Final

ENVIRONMENTAL ASSESSMENT
ESTABLISHMENT OF ARMED FORCES RESERVE CENTER (AFRC)
AT ELLINGTON FIELD, HOUSTON, TEXAS
BRAC 2005

Prepared for:

Philip L. Hanrahan
Brigadier General, USAR
Commanding

Prepared by:

U.S Army Corps of Engineers
Mobile District
P.O. Box 2288
Mobile, AL 36628

June 2008

FINAL
FINDING OF NO SIGNIFICANT IMPACT
ENVIRONMENTAL ASSESSMENT
ESTABLISHMENT OF AN ARMED FORCES RESERVE CENTER (AFRC)
AT ELLINGTON FIELD, HOUSTON, TEXAS
BRAC 2005

The Defense Base Closure and Realignment (BRAC) Commission, in response to the Defense Base Closure and Realignment Act of 1990, as amended, recommended closing the Pasadena U.S. Army Reserve Center (USARC), Texas and relocating the units to a new Armed Forces Reserve Center (AFRC) in East Houston, Texas. The proposed site for the new AFRC is Ellington Field, located in southeastern Houston, Harris County, Texas.

Pursuant to the Council on Environmental Quality regulations (40 Code of Federal Regulations 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 Code of Federal Regulations (CFR) Part 651 (Environmental Analysis of Army Actions), the U.S. Army Corps of Engineers, Mobile District, has prepared an Environmental Assessment (EA) and Finding of No Significant Impact (FNSI), which addresses the proposed construction and operation of the AFRC in Ellington Field.

Proposed Action

The Proposed Action is to construct and operate a new 800-member AFRC at Ellington Field to accommodate the units to be relocated from the Pasadena USARC. A new 151,913 square foot (SF) building; 33,720 SF Vehicle Maintenance Shop; 14,600 SF Barracks/Classrooms; parking areas; and a 3,770 SF Organization Storage Unit would be constructed. The new facility would provide administrative, assembly, educational, storage, storage vault, weapons simulators and physical fitness training facilities to accommodate five U.S. Army Reserve (USAR) and up to eight Texas Army National Guard (TXARNG) units. The new AFRC is proposed to be constructed on a 22-acre parcel along the western boundary of Ellington Field.

Alternatives Considered

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, rectangular-shaped parcel and have 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.

No other action alternatives were considered during the preparation of this EA. Ellington Field is an active airport, owned and operated by the City of Houston Department of Aviation, and provides commercial and private air traffic; support for military aircraft operations is also still provided at Ellington Field. Consequently, nearly all of the Ellington Field has been disturbed and most is currently developed. The proposed location is the only suitable site identified through an independent Available Site Identification and Validation (ASIV) study. Other

schedules and leasing of commercial facilities 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. No other alternatives, including scheduling, leasing from commercial/private entities, and renovations of other buildings at the current USARC or on Ellington Field were considered viable.

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 to vegetation, wildlife, soils, aesthetics, and land use. The Proposed Action would cause the permanent conversion of up to 12 acres of disturbed and maintained grassland to hard surfaces and buildings and remove this land from further biological productivity and other uses. Because the preferred location has been disturbed by past and current development, and, thus, provides limited wildlife habitat, the loss of 12 acres would be considered insignificant.

Temporary increases of vehicle traffic would be expected during the construction period, particularly along Interstate 45 and Highway 3 (Galveston Road) as construction crews commute to the project site. Permanent increases on Ellington Field would occur along Aerospace Avenue and Scholl Street; 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 20 vehicle trips per weekday. Therefore, the operation of the AFRC would result in minor long-term increases in traffic.

In addition, temporary and insignificant adverse effects to air quality, noise, soil erosion/sedimentation, and utilities would occur during the construction period. No violations of the region's air standards or Ellington Field's stormwater permit would be expected. Emissions expected to be generated during construction are well below the *de minimis* thresholds for ozone and other pollutants that affect ozone. 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 to Federal or state protected species, prime farmland soils, cultural resources, water quality or supply, or hazardous waste facilities.

Slight benefits to local and regional employment and personal income would be expected during the construction period; however, since the majority of the realigned units would come from less than 10 miles away, long-term insignificant adverse impacts to the region's economy would occur.

The cumulative effects of the Proposed Action and other planned or reasonably foreseeable projects on Ellington Field would also be considered insignificant. Construction of a separate AFRC to replace the USAR and Naval and Marine Corps Reserve (NMCR) Centers is on-going on 42 acres to the east of the proposed AFRC site as part of a Real Property Exchange with the University of Texas. The new AFRC would accommodate the closure of SGM Macario Garcia USAR Center and the LCPL Richard Anderson NMCR Center that were located on lands needed by the M.D. Anderson Cancer Center of the University of Texas. Both construction projects would occur on previously disturbed lands, which currently only provides low quality wildlife habitat. These projects would exacerbate the traffic volumes on Ellington Field, but

would not be expected to result in long-term impacts to arteries off Ellington Field. Local expenditures required by the proposed AFRC and other construction projects would result in moderate beneficial impacts to the Region of Influence (ROI) within the next 5 years. The Houston Metroplex 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.

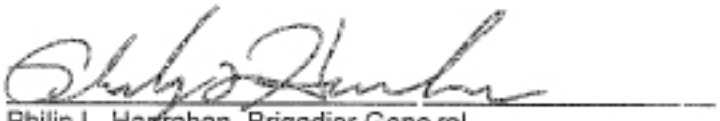
Public Comment

Interested parties were invited to review and comment on the EA and draft FNSI for a period of 30 days beginning on 27 April 2008. A Notice of Availability was published in the *Houston Chronicle*. Copies of the EA and draft FNSI were made available for review at the following public libraries and on the internet at http://www.hqda.army.mil/acsim/brac/env_ea_review.htm.

