tx **Investigator:** Jason Speights, Barry Frenzel

Do normal circumstances exist on the site? Yes  
 Is the site significantly disturbed (Atypical Situation) No  
 Is the area a potential Problem Area? No

**VEGETATION (use back of form for remarks)**

Dominant Species	Stratum	Indicator	Dominant Species	Stratum	Indicator
Eleocharis parvula	H	OBL			
Silax nigra	S/S	FACW+			
Juncus sp	H	FACW			
Percent of Dominant Species that are OBL, FACW, or FAC:			<u>100%</u>		

**HYDROLOGY (Use back of form for remarks)**

Primary Hydrology Indicators	Secondary Hydrology Indicators
<input type="checkbox"/> Inundated	<input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12"
<input type="checkbox"/> Saturated in Upper 12"	<input type="checkbox"/> Water-stained leaves
<input type="checkbox"/> Water marks	<input type="checkbox"/> FAC-Neutral Test
<input type="checkbox"/> Drift Lines	<input type="checkbox"/> Other (explain on back of form)
<input type="checkbox"/> Sediment Deposits	
<input type="checkbox"/> Drainage Patterns in Wetland	
<input type="checkbox"/> Springs Present	

**Field Observations**

Depth of Surface Water: 0      Depth to Saturated Soil: >18  
 Depth to Free Water in Pit: >18      Slope: \_\_\_\_\_

**SOILS (Use back of form for remarks)**

Mapping Unit Name: \_\_\_\_\_ Hydric Soils List? Yes No  
 Drainage class: \_\_\_\_\_ Confirmed in Field: No

**Profile Description:**

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/contrast	Texture, concretions, structure, etc.
0-2		7.5YR 4/1			Sand
2-6		10YR 6/2	10YR 4/6	30%	Sand
6-18		7.5YR 4/6			Sandy Clay

**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Reducing conditions	<input type="checkbox"/> Organic streaking in sandy soils
<input type="checkbox"/> Histoc Epipedon	<input type="checkbox"/> Gleyed or low chroma	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Sulfidic odor	<input type="checkbox"/> Concretions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Aquic Moisture regime	<input type="checkbox"/> High organic content in surface layer of sandy soils	<input type="checkbox"/> Other (explain in remarks)

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<u>Yes</u>	Hydric Soils Present?	<u>Yes</u>
Wetland Hydrology Present?	<u>No</u>	Is this Sampling Point Within a Wetland?	<u>No</u>

Site ID # HP6

**DATA FORM  
ROUTINE ONSITE WETLAND DETERMINATION**

**Project Site:** Louisville USACE **Project #:** \_\_\_\_\_ **Date:** 14-Oct-08  
**Location:** Tyler, Tx **Investigator:** Jason Speights, Barry Frenzel

Do normal circumstances exist on the site? Yes  
 Is the site significantly disturbed (Atypical Situation) No  
 Is the area a potential Problem Area? No

**VEGETATION (use back of form for remarks)**

Dominant Species	Stratum	Indicator	Dominant Species	Stratum	Indicator
Arundinaria gigantea	H	FACW			
Silax nigra	S/S	FACW+			
Juncus scirpoides	H	FACW			
Percent of Dominant Species that are OBL, FACW, or FAC:			<u>100%</u>		

**HYDROLOGY (Use back of form for remarks)**

Primary Hydrology Indicators	Secondary Hydrology Indicators
<u>      </u> Inundated	<u>      </u> Oxidized Root Channels in Upper 12"
<u>      </u> Saturated in Upper 12"	<u>      </u> Water-stained leaves
<u>      </u> Water marks	<u>      </u> FAC-Neutral Test
<u>      </u> Drift Lines	<u>      </u> Other (explain on back of form)
<u>      </u> Sediment Deposits	
<u>      </u> Drainage Patterns in Wetland	
<u>      </u> Springs Present	

**Field Observations**

Depth of Surface Water: 0                      Depth to Saturated Soil: 4 in  
 Depth to Free Water in Pit: 12 in                      Slope: \_\_\_\_\_

**SOILS (Use back of form for remarks)**

**Mapping Unit Name:** \_\_\_\_\_ **Hydric Soils List?** Yes No  
**Drainage class:** \_\_\_\_\_ **Confirmed in Field:** No

**Profile Description:**

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/contrast	Texture, concretions, structure, etc.
0-8		10YR 4/2			Sandy Loam
8-18		10YR 6/3	10YR 5/6	30%	Sand

**Hydric Soil Indicators:**

<u>      </u> Histosol	<u>      </u> Reducing conditions	<u>      </u> Organic streaking in sandy soils
<u>      </u> Histoc Epipedon	<u>      </u> Gleyed or low chroma	<u>      </u> Listed on Local Hydric Soils List
<u>      </u> Sulfidic odor	<u>      </u> Concretions	<u>      </u> Listed on National Hydric Soils List
<u>      </u> Aquic Moisture regime	<u>      </u> High organic content in surface layer of sandy soils	<u>      </u> Other (explain in remarks)

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<u>Yes</u>	Hydric Soils Present?	<u>No</u>
Wetland Hydrology Present?	<u>Yes</u>	Is this Sampling Point Within a Wetland?	<u>No</u>

Site ID # PEM2

**DATA FORM  
ROUTINE ONSITE WETLAND DETERMINATION**

**Project Site:** Louisville USACE **Project #:** \_\_\_\_\_ **Date:** 14-Oct-08  
**Location:** Tyler, Tx **Investigator:** Jason Speights, Barry Frenzel

Do normal circumstances exist on the site? Yes  
 Is the site significantly disturbed (Atypical Situation) No  
 Is the area a potential Problem Area? No

**VEGETATION (use back of form for remarks)**

Dominant Species	Stratum	Indicator	Dominant Species	Stratum	Indicator
Arundinaria gigantea	H	FACW			
Silax nigra	S/S	FACW+			
Juncus scirpoides	H	FACW			

Percent of Dominant Species that are OBL, FACW, or FAC: 100%

**HYDROLOGY (Use back of form for remarks)**

Primary Hydrology Indicators	Secondary Hydrology Indicators
<input checked="" type="checkbox"/> Inundated	<input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12"
<input checked="" type="checkbox"/> Saturated in Upper 12"	<input type="checkbox"/> Water-stained leaves
<input type="checkbox"/> Water marks	<input type="checkbox"/> FAC-Neutral Test
<input type="checkbox"/> Drift Lines	<input type="checkbox"/> Other (explain on back of form)
<input type="checkbox"/> Sediment Deposits	
<input type="checkbox"/> Drainage Patterns in Wetland	
<input type="checkbox"/> Springs Present	

**Field Observations**

Depth of Surface Water: 1 in      Depth to Saturated Soil: 12 in  
 Depth to Free Water in Pit: >18      Slope: \_\_\_\_\_

**SOILS (Use back of form for remarks)**

Mapping Unit Name: \_\_\_\_\_ Hydric Soils List? Yes No  
 Drainage class: \_\_\_\_\_ Confirmed in Field: No

**Profile Description:**

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/contrast	Texture, concretions, structure, etc.
0-6		10 YR 4/1			Sandy Loam
6-18		10YR 5/2	10 YR 5/6	10%	Sand

**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Reducing conditions	<input type="checkbox"/> Organic streaking in sandy soils
<input type="checkbox"/> Histoc Epipedon	<input type="checkbox"/> Gleyed or low chroma	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Sulfidic odor	<input type="checkbox"/> Concretions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Aquic Moisture regime	<input type="checkbox"/> High organic content in surface layer of sandy soils	<input type="checkbox"/> Other (explain in remarks)

dark organic layer on the surface

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<u>Yes</u>	Hydric Soils Present?	<u>Yes</u>
Wetland Hydrology Present?	<u>Yes</u>	Is this Sampling Point Within a Wetland?	<u>Yes</u>

Site ID # U2

**DATA FORM  
ROUTINE ONSITE WETLAND DETERMINATION**

**Project Site:** Louisville USACE **Project #:** \_\_\_\_\_ **Date:** 14-Oct-08  
**Location:** Tyler, Tx **Investigator:** Jason Speights, Barry Frenzel

Do normal circumstances exist on the site? Yes  
 Is the site significantly disturbed (Atypical Situation) No  
 Is the area a potential Problem Area? No

**VEGETATION (use back of form for remarks)**

Dominant Species	Stratum	Indicator	Dominant Species	Stratum	Indicator
Erigeron annuus	H	FAC			
Arundinaria gigantea	H	FACW			
Andropogon virginicus	H	FACU+			
Percent of Dominant Species that are OBL, FACW, or FAC:			<u>67%</u>		

**HYDROLOGY (Use back of form for remarks)**

Primary Hydrology Indicators	Secondary Hydrology Indicators
<u>      </u> Inundated	<u>      </u> Oxidized Root Channels in Upper 12"
<u>      </u> Saturated in Upper 12"	<u>      </u> Water-stained leaves
<u>      </u> Water marks	<u>      </u> FAC-Neutral Test
<u>      </u> Drift Lines	<u>      </u> Other (explain on back of form)
<u>      </u> Sediment Deposits	
<u>      </u> Drainage Patterns in Wetland	
<u>      </u> Springs Present	

**Field Observations**

Depth of Surface Water: 0 in                      Depth to Saturated Soil: >18 in  
 Depth to Free Water in Pit: >18 in                      Slope: \_\_\_\_\_

**SOILS (Use back of form for remarks)**

**Mapping Unit Name:** \_\_\_\_\_ **Hydric Soils List?** Yes No  
**Drainage class:** \_\_\_\_\_ **Confirmed in Field:** No

**Profile Description:**

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/contrast	Texture, concretions, structure, etc.
0-4		10YR 5/3			Sandy loam
4-18		10YR 5/4			Sandy loam

**Hydric Soil Indicators:**

<u>      </u> Histosol	<u>      </u> Reducing conditions	<u>      </u> Organic streaking in sandy soils
<u>      </u> Histoc Epipedon	<u>      </u> Gleyed or low chroma	<u>      </u> Listed on Local Hydric Soils List
<u>      </u> Sulfidic odor	<u>      </u> Concretions	<u>      </u> Listed on National Hydric Soils List
<u>      </u> Aquic Moisture regime	<u>      </u> High organic content in surface layer of sandy soils	<u>      </u> Other (explain in remarks)