Clear Lake City-County Freeman Branch Library
16616 Dianna Lane
Houston, Texas 77062

Bracewell Neighborhood Library
10115 Kleckley
Houston, Texas 77075

Central Library HPL Express Downtown
500 McKinney
Julian Ideson Building
Houston, Texas 77002



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

14 June 2008
Date

FINAL

ENVIRONMENTAL ASSESSMENT
ESTABLISHMENT OF ARMED FORCES RESERVE CENTER (AFRC)
AT ELLINGTON FIELD, HOUSTON, TEXAS
BRAC 2005

Prepared by:

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT

BYRON G. JORNS
Colonel, Corps of Engineers
Commanding

Approved by:

PHILIP L. HANRAHAN
Brigadier General, USAR
Commanding

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

TITLE OF PROPOSED ACTION ALTERNATIVE: Environmental Assessment for the Establishment of the Armed Forces Reserve Center (AFRC), at Ellington Field, Houston, Texas, BRAC 2005

AFFECTED JURISDICTION: Harris 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, US Army Reserve, Commanding

ABSTRACT: This Environmental Assessment (EA) addresses the potential effects of the proposed establishment of a new Armed Forces Reserve Center (AFRC) at Ellington Field, Houston, Texas, as directed by the Defense Base Closure and Realignment Commission's recommendation. The Pasadena U.S. Army Reserve Center would be closed and the units would be relocated to the new AFRC. The Proposed Action Alternative would result in a net increase of up to 544 military and civilian personnel at the existing Ellington Field during training activities. To accommodate the proposed AFRC, a new 151,913-square foot building is proposed to be constructed. In addition, barracks, multi-use classrooms, parking, vehicle and equipment maintenance, stormwater retention ponds and storage facilities would also be constructed. The construction would permanently convert approximately 12 acres of maintained/disturbed grassland to hard surfaces. No long-term or significant impacts to prime or unique farmland soils, protected species, cultural resources, water quality, or socioeconomic resources would occur as a result of the Proposed Action Alternative. Temporary or insignificant impacts to air quality, and noise would occur during construction activities. Traffic patterns on Ellington Field would be altered by the proposed construction and operation of the AFRC. No other alternatives or alternate sites were evaluated during the preparation of the EA.

REVIEW PERIOD: The EA and draft Finding of No Significant Impact (FNSI) were made available for public review for a period of 30 days, beginning on 27 April 2008. A Notice of Availability was published in the *Houston Chronicle*. Copies of the EA and draft FNSI were available for review at the Clear Lake City-County Freeman Branch Library, 16616 Dianna Lane, Houston, Texas 77062, the Bracewell Neighborhood Library, 10115 Kleckley, Houston, Texas 77075 and the Central Library HPL Express Downtown, 500 McKinney, Julian Ideson Building, Houston, Texas 77002. The EA and draft FNSI were also available via the internet at the following URL: http://www.hqda.army.mil/acsim/brac/env_ea_review.htm.

THIS PAGE LEFT INTENTIONALLY BLANK

EXECUTIVE SUMMARY
ENVIRONMENTAL ASSESSMENT
ESTABLISHMENT OF THE
ARMED FORCES RESERVE CENTER (AFRC)
AT ELLINGTON FIELD, HOUSTON, TEXAS
BRAC 2005

Introduction: In accordance with the National Environmental Policy Act of 1969 (NEPA), the United States (U.S.) Army Corps of Engineers (USACE), Mobile District has prepared this Environmental Assessment (EA) for the construction and operation of an Armed Forces Reserve Center (AFRC) at Ellington Field, Harris County, Texas. The new AFRC will accommodate troops to be relocated from the Pasadena U.S. Army Reserve Center (USARC), which is 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 Ellington Field.

Background/Setting: Ellington Field is located approximately 15 miles southeast of downtown Houston, Texas. Ellington Field encompasses approximately 2,300 acres and was originally established in 1917, primarily for aircraft training. After World War I, activities at the field declined and the field was closed in 1927. Much of the buildings were destroyed by a fire and by 1930, the only remains of the aviation training facilities were a concrete water tower and some concrete slabs. A new base was approved by Congress in 1940 and was in full operation by the spring of 1941. After World War II, it became Ellington Air Force Base, which was active until 1976. Ellington Field is currently owned and managed by the City of Houston and still supports military operations, including Texas Air National Guard and U.S. Army Reserve units. Consequently, nearly all of the installation has been completely disturbed or developed at some time.

Proposed Action Alternative: The establishment of a new AFRC near east Houston 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 (BRAC Commission). The BRAC Commission recommended the closure of the Pasadena USARC. The only suitable site identified for the establishment of the AFRC in eastern Houston, Texas was at Ellington Field. The existing facilities at Ellington Field are fully occupied. Thus, a new facility is required to accommodate the AFRC.

The new AFRC would comprise approximately 152,000 square feet, and would include barracks, multi-use classrooms, maintenance and storage facilities, parking lots and stormwater retention ponds. The entire facility would require approximately 12 acres, located near the southwest portion of Ellington Field. No additional expansion to or demands on training areas or airspace would be required for the Proposed Action Alternative. No additional weapons systems would be associated with the 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.

No other alternatives relative to different sites, scheduling, using other existing facilities, or leasing space from commercial/private entities are viable and, thus, were not addressed in the EA. Use of off-site leased space to meet the AFRC's requirements would involve several major drawbacks. AT/FP policies specify certain facilities characteristics, such as physical security features. Use of leased space in the private sector would hinder these protection policies and would adversely affect command and control functions, result in higher operational costs, and impair efficient use of resources. No other facilities are available on the installation that could accommodate the requirements of the AFRC.

Environmental Consequences: Construction of the AFRC facility at the proposed location would permanently convert up to 12 acres of maintained and disturbed grassland to impervious surfaces. Construction would cause temporary and insignificant increases of noise, air emissions, traffic, and soil erosion/sedimentation. Ambient conditions would return upon completion of the construction activities, with the exception of traffic. Traffic would increase by up to 20 vehicles per week day, and up to 544 vehicles during training activities. Socioeconomic resources would experience beneficial, but insignificant, long-term impacts by the net increase of military and civilian personnel employed at the post and the concomitant increases in income and taxes. No impacts would occur to cultural resources, protected species, prime farmland soils, or water quality or supply. Insignificant impacts to wildlife habitat and populations, aesthetic and visual resources, and utilities would occur as a result of the establishment of the AFRC at the proposed site.

Environmental Protection Measures: 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 will not be landscaped or routinely maintained, native vegetation seeds should 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 will need to be prepared and submitted prior to construction. The SWPPP will identify best management practices (BMP) to be implemented for erosion and sedimentation control during construction. If straw bales are used, weed seed-free straw should be used to avoid introduction or expansion of invasive or noxious weeds.

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

If the breeding/nesting season for migratory birds can not 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 to the area's human and natural environment.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

SECTION 1.0
PURPOSE, NEED, AND SCOPE

1.0 PURPOSE, NEED, AND SCOPE

1.1 INTRODUCTION

On September 8, 2005, the Defense Base Closure and Realignment Commission (BRAC Commission) recommended that certain actions occur at United States Army Reserve Center (USARC), Pasadena, 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's recommendations must now be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (BRAC; Public Law 101-510), as amended.

The BRAC Commission recommended the closure of the Pasadena USARC and relocation of the units to a new Armed Forces Reserve Center (AFRC) in east Houston, Texas. To enable implementation of this recommendation, the Army proposes to provide necessary facilities to support the changes in force structure. This Environmental Assessment (EA) analyzes and documents environmental effects associated with the Army's Proposed Action in east Houston. Details on the Proposed Action are presented later in Section 2.