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present? Yes                      Hydric Soils Present? No  
 Wetland Hydrology Present? No                      Is this Sampling Point Within a Wetland? No

## **APPENDIX C**

### **Site Photos**



**Site:** Smith County, Texas   **Photo:** 1   **Date:** 10/13/2008   **Direction:** East

**Subject:** Representative photo of habitat point 1, a depression area extending through the center of the site.



**Site:** Smith County, Texas   **Photo:** 2   **Date:** 10/13/2008   **Direction:** North

**Subject:** Representative photo of Stream 1, located east of the site.



**Site:** Smith County, Texas   **Photo:** 3   **Date:** 10/13/2008   **Direction:** North

**Subject:** Representative photo of palustrine emergent wetland 1 (PEM1), located in the west central portion of the site.



**Site:** Smith County, Texas    **Photo:** 4    **Date:** 10/14/2008    **Direction:** East

**Subject:** Representative photo of palustrine emergent wetland 2 (PEM 2), located in the southeast corner of the site.



**Site:** Smith County, Texas   **Photo:** 5   **Date:** 10/14/2008   **Direction:** East

**Subject:** Representative photo of stream 2, located in the south central portion of the site.



*APPENDIX E*  
*Economic Impact Forecast System*

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# **Analysis of Socioeconomic Effects For Tyler Reserve Center Realignment for BRAC05**

## **Introduction**

The socioeconomic analysis requirements of NEPA have been established over the years through successful early NEPA litigation (“McDowell vs Schlesinger”, US District Court, Western District of Missouri, Western Division, No. 75-CV-234-W-4 (June 19,1975) and “Breckinridge vs Schlesinger”, US District Court, Eastern District of Kentucky, No. 75-100 (October 31,1975)), as well as the practical need for communication and collaboration with affected communities. The social and economic effects of Base Realignment and Closure (BRAC) actions are especially relevant and important, as these issues are often the source of community concerns and subsequent controversies.

## **The Economic Impact Forecast System (EIFS) and the Hierarchical Approach.**

### The Model:

The Economic Impact Forecast System (EIFS) (Huppertz, Claire E.; Bloomquist, Kim M.; Barbehenn, Jacinda M.; EIFS 5.0 Economic Impact Forecast System, User’s Reference Manual; USACERL Technical Report TA-94/03; July 1994.) has been a mainstay of Army NEPA practice since its initial development and implementation in the mid-70s. EIFS provides a mechanism to estimate impacts, and ascertain the “significance” of projected impacts, using the Rational Threshold Value (RTV) technique. This analysis and determination can be readily documented, and if significance thresholds are not exceeded, the analysis can be completed. EIFS was designed to address NEPA applications, providing a “two-tier” approach to the process; (1) a simple and quick aggregate model (sufficient to ascertain the overall magnitude of impacts) and (2) a more detailed, sophisticated input-output (I-O) model to further analyze impacts that appear significant, in NEPA terms, and worthy of additional expenditures and analyses. This “two-tier” approach is consistent with the two common levels of NEPA analysis, the Environmental Assessment (EA) and the Environmental Impact Statement (EIS). EIFS has facilitated efficient and effective completion of such analyses for approximately 3 decades.

Complete documentation of the model, its development, and applicable theoretical underpinnings is available in numerous publications:

- Huppertz, Claire E.; Bloomquist, Kim M.; Barbehenn, Jacinda M.; EIFS 5.0 Economic Impact Forecast System, User’s Reference Manual; USACERL Technical Report TA-94/03; July 1994.
- Isard, W., Methods of Regional Analysis, MIT Press, 1960.
- Isard, W. and Langford, T., Regional Input-Output Study: Recollections, Reflections, and Diverse Notes on the Philadelphia Experience, MIT Press, 1971.
- Isserman, A., "The Location Quotient Approach to Estimating Regional Economic Impacts", AIP Journal, January, 1977, pp. 33-41.