1.2 PURPOSE AND NEED

The purpose of the Proposed Action is to implement the BRAC Commission's recommendation pertaining to the closure of the Pasadena USARC and the establishment of a new AFRC at Ellington Field in east Houston, Texas.

The need for the Proposed Action is to improve the ability of the Nation to respond rapidly to challenges of the 21st century. 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. 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. The following discusses four major initiatives that contribute to the Army's need for the Proposed Action.

1.2.1 Base Realignment and Closure

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, 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 Ellington Field in order to achieve the objectives for which Congress established the BRAC process.

1.2.2 Army Transformation and the Army Modular Force

On October 12, 1999, the Secretary of the Army and the Chief of Staff articulated a vision about people, readiness, and transformation of the Army to meet challenges emerging in the 21st century and the need to be able to respond more rapidly to different types of operations requiring military action. The strategic significance of land forces continues to lie in their ability to fight and win the Nation's wars and in their providing options to shape the global environment to the benefit of the United States and its allies. Transformation responds to the Army's need to become more strategically responsive and dominant at every point on the spectrum of operations. In March 2002, the Army published its *Programmatic Environmental Impact Statement for Army Transformation* for its proposal to conduct a multiyear, phased, and synchronized program of transformation. Over a 30-year period, the Army will conduct a series of transformation activities affecting virtually all aspects of Army doctrine, training, leader development, organizations, installations, materiel, and soldiers. On April 11, 2002, the Army issued a Record of Decision reflecting its intent to transform the Army. This EA evaluates a Proposed Action that complies with the transformation process, which is designed to provide the Nation with combat forces that are more responsive, deployable, agile, versatile, lethal, survivable, and sustainable.

Consistent with guidance contained in the Army Campaign Plan, the Army proposes to convert the force structure and equipment of its existing 33 combat brigades (and 10 new combat brigades) to "modular" brigade combat team (BCT) units of action (UA). The Army will reorganize its division and Corps headquarters to create modular units of employment (UE) to provide command and control of organic, assigned, and attached forces. The Army's combat

service and combat service support personnel and equipment will be reorganized into various types of support units of action (SUA).

Restructuring of Army organizations is needed to create forces that are more stand-alone and alike ("modular"), while retaining their broad-spectrum capability. The Army needs to change its forces in order to: create a larger pool of units to fulfill strategic commitments; standardize combat unit designs; make units more adaptable to the range of missions – from peacekeeping to war; move from division-level (larger) to brigade-level (smaller) stand-alone units; make units capable of deploying more rapidly; and improve the Army's ability to tailor units and integrate them among components and with other Services and nations.

1.2.3 Integrated Global Presence and Basing Strategy (IGPBS)

At the request of the Chairman of the Joint Chiefs of Staff, combatant commanders submitted a series of recommendations for overseas basing plans for their respective areas of responsibility. The recommendations were part of an interagency assessment of the DoD's long-term overseas force projection and basing needs. The assessment resulted in a series of recommendations known as the IGPBS, the blueprint outlining the size, character, and location of long-term overseas force presence. On the basis of the IGPBS results, the Secretary of Defense announced that some forces currently based overseas will return to the United States over a period of years. The 2005 BRAC recommendations take into account, and adopt some of the basing recommendations of the IGPBS.

1.2.4 Installation Sustainability

On October 1, 2004, the Secretary of the Army and the Chief of Staff issued *The Army Strategy for the Environment.* The strategy focuses on the interrelationships of mission, environment, and community. A sustainable installation simultaneously meets current and future mission requirements, safeguards human health, improves quality of life, and enhances the natural environment. A sustained natural environment is necessary to allow the Army to train and maintain military readiness.

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.

This EA identifies, documents, and evaluates environmental effects of the construction and operation of the AFRC at Ellington Field, East Houston, Texas to accommodate the proposed relocation of units from the Pasadena USARC, which will be closed (Figure 1-1). Ellington Field is located in the southeastern portion of the greater Houston Metropolitan Statistical Area (MSA), in southeastern Texas. Ellington Field was constructed in 1917, primarily for aircraft training. After World War I, activities at the field declined and the field was closed in 1927. Many of the buildings were destroyed by a fire and by 1930, the only remains of the aviation training facilities were a concrete water tower and some concrete slabs. A new base was approved by Congress in 1940 and was in full operation by the spring of 1941. However, the field was again inactive from 1946 to 1947. Subsequently, it became Ellington Air Force Base, which was active until 1976. The City of Houston Department of Aviation assumed ownership over Ellington Field in 1984. It continues to support military as well as corporate, commercial, cargo, and private aviation operations.

An interdisciplinary team of environmental scientists, biologists, planners, economists, engineers, archaeologists, historians, and military technicians has analyzed the Proposed Action and alternatives in light of existing conditions at Ellington Field and has identified relevant beneficial and adverse effects associated with the action. The Proposed Action is described in Section 2, and alternatives, including the No Action Alternative, are described in Section 3.0. Conditions existing as of 2007, considered to be the "baseline" conditions, are 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 are identified where appropriate.

BRAC specifies that the NEPA does not apply to actions of the President, the Commission, or the Department of Defense, 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" (Section 2905(c)(2)(A), Public Law 101-510, as amended).