- Isserman, A., "Estimating Export Activity in a Regional Economy: A Theoretical and Empirical Analysis of Alternative Methods", International Regional science Review, Vol. 5, 1980, pp. 155-184.
- Leigh, R., " The Use of Location Quotients in Urban Economic Base Studies", Land Economics, Vol 46, May, 1970, pp 202-205.
- Mathur, V.K. and Rosen, H.S. , "Regional Employment Multiplier: A new Approach", Land Economics, Vol 50, 1974, pp 93-96.
- Mayer, W. and Pleeter, S., "A Theoretical Justification for the Use of Location Quotients", Regional Science and Urban Economics, Vol 5, 1975, pp 343-355.
- Robinson, D.P., Hamilton, J.W., Webster, R.D., and Olson, M.J., Economic Impact Forecast System (EIFS) II: User's Manual, Updated Edition, Technical Report N-69/ADA144950, U.S. Army Construction Engineering Research Lab (USACERL),1984.
- Robinson, D.P. and Webster,R.D., Enhancements to the Economic Impact Forecast System (EIFS), Technical Report N-175/ADA142652, USACERL, April, 1984.
- Rogers, Claudia and Webster, Ron, "Qualitative Answers to Quantitative Questions", Impact Assessment, IAIA, Vol.12, No.1, 1999.
- Thompson, W., A Preface to Urban Economics, Johns Hopkins Press, 1965.
- Tiebout, C., The Community Economic Base, New York Committee for Economic Development, 1962.
- USACERL, " Methods for Evaluating the Significance of Impacts: The RTV and FSI Profiles"; USACERL EIFS Tutorial; July 1987.
- U.S. Army, Department of the Army, DA Pamphlet 200-2, "Economic Impact Forecast System-User Instructions", 1980.
- U.S. Army, "Base Realignment and Closure "How-To" Manual for Compliance with the National Environmental Policy Act", revised and published as official Department of Army Guidance, 1995.
- U.S. Army, Army Regulation 5-20, "Commercial Activities"
- U.S. Army, Department of the Army, DA Pamphlet 200-2, "Economic Impact Forecast System-User Instructions", 1980
- Webster, R.D.and Shannon, E.; The Rational Threshold Value (RTV) Technique for the Evaluation of Regional Economic Impacts; USACERL Technical Report TR N-49/ADA055561; 1978.
- Webster, R.D., Hamilton, J.W., and Robinson, D.P., "The Two-Tier Concept for Economic Analysis: Introduction and User Instructions", USACERL Technical Report N-127/ADA118855.

These efforts reflect development of a tool for specific NEPA application, following the successful NEPA litigation referenced in the Introduction. As EIFS has been used for Army NEPA analyses, the results of EIFS analyses have been reviewed by stakeholder (affected community) representatives, and, as a result of BRAC application, twice reviewed by the Government Accounting Office (GAO). During such reviews, the analyses and resultant decisions were upheld, and EIFS was lauded as a uniform (non-arbitrary and non-capricious) approach to such requirements. Drawing from a national, uniform database, and using a common, systematic approach, EIFS allowing the improved comparison of project alternatives (the heart of NEPA analysis), and provides comparable analyses across the U.S.

#### NEPA Process Improvement:

Since NEPA was implemented, it has been commonly criticized as expensive and time-consuming. While these criticisms have been often justified, the President's Council on Environmental Quality (CEQ) has actively promoted NEPA process improvements; first

in the publication of the CEQ NEPA regulations (CEQ, Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act, Reprint, 40 CFR Parts 1500-1508, Executive Office of the President, Council on Environmental Quality, 1992.), and, more recently, through a NEPA anniversary introspective (CEQ, The National Environmental Policy Act: A Study of its Effectiveness After Twenty-five Years, Executive Office of the President, Council on Environmental Quality, January, 1997.) and the formal CEQ NEPA Task Force (CEQ, The NEPA Task Force Report to the Council on Environmental Quality: Modernizing NEPA Implementation; September, 2003.). All three CEQ initiatives call for more "focus" on NEPA documents, eliminating the analyses of minor or unimportant issues, and focusing, instead, on those issues that should be part of an informed agency decision. The use of EIFS, and the "two-tier" approach is consistent with these CEQ recommendations.

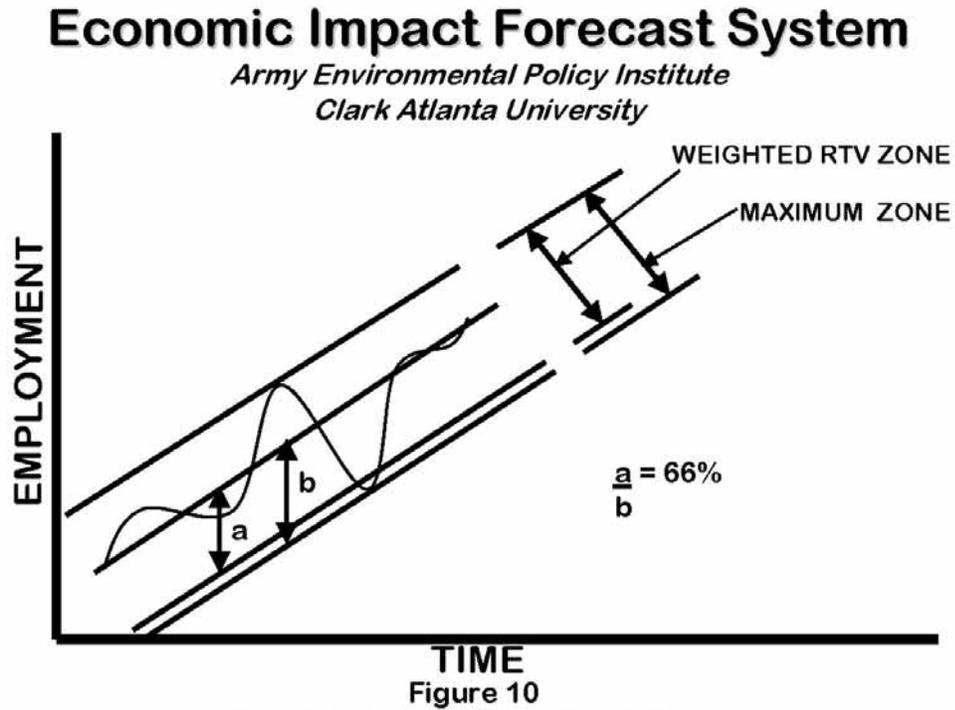
#### Determining Significance:

While EIFS was being developed, communities began to question the rationale for determining the significance of socioeconomic impacts. USACERL was directed to develop a defensible procedure for such a determination, resulting in the Rational Threshold Value (RTV) technique (Webster, R.D.; and Shannon, E.; The Rational Threshold Value (RTV) Technique for the Evaluation of Regional Economic Impacts; USACERL Technical Report TR N-49/ADA055561; 1978). This technique relies on the yearly Bureau of Economic Analysis (BEA) time series data on employment, income, and population to evaluate historical trends within a subject community (region); and uses those trends to measure the "resilience" of the local community to change, or its ability to accommodate such change. This approach has worked well when communicating with affected communities. The combined use of RTV with the EIFS model meet the two pronged approach for significance determinations, intensity and context (CEQ, 1992)

The initial EIFS implementation (USACERL, 1975) included the analysis of numerous variables: business volume, personal income, employment, government revenues and expenditures, income and employment distribution, local housing impacts, regional economic stability, school system impacts, government bond obligations, population, welfare and dependency, social control, and aesthetic considerations. These selection of these variables was based on the predictive capability of forecasting techniques and data availability. Over some 30 years of practice, pragmatism and sufficiency led to the use of sales volume, employment, personal income, and population as indicators of impacts (as a "first tier" approximation of effects). These effects can also be readily evaluated (and significance determined) using the BEA time series data. Population, important in its own right, is also a valuable indicator of other factors (e.g., impact on local government revenues and expenditures, housing, local school systems, and the change in welfare and dependency), as impacts on such variables are driven, to a large extent, by a population change.

Using BEA time series data is used to analyze the four variables for the ROI, the RTV model produces thresholds for assessing the magnitude of impacts. The RTV technique is

simple, starting with a straight line between the first year of record and the last year of record for that variable, establishing the average rate of change over time. Then, each yearly deviation from that growth rate is calculated and converted to a percentage. The largest historical changes (both increase and decrease) are used to define significance thresholds. The following figure illustrates the RTV concept:



A "factor of safety" is applied to negative thresholds, as shown in the figure, to produce a conservative analysis; while 100% of the maximum positive thresholds is used; as indicated below:

	<u>Increase</u>	<u>Decrease</u>
Total sales volume	100 percent	75 percent
Total employment	100 percent	66 percent
Personal Income	100 percent	66 percent
Total population	100 percent	50 percent

The maximum positive historical fluctuation is used because of the positive connotations generally associated with economic growth. While economic growth can produce

unacceptable impacts and the "smart growth" concept is increasingly favored, the effects of reductions and closures are usually much more controversial. These adjustments, while arbitrary, are sensible. The negative sales volume threshold is adjusted by 75%, as sales volume impacts can be absorbed by such factors as the manipulation of inventory, new equipment, etc; and the impacts on individual workers or proprietors is indirect, if at all. Changes in employment and income, however, are impacts that immediately affect individuals; thus they are adjusted by 66%. Population is extremely important, as an indicator of other social issues, and is thus adjusted by 50%.

To adjust dollar amounts for inflation (to create "constant dollars" prior to calculations), the Consumer Price Index (CPI) is used for appropriate years, and all dollar values are adjusted to 1987 equivalents.

The main strength of the RTV approach stems from its reliance on data for each individual ROI. This approach addressed previous criticism of more simple approaches that applied arbitrary criteria to all communities. This approach establishes unique criteria, representative of local community patterns, and, while a community may not completely agree, a common frame of reference is established. Critics of the RTV technique have questioned the arbitrary selection of the maximum allowable deviations to indicate impact significance, but the process has proven workable over the years.

### **The Application of EIFS to the Proposed Action**

To effect these analyses, the inputs to the EIFS model must be estimated. The normal EIFS inputs include:

- Number of affected (moving) civilians and their salaries
- Number of affected (moving) military employees and their salaries
- Percentage of affected military employees living on-post
- Changes in local procurement, contracting, and purchases
- Definition of the multi-county region of influence (ROI)

In the case of the Tyler no change in civilian or military strength in the region will occur, given the close proximity of the existing (combining) affected sites. The only exogenous economic stimulus will be associated with the construction of some 165,000 square feet of new facilities. This will involve some \$29 million dollars in construction expenditures and land acquisition.

For this analysis, three Metropolitan Statistical Areas (MSAs) were selected as the ROI, linking the small counties along a 60 mile stretch of Interstate 20. These MSAs include the Tyler MSA (Smith county), the Longview MSA (Gregg, Rusk, and Upshur counties) and the Marshall MSA (Harrison county).