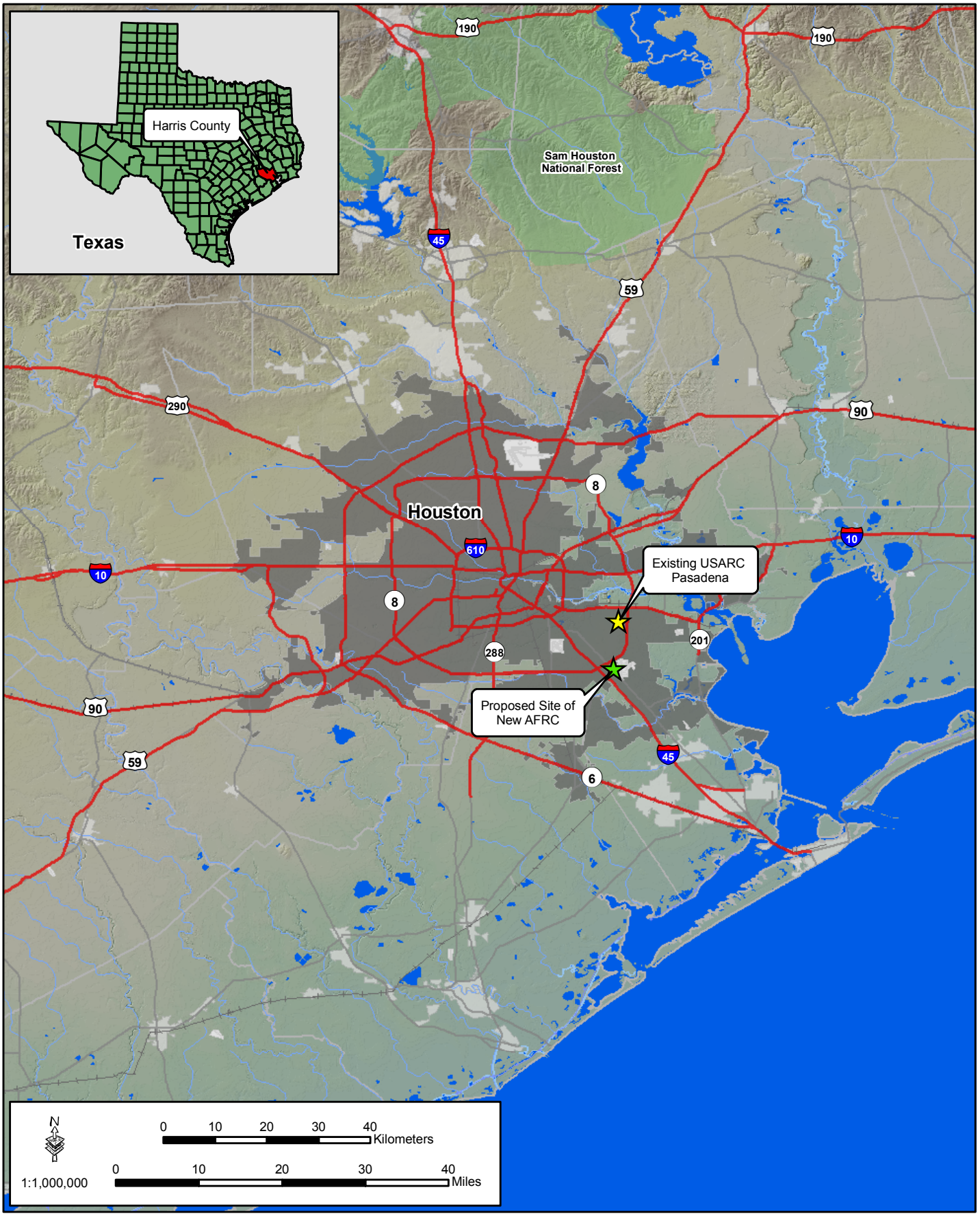


Figure 1-1: Vicinity Map

GSRC

January 2008

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" (Section 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. Accordingly, this EA does not address the need for closure of the Pasadena USARC.

In addition, the acquisition of the 12 acre parcel from the City of Houston would be authorized under the Categorical Exclusion (CX) F(5) as identified in Appendix B of 32 Code of Federal Regulations (CFR) Part 651. This CX is applicable for "Acquisition of real property (including facilities) where the land use will not change substantially or where the land acquired will not exceed 40 acres and the use will be similar to current or ongoing Army activities on adjacent land." Since the parcel to be required is less than 40 acres and the land use would be similar to other Army activities adjacent to the project site, the proposed action would be consistent with the criteria specified for CX F(5). Consequently, the acquisition of the land at Ellington Field will not be discussed further in this EA.

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 this EA and decision-making on the Proposed Action are guided by 32 CFR Part 651. The EA and draft Finding of No Significant Impact (FNSI) were made available to the public for 30 days beginning 27 April 2008. A Notice of Availability was published in the *Houston Chronicle*. Proof of publication is contained in Appendix C. Copies of the EA and draft FNSI were sent to affected state, local and Federal agencies and were made available for review at local, public libraries and at a public website.

No comments were received during the public comment period. As appropriate, the Army may execute the FNSI and proceed with implementation of the Proposed Action.

Throughout this process, the public may obtain information on the status and progress of the Proposed Action and the EA through the United States Army Reserve (USAR) 90th Regional Readiness Command (RRC) by calling Mr. James Wheeler, II, 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 90th 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. Construction and operation of the AFRC at Ellington Field 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
FEDERAL				
General	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 will 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 will be achieved upon issuance of signed FNSI (if appropriate)
Sound/ Noise	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 will be achieved upon implementation of construction activities
Air	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 will be below *de minimis* 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
Water	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 will be prepared prior to construction. Full compliance will 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	Wetlands will be avoided; no permit required
	Coastal Zone Management Act of 1972 (16 USC 1456[c]) Section 307	National Oceanic and Atmospheric Administration	Compliance	Ellington Field is not within the coastal zone
Soils	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 will be achieved prior to implementation of construction activities
	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	Full compliance since no prime farmland soils occur at the proposed site

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
Natural Resources	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
	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 will be achieved upon implementation of construction activities. If initial grubbing and clearing can not avoid nesting season, breeding pairs and nests will 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 to bald or golden eagles; full compliance
Health and Safety	Occupational Safety and Health Act of 1970	Occupational Safety and Health Administration (OSHA)	Compliance with guidelines including Material Safety Data Sheets	Full compliance will be achieved upon implementation of construction activities
Cultural/ Archaeo-logical	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 adversely affected. Concurrence from Texas Historical Commission was received on 2 April 2008
	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 (*Consultation and Coordination with Indian Tribal Governments*)	Bureau of Indian Affairs (BIA)	Coordinate directly with Tribes claiming cultural affinity to project areas	Full compliance

Issue	Action Requiring Permit, Approval, or Review	Agency	Permit, License, Compliance, or Review/Status	Status of Compliance with Relevant Laws and Regulations
Social/ Economic	Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) of 1994	EPA	Compliance	Full compliance since no minority or low income populations would be affected
	EO 13045 (*Protection of Children from Environmental Health Risks and Safety Risks*)	EPA	Compliance	Full compliance since no children would be exposed to the construction activities
	EO 13101 (*Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition*)	EPA	Compliance	Full compliance
	EO 13123 (*Greening the Government Through Efficient Energy Management*)	EPA	Compliance	Full compliance
	EO 13148 (*Greening the Government Through Leadership in Environmental Management*)	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.