The estimated inputs were used to produce EIFS reports (model results) for changes in total business volume, employment, income, and population. These are best shown as percentages (of the activity in the total ROI), and can be prepared to the RTVs for that variable in that ROI. The following EIFS documentation is provided; detailing the inputs,

documenting projected changes, and evaluating the potential significance of the predicted change, based on the RTV technique:

## Economic Impact Forecast System

# EIFS REPORT

### PROJECT NAME

tyler afrc

### STUDY AREA

48183 Gregg, TX  
48203 Harrison, TX  
48401 Rusk, TX  
48423 Smith, TX  
48459 Upshur, TX

### FORECAST INPUT

Change In Local Expenditures	\$29,000,000
Change In Civilian Employment	0
Average Income of Affected Civilian	\$0
Percent Expected to Relocate	0
Change In Military Employment	0
Average Income of Affected Military	\$0
Percent of Military Living On-post	0

### FORECAST OUTPUT

Multiplier	2.88
Sales Volume - Direct	\$15,775,460
Sales Volume - Induced	\$29,657,870
Sales Volume - Total	\$45,433,330 0.29%
Income - Direct	\$2,986,153

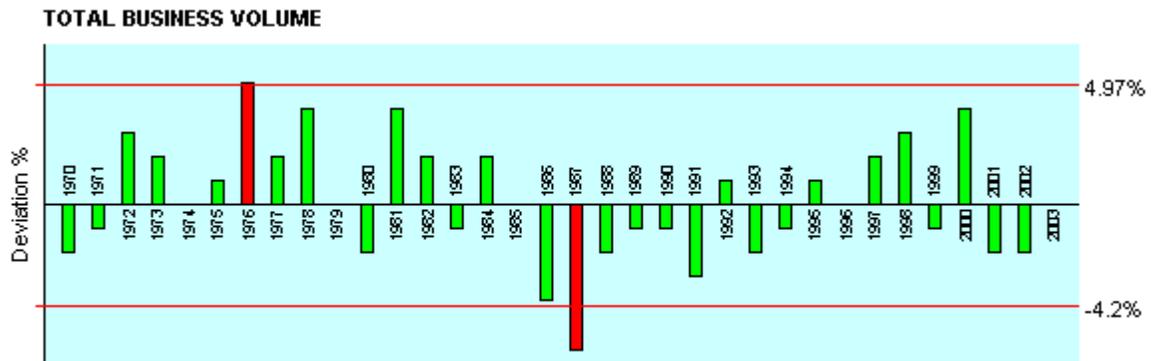
Income - Induced	\$5,613,968	
Income - Total	\$8,600,121	0.09%
Employment - Direct	99	
Employment - Induced	187	
Employment - Total	286	0.12%
Local Population	0	
Local Off-base Population	0	0%

## RTV SUMMARY

	Sales Volume	Income	Employment	Population
<b>Positive RTV</b>	4.97 %	5.15 %	3.85 %	2.75 %
<b>Negative RTV</b>	-4.2 %	-3.85 %	-3.68 %	-0.97 %

## RTV DETAILED

### SALES VOLUME

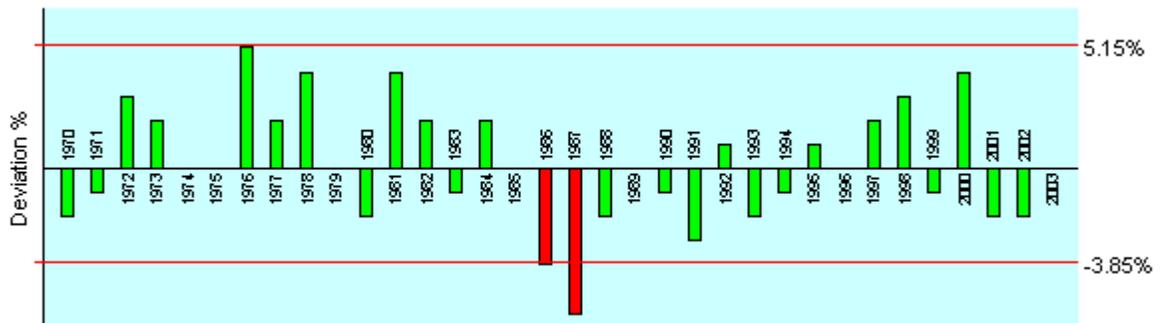


Year	Value	Adj_Value	Change	Deviation	%Deviation
1969	1639996	8626379	0	-465010	0
1970	1789768	8913045	286666	-178344	-2
1971	1954716	9323995	410951	-54059	-0.58
1972	2177428	10059717	735722	270712	2.69
1973	2458326	10693718	634001	168991	1.58
1974	2850560	11145690	451972	-13038	-0.12
1975	3254354	11683131	537441	72431	0.62
1976	3759874	12783572	1100441	635431	4.97
1977	4244352	13539483	755911	290901	2.15
1978	4941968	14628225	1088742	623732	4.26
1979	5672756	15089531	461306	-3704	-0.02
1980	6544316	15313699	224168	-240842	-1.57
1981	7720660	16445006	1131306	666296	4.05
1982	8592070	17184140	739134	274124	1.6