SECTION 2.0
PROPOSED ACTION

2.0 PROPOSED ACTION

2.1 INTRODUCTION

This section describes the Army's proposed action for carrying out the BRAC Commission's recommendations. The BRAC Commission approved the following recommendation concerning the Pasadena USARC:

> "*Close the United States Army Reserve Center, Pasadena, TX, and relocate units into a new Armed Forces Reserve Center with a Field Maintenance Shop in (East) Houston, TX, if the Army is able to acquire land suitable for the construction of the facilities. The new AFRC shall have the capability to accommodate Texas National Guard Units from the following Texas ARNG Readiness Centers: Baytown, Pasadena, and Ellington Field, TX, and the Texas Army National Guard Field Maintenance Shop located on Ellington Field, TX, if the state decides to relocate those National Guard units.*"

Therefore, the Proposed Action is to construct and operate a new AFRC at Ellington Field to accommodate the closure of the Pasadena USARC and relocation of the units to the new AFRC. The preferred site on Ellington Field, as depicted in Figure 2-1, is located along the western boundary of Ellington Field. A 22-acre parcel was evaluated during the preparation of this EA to accommodate any potential adjustments needed in the AFRC site plan/layout. However, only 12 acres would be required for construction and operation of the new AFRC. The new 800-member AFRC would include administrative, assembly, educational, storage, and physical fitness training facilities to accommodate five USAR units and eight Texas Army National Guard (TXARNG) units. The main AFRC building would be of permanent construction and approximately 152,000 square feet (SF) in size with associated parking areas, sidewalks and landscaping. The action would also include construction of a multi-use classroom/barracks (14,600 SF), vehicle maintenance facility (33,720 SF), and 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. As mentioned above, only 12 of the 22 acres that were surveyed would be impacted by the proposed action. A general layout of the buildings is illustrated in Figure 2-2, as currently planned. These closure and relocation actions, beginning in Fiscal Year 2007, support the Army modular force and transformation.