1983	9045368	17548014	363874	-101136	-0.58
1984	9844352	18310495	762481	297471	1.62
1985	10463528	18834350	523856	58846	0.31
1986	10504770	18488395	-345955	-810965	-4.39
1987	10557608	17947934	-540462	-1005472	-5.6
1988	11125636	18134787	186853	-278157	-1.53
1989	11836164	18464416	329629	-135381	-0.73
1990	12539138	18683316	218900	-246110	-1.32
1991	13118740	18628611	-54705	-519715	-2.79
1992	13916938	19205374	576764	111754	0.58
1993	14383840	19274346	68971	-396039	-2.05
1994	15094798	19623237	348892	-116118	-0.59
1995	15994814	20313414	690176	225166	1.11
1996	16960314	20861186	547772	82762	0.4
1997	18117116	21740539	879353	414343	1.91
1998	19302686	22970196	1229657	764647	3.33
1999	20005210	23206044	235847	-229163	-0.99
2000	21969490	24605829	1399785	934775	3.8
2001	22471796	24494258	-111571	-576581	-2.35
2002	22816314	24413456	-80802	-545812	-2.24
2003	23715920	24901716	488260	23250	0.09

## INCOME

### PERSONAL INCOME

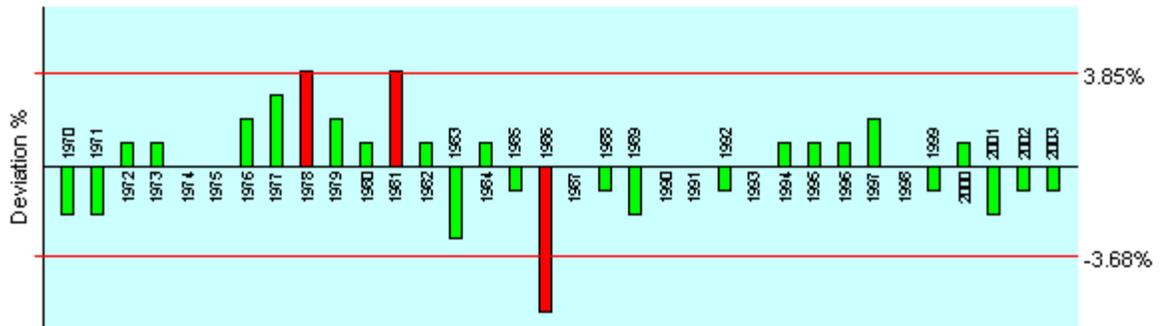


Year	Value	Adj_Value	Change	Deviation	%Deviation
1969	828605	4358462	0	-233558	0
1970	902371	4493808	135345	-98213	-2.19
1971	985120	4699022	205215	-28343	-0.6
1972	1100244	5083127	384105	150547	2.96
1973	1252851	5449902	366775	133217	2.44
1974	1448548	5663823	213921	-19637	-0.35

1975	1634895	5869273	205450	-28108	-0.48
1976	1892483	6434442	565169	331611	5.15
1977	2127984	6788269	353827	120269	1.77
1978	2479824	7340279	552010	318452	4.34
1979	2850054	7581144	240865	7307	0.1
1980	3280731	7676911	95767	-137791	-1.79
1981	3871659	8246634	569723	336165	4.08
1982	4326340	8652680	406046	172488	1.99
1983	4549185	8825419	172739	-60819	-0.69
1984	4947141	9201682	376263	142705	1.55
1985	5241104	9433987	232305	-1253	-0.01
1986	5271923	9278584	-155403	-388961	-4.19
1987	5291690	8995873	-282711	-516269	-5.74
1988	5570538	9079977	84104	-149454	-1.65
1989	5945259	9274604	194627	-38931	-0.42
1990	6298234	9384369	109765	-123793	-1.32
1991	6589936	9357709	-26660	-260218	-2.78
1992	7001460	9662015	304306	70748	0.73
1993	7232916	9692107	30093	-203465	-2.1
1994	7586132	9861972	169864	-63694	-0.65
1995	8024584	10191222	329250	95692	0.94
1996	8502443	10458005	266783	33225	0.32
1997	9108223	10929868	471863	238305	2.18
1998	9704963	11548906	619038	385480	3.34
1999	10078557	11691126	142220	-91338	-0.78
2000	11036022	12360345	669219	435661	3.52
2001	11306643	12324241	-36104	-269662	-2.19
2002	11496012	12300733	-23508	-257066	-2.09
2003	11936176	12532985	232252	-1306	-0.01

## EMPLOYMENT

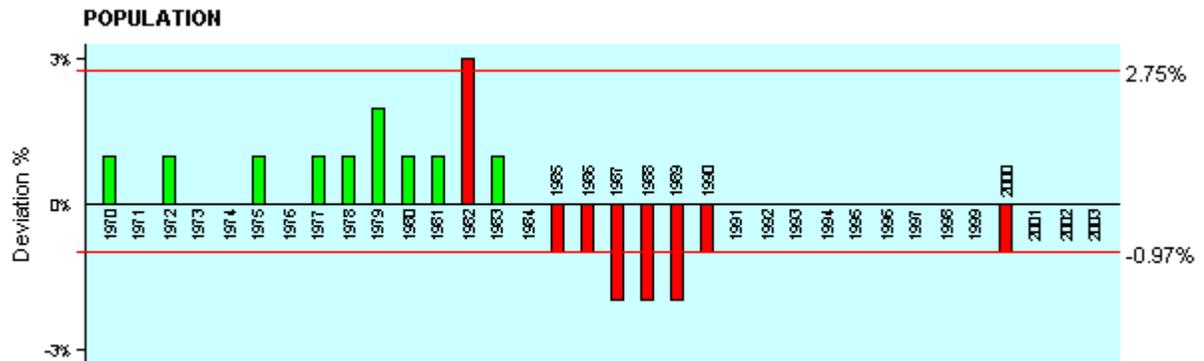
## EMPLOYMENT



Year	Value	Change	Deviation	%Deviation
1969	116900	0	-3990	0
1970	118606	1706	-2284	-1.93
1971	120478	1872	-2118	-1.76
1972	126186	5708	1718	1.36
1973	131597	5411	1421	1.08
1974	136215	4618	628	0.46
1975	139636	3421	-569	-0.41
1976	146873	7237	3247	2.21
1977	155255	8382	4392	2.83
1978	165489	10234	6244	3.77
1979	173208	7719	3729	2.15
1980	178491	5283	1293	0.72
1981	189785	11294	7304	3.85
1982	196671	6886	2896	1.47
1983	194803	-1868	-5858	-3.01
1984	201191	6388	2398	1.19
1985	203060	1869	-2121	-1.04
1986	196259	-6801	-10791	-5.5
1987	201144	4885	895	0.44
1988	202361	1217	-2773	-1.37
1989	201597	-764	-4754	-2.36
1990	206187	4590	600	0.29
1991	210338	4151	161	0.08
1992	211849	1511	-2479	-1.17
1993	216766	4917	927	0.43
1994	223193	6427	2437	1.09
1995	229115	5922	1932	0.84
1996	234864	5749	1759	0.75
1997	243346	8482	4492	1.85

1998	248092	4746	756	0.3
1999	250212	2120	-1870	-0.75
2000	255703	5491	1501	0.59
2001	253727	-1976	-5966	-2.35
2002	254615	888	-3102	-1.22
2003	256554	1939	-2051	-0.8

## POPULATION



Year	Value	Change	Deviation	%Deviation
1969	265757	0	-5119	0
1970	273267	7510	2391	0.87
1971	279117	5850	731	0.26
1972	287182	8065	2946	1.03
1973	291245	4063	-1056	-0.36
1974	297779	6534	1415	0.48
1975	306121	8342	3223	1.05
1976	312579	6458	1339	0.43
1977	321049	8470	3351	1.04
1978	330237	9188	4069	1.23
1979	342901	12664	7545	2.2
1980	352589	9688	4569	1.3
1981	361498	8909	3790	1.05
1982	376987	15489	10370	2.75
1983	384874	7887	2768	0.72
1984	388632	3758	-1361	-0.35
1985	391287	2655	-2464	-0.63
1986	392741	1454	-3665	-0.93
1987	391507	-1234	-6353	-1.62
1988	390200	-1307	-6426	-1.65
1989	387795	-2405	-7524	-1.94

1990	389243	1448	-3671	-0.94
1991	393627	4384	-735	-0.19
1992	396792	3165	-1954	-0.49
1993	402293	5501	382	0.09
1994	406188	3895	-1224	-0.3
1995	411892	5704	585	0.14
1996	417211	5319	200	0.05
1997	421747	4536	-583	-0.14
1998	425856	4109	-1010	-0.24
1999	428920	3064	-2055	-0.48
2000	431578	2658	-2461	-0.57
2001	434956	3378	-1741	-0.4
2002	440206	5250	131	0.03
2003	444924	4718	-401	-0.09

### Summary of Results

The EIFS analyses indicated that the proposed action will produce no major socioeconomic effects in the ROI (community). The projected changes compare the appropriate RTVs as follows:

	<u>Projected change</u>	<u>RTV</u>
Business (sales) volume	0.29%	4.97%
Income	0.09%	5.15%
Employment	0.12%	3.85%
Population	0.0%	2.75%

This significance determination is "conservative"--well within any errors produced through assumed EIFS input values. While these inputs could be refined, the results of the analysis (final determination) will certainly remain unchanged.

As this project involves the purchase of land from private sources, some local tax revenues will be reduced from the purchase and utilization by the government, which is tax exempt. The purchase price of this land is approximately \$355,000. Applying the published Smith county property tax rate of \$0.2889 per \$100 to this purchase price, this will yield a maximum reduction of \$1026 per year in tax revenues. This is significant overestimate of the lost tax revenues, as the "assessed value" of this property is less than the purchase price. This loss in tax revenue will be easily offset by the exogenous influx of construction expenditures during the 2-3 years of the construction phase of the

proposed action and the indicated multiplier affect. While development of the property for other commercial or non-government uses would produce additional revenues, such development is speculative and cannot be ascertained without more specific information.