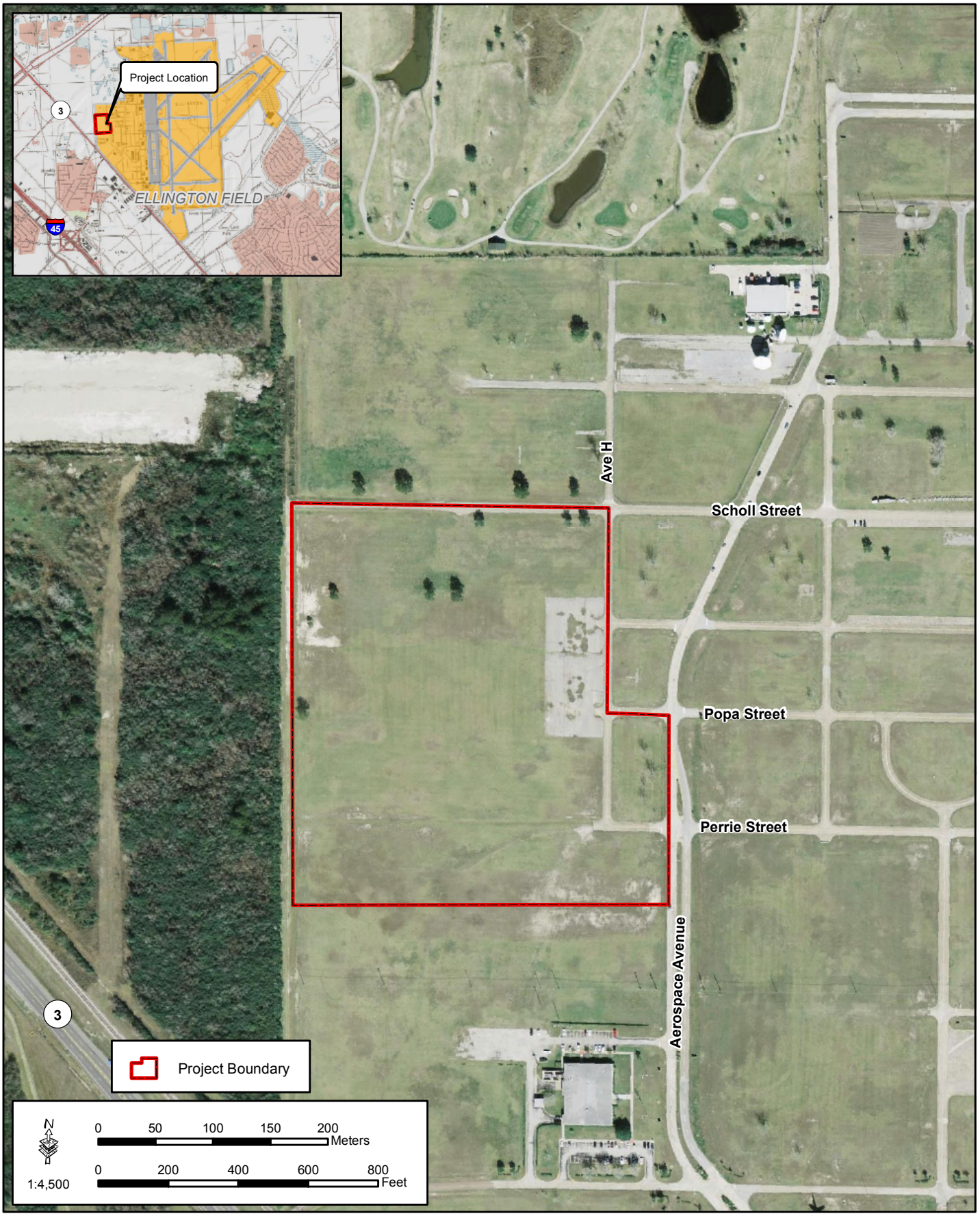


Figure 2-1: Project Location Map

GSRC

January 2008

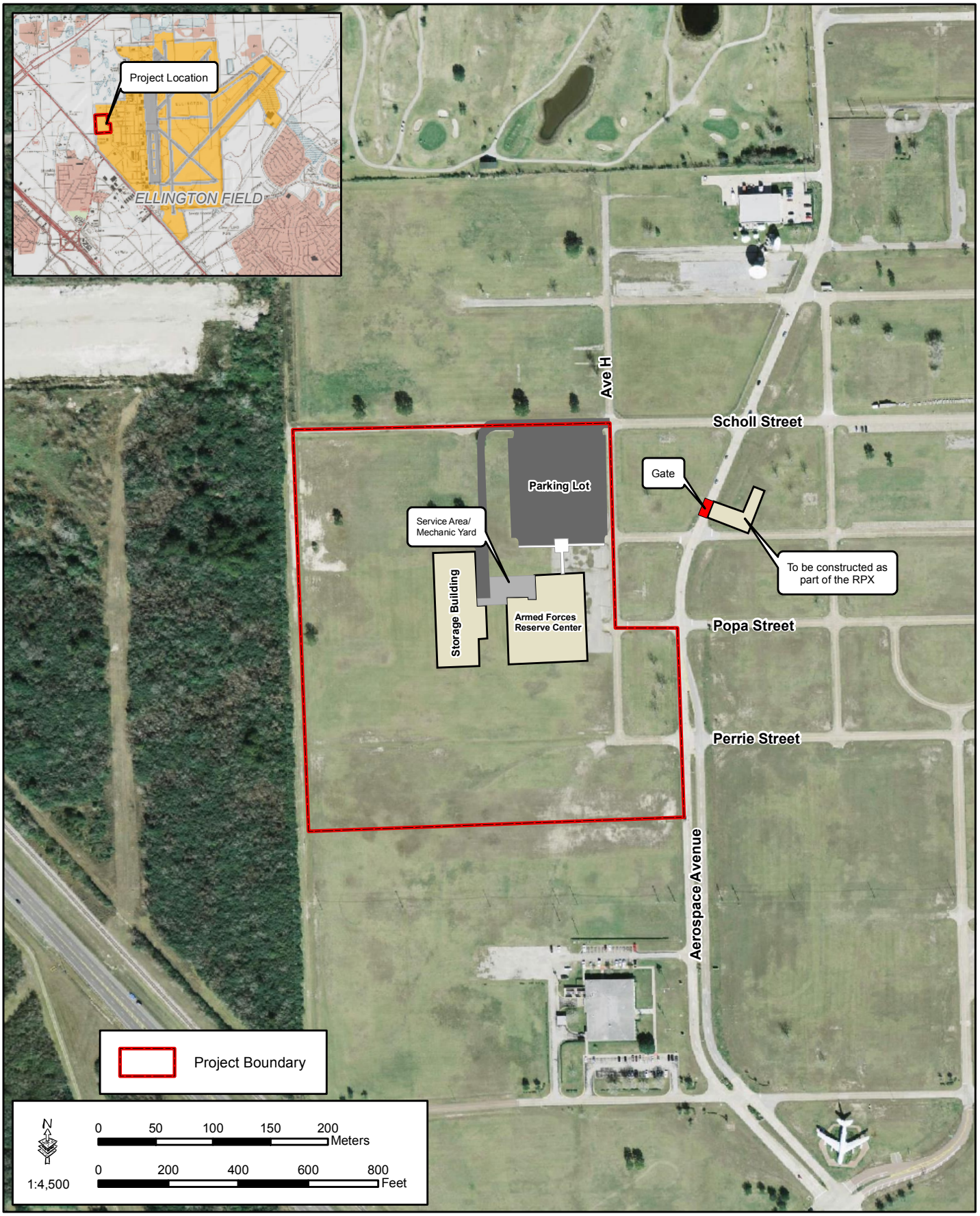


Figure 2-2: Project Site Map

GSRC

January 2008

2.2 FORCE STRUCTURE

Force structure refers to the numbers, size, and composition of units comprising Army forces. The 2005 BRAC Commission recommendations concerning Ellington Field include the increasing of force structure through the reassignment of units from closing the Pasadena USARC. As a result of this force structure change, there would be a net addition of active duty and civilian personnel at Ellington Field of 10 permanent staff and up to 544 USAR and TXARNG personnel during training activities.

2.3 GARRISON FACILITIES

Implementation of the Proposed Action would require the construction of an 800-member AFRC at Ellington Field that would include administrative, educational, storage, vehicle maintenance, library, and support areas. Table 2-1 identifies the proposed facilities projects. New construction projects would provide approximately 204,000 SF of space.

Table 2-1. Proposed Construction Projects

Project No.	Facility	Square Feet (approximate)
64500	Armed Forces Reserve Center	151,913
64500	Multi-use Classroom/barracks	14,600
64500	Vehicle Maintenance Shop	33,720
64500	Organizational Storage Unit	3,770
	Total	**204,003**

Although there would be a net gain of personnel (military and civilians) that will be assigned to Ellington Field, no additional family housing would be required as a result of this action. The Pasadena USARC is within 10 miles of the Ellington Field AFRC, so there would be, in effect, no change in housing needs. No demolition would be required as a result of the Proposed Action.

2.4 TRAINING FACILITIES AND AIRSPACE

There would be no change to training range size, operations, or airspace demands as a result of the Proposed Action. Units that use the Ellington Field AFRC 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 Ellington Field as a result of the Proposed Action.

2.6 SCHEDULE

Under the BRAC law, the Army must initiate all closure and realignments not later than September 15, 2007, and complete all actions 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 and construction activities and the proposed relocation actions.

Table 2-2. Tentative Dates for Completion of Major Items Associated with Relocation to Ellington Field, Texas

Action	Tentative Start Date	Tentative Completion Date
Design of New Facility	November 2007	August 2008
Construction of New Facility	September 2008	September 2010
Relocation of Pasadena AFRC to Ellington Field	October 2010	November 2010

THIS PAGE LEFT INTENTIONALLY BLANK

SECTION 3.0
ALTERNATIVES

3.0 ALTERNATIVES

3.1 INTRODUCTION

No other action alternatives, including alternate site locations, were considered during the preparation of this EA. As indicated above, these areas are the only locations suitable for the proposed construction of the new AFRC at Ellington Field. The No Action Alternative and other alternative approaches that were eliminated early in the planning process are discussed in the following paragraphs.

3.2 NO ACTION ALTERNATIVE

CEQ regulations require inclusion of the No Action Alternative. Under the No Action Alternative, the Pasadena USARC would not be closed and the units would not be relocated to Ellington Field. However, since these activities have 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.

3.3 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

3.3.1 Use of Other Facilities to Accommodate Realigned Units

Use of leased space from private or commercial entities to meet the AFRC's requirements would involve several major drawbacks. AT/FP policies specify certain facilities characteristics, such as physical security features, a 200 feet set-back from roadways, and "hardened" or reinforced construction. Implementation of these measures would substantially increase the cost of leasing and might be prohibited by lessors, further complicating the potential to use leased space. Consequently, use of leased space in the private sector, having personnel and equipment in different locations, would adversely affect command and control functions, result in higher operational costs, and impair efficient use of resources. For these reasons, use of leased space from private entities is not feasible and is not further evaluated in this EA.

Construction of new facilities is driven by the need to ensure adequate space is available for mission requirements. Ellington Field's existing building space is, with very minor exception, fully utilized for current administrative, commercial and military mission requirements.

Accordingly, new construction is required and the alternative to use or renovate existing facilities is not discussed further in this EA.

3.3.2 Schedule

Alternatives for scheduling of proposed closure and relocation actions are principally affected by three factors: the availability of facilities to house realigned personnel and functions, efforts to minimize potential disruption of mission activities based on the number of personnel involved in the relocation or the amount of work to be performed, and early realization of benefits to be gained by completion of the relocation. In most cases, minor shifts in schedule would not produce different environmental results.

The schedule for implementation of the Proposed Action must balance facilities construction timeframes, 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. Establishment of the new AFRC and relocation of units earlier than that shown in the schedule discussed above are not feasible in light of the time required to build facilities. Shifting of schedules to accomplish relocation 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 since delay is avoidable and unnecessary, alternative schedules are not further evaluated in this EA.

3.3.3 Other New Construction Sites

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, including environmental incompatibilities.

Specific siting criteria include consideration of location of the workforce and efficient, streamlined management of functions. Co-location of similar types of functions, as opposed to dispersion, allows more efficient use of equipment, vehicles, and other assets. Other 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 AT/FP requirements of 200-foot wide setback.

The USACE Fort Worth District prepared the Available Site Identification and Validation (ASIV) Report for the proposed new AFRC. The Fort Worth District visited numerous areas in the project region to identify sites that were available for acquisition and that satisfied the selection criteria described above. The ASIV identified only one site (Ellington Field) as viable for the siting of the new AFRC. The proposed location for construction of the new AFRC was shown previously in Figure 2-1. This site conforms to the City of Houston Department of Aviation's general master planning guidelines, which seek to generally co-locate like uses and to separate incompatible uses. The proposed location adheres to the general and specific siting criteria described above. A copy of the ASIV report is included in Appendix A. This project has been coordinated with the 90th RRC's physical security plan and all physical security measures would be included. All required AT/FP measures would also be included. Therefore, no additional alternative siting locations are evaluated in detail in this EA.

THIS PAGE LEFT INTENTIONALLY BLANK

SECTION 4.0
AFFECTED ENVIRONMENT AND CONSEQUENCES

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 Ellington Field, and the potential effects to those resources as a result of the Proposed Action and alternatives. For the purposes of this EA, the project site is defined as the 22 acres identified as the preferred location for construction of the AFRC. The project area includes Ellington Field and the lands immediately surrounding Ellington Field. The project region or vicinity is Harris County.

Only those parameters that have the potential to be affected by the Proposed Action Alternative and alternatives are described, as per CEQ guidance (40 CFR 1501.7 [3]). Therefore, resources and items, such as climate, air space, 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.
- Coastal zone—the project site is not located within Texas' coastal zone
- Energy sources—slight increases in energy consumption would occur during the construction of the AFRC facility. However, the majority of the energy demands at Ellington Field would be met by the same regional grid as currently provided at the Pasadena USARC.
- Communication systems—the project would have negligible additional demand or other impact on local or regional communication systems.
- Solid waste—the Proposed Action Alternative would not result in increased production of solid waste in the region, since the majority of the personnel would be relocated from the Pasadena USARC, approximately 10 miles away.

An impact (consequence or effect) is defined as a modification to 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 would require an irretrievable commitment of resources.

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

Ellington Field is located in the southeastern portion of the greater Houston MSA, in southeastern Texas. Ellington Field consists of approximately 2,300 acres and is located in Houston, Harris County, Texas (see Figure 1-1). The project site consists of approximately 12 acres within the Ellington Field property (USACE 2007). The City of Houston Department of Aviation is the current owner of the site and it is operated under the Houston Airport System (HAS). Over the years, Ellington Field has served as both a facility for aviation training and also as an Air Force Base. Ellington Field is surrounded by commercial businesses, private residences, and the Pasadena Municipal Golf Course.

4.2.1.2 Installation Land Use

Ellington Field consists of approximately 2,300 acres and is undergoing development. It currently supports military as well as corporate, commercial, cargo, and private aviation operations. TXARNG, U.S. Coast Guard (USCG), National Aeronautics and Space Administration (NASA), and the Federal Aviation Administration (FAA) currently occupy facilities at Ellington Field (USAR 2005).

4.2.1.3 Current and Planned Development

According to the HAS Master Plan Technical Report for Ellington Field (2004), approximately 700 acres are available for development within Ellington Field. Up to 50 acres would be

reserved for projected general aviation (GA) activity. The remaining 650 acres would be available for other types of development including commercial (especially office), institutional, light industrial, heavier industrial, and aviation/aviation industrial development depending on the location of the parcels.

The HAS Master Plan Technical Report for Ellington Field details recommendations for several projects which include modifications to the taxiway system, delineation of a taxi lane in front of the general aviation area, and construction of two Airport access roadways. The modifications to the taxiway system aim to enhance the effectiveness and efficiency of the taxiways with the construction of new taxiways and the removal of pavement that is either abandoned or relocated due to the new construction. Additional access roads would increase the attractiveness of parcels for potential developers. Two potential Airport access projects include a North Access Road and an extension to Space Center Boulevard.

Other development activities include the addition of approximately 650 public parking spaces which will be required in the GA area by 2021. Development of the GA area also includes new aircraft storage facilities (T-hangars, corporate hangars, and conventional hangars) as well as support hangars north of the existing rows of corporate hangars and along the existing flight line. The aircraft storage facilities include four new conventional hangars south of Taxi Lane Juliet.

The development of a Drainage Master Plan was also recommended by the HAS Master Plan Technical Report (2004) to determine the drainage requirements for existing and future developments including the potential for an Airport-wide consolidated detention facility.

In addition, construction of a new AFRC is on-going immediately east of the proposed AFRC site, as part of a Real Property Exchange (RPX) with the University of Texas. The new AFRC would accommodate the closure of SGM Macario Garcia USARC (Garcia USARC) and the LCPL Richard Anderson Naval and Marine Corps Reserve (NMCR) Center that were located on lands needed by the M.D. Anderson Cancer Center of the University of Texas. The construction and operation of the facilities associated with the RPX were described in an EA prepared by the University of Texas entitled, "*Environmental Assessment, Proposed Real Property Exchange and Development of an Armed Forces Reserve Center at Ellington Field, Houston, Texas, July*

2005". This document is hereafter referred to as the July 2005 RPX EA. The construction would impact up to 42 acres of lands that have been previously disturbed.

4.2.2 Environmental Consequences

4.2.2.1 Proposed Action Alternative

Implementation of the Proposed Action Alternative at the project site would permanently convert up to 12 acres of open grassland to non-pervious pavement and buildings. The use of the project site is consistent with the airport's mission, policies and plans and, thus, is considered an insignificant impact to land use.

4.2.2.2 No Action Alternative

No direct short-term changes in land use of the proposed site would occur under the No Action Alternative. There is a potential that the site would be developed in the long-term.

4.3 AESTHETICS AND VISUAL RESOURCES

4.3.1 Affected Environment

As mentioned previously, Ellington Field is nearly fully developed or previously disturbed, and it is surrounded by other industrial, commercial, and military developments. The project site is predominantly maintained grasslands with several intersecting access roads. Consequently, the site has limited visual qualities.

4.3.2 Environmental Consequences

4.3.2.1 Proposed Action Alternative

Construction and operation of the AFRC at the proposed site would eliminate up to 12 acres of maintained and disturbed grassland and permanently replace these acres with pavement and hard structures. Temporary construction areas would need to be 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, the land uses surrounding Ellington Field, and the historical use of the proposed site by other military construction projects, the permanent and temporary effects would be considered insignificant.

4.3.2.2 No Action Alternative

Implementation of the No Action Alternative would allow the site to remain in its current condition and thus, no impacts would occur. The proposed site would continue to be maintained grasslands with limited visual qualities. However, the proposed construction site is subject to future development given that Ellington Field is actively developing vacant property within its complex.

4.4 AIR QUALITY

4.4.1 Affected Environment

The U.S. Environmental Protection Agency (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. NAAQS are intended to protect public health and welfare and are classified as either "primary" or "secondary" standards. The major pollutants of concern, or criteria pollutants, are carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone (O_3), particulate matter less than 10 microns (PM-10), and lead (Pb). 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.

Harris County is classified as a moderate non-attainment area for 8-hour O_3 (EPA 2007). Air emissions from internal combustion engines produce volatile organic compounds (VOCs) and nitrogen oxides (NOx), which are precursor molecules that react with oxygen in the atmosphere to create O_3.

Table 4-1. National Ambient Air Quality Standards

POLLUTANT	STANDARD VALUE	STANDARD TYPE
Carbon Monoxide (CO)		
8-hour average	9ppm (10mg/m^3)	P
1-hour average	35ppm (40mg/m^3)	P
Nitrogen Dioxide (NO_2)		
Annual arithmetic mean	0.053ppm (100µ/m^3)	P and S
Ozone (O_3)		
8-hour average	0.08ppm (157µg/m^3)	P and S
1-hour average	0.12ppm (235µg/m^3)	P and S
Lead (Pb)		
Quarterly average	1.5µg/m^3	P and S
Particulate<10 micrometers (PM-10)		
Annual arithmetic mean	50µg/m^3	P and S
24-hour average	150µg/m^3	P and S
Particulate<2.5 micrometers (PM-2.5)		
Annual arithmetic mean	15µg/m^3	P and S
24-hour average	65µg/m^3	P and S
Sulfur Dioxide (SO_2)		
Annual average mean	0.03ppm (80µg/m^3)	P
24-hour average	0.14ppm (365µg/m^3)	P
3-hour average	0.50ppm (1300µg/m^3)	S

Legend: P= Primary
S= Secondary
Source: EPA 2007

ppm = parts per million
mg/m^3 = milligrams per cubic meter of air
µg/m^3 = micrograms per cubic meter of air

4.4.2 Environmental Consequences

4.4.2.1 Proposed Action Alternative

Temporary and negligible increases in air pollution would occur from the use of construction equipment (combustible emissions) and soil disturbance (fugitive dust) during the construction of the buildings, access roads and parking lots.

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 approved emission model NONROAD6.2. Assumptions were made regarding the type of equipment, duration of 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. Fugitive dust calculations were made for disturbing the soils while excavating, grading and constructing the roads and structures. Dust can arise from the mechanical disturbance of soils. Fugitive dust emissions were calculated using emission factors from the Mid-Atlantic Regional Air Management Association (MARAMA 2006) and Midwest Research Institute (MRI

1996). The assumptions, emission factors, and resulting calculations are presented in Appendix B. A summary of the total emissions is presented in Table 4-2. These estimates include emissions generated by construction traffic.

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

Pollutant	Total (tons/year)	*de minimis* Thresholds (tons/year)
CO	49.55	NA
VOCs	8.51	100
NOx	53.68	100
PM-10	33.60	NA
PM-2.5	10.24	NA
Sulfur Dioxide (SO_2)	6.57	NA

Source: 40 CFR 51.853 and GSRC model results (Appendix B).

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

1. Combustible engines of construction equipment;
2. Construction traffic; and
3. Fugitive dust from job site ground disturbances.

The Pasadena USARC and the proposed Ellington Field site are located in the same county and airshed. Therefore, the staff daily commuter traffic would not significantly increase air emissions in the airshed, but would shift the emission sources from one part of the airshed to another. As there are no violations of air quality standards and no conflicts with the state implementation plans, there would be no permanent impacts to air quality from the implementation of the Proposed Action Alternative.

During the construction of the proposed project, proper and routine maintenance of all vehicles and other construction 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. In particular, wetting solutions, including water, would be applied to the construction areas to minimize the emissions of fugitive dust. By using these environmental mitigation measures, air emissions from the Proposed Action Alternative would be temporary and would insignificantly impair air quality in the region.

4.4.2.2 No Action Alternative

There would be no impact to the region's air quality under the No Action Alternative because there would be no construction activities. The emissions that are currently produced by on-going operations at Ellington Field (e.g., aircraft engines) would continue.

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, etc.) 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 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 6dBA over hard surfaces and 9dBA 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:

$$\text{Equation 1: } dBA_2 = dBA_1 - 20 \log^{(d2/d1)}$$

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

The project site is located in a developed industrial area with no residential sensitive noise receptors within 2,500 feet. However, the Pasadena Municipal Golf Course is located 710 feet from the northern border of the construction site.

4.5.2 Environmental Consequences

4.5.2.1 Proposed Action Alternative

The installation of the new AFRC would require the use of common construction equipment. Table 4-3 describes noise emission levels for construction equipment which range from 76 dBA to 84 dBA at a distance of 50 feet (Federal Highway Administration 2007 [FHWA] 2007).

Table 4-3. A-Weighted (dBA) Sound Levels of Construction Equipment and Modeled Attenuation at Various Distances[1]

Noise Source	50 feet	100 feet	200 feet	500 feet	1000 feet
Backhoe	78	72	68	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
Auger drill rig	84	78	72	64	58
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.

Assuming the worst case scenario of 84 dBA, the noise model projected that noise levels of 84 dBA from a point source (i.e., auger drill) would have to travel 500 feet before the noise would be attenuated to an acceptable level of 65 dBA. To achieve an attenuation of 84 dBA to a normally unacceptable level of 75 dBA, the distance from the noise source to the receptor is 140 feet.

Golf patrons using the Pasadena Municipal Golf Course would not be exposed to construction noise in the normally unacceptable range (greater than 65 dBA) since the course is over 700 feet from the northern border of the construction site. Noise generated by the construction of the AFRC would be intermittent and last for 2 years, after which, noise levels would return to ambient levels. Therefore, the noise impacts from construction activities would be considered insignificant.

There would be no change to training range size, operations, or airspace demands. The units that use the Ellington Field AFRC would continue to use Fort Hood, Texas and Camp Bullis, Texas as field training sites. Operations at the AFRC would be primarily classroom training; vehicle maintenance and repair; and administrative functions, which would create insignificant noise impacts to surrounding area.

4.5.2.2 No Action Alternative

Under the No Action Alternative, the new AFRC would not be constructed and there would be no noise impacts resulting from construction activities.

4.6 GEOLOGY AND SOILS

4.6.1 Affected Environment

4.6.1.1 Geology

Geologic features of the project site were discussed in the July 2005 RPX EA, and are incorporated by reference (University of Texas 2005). The project site is located within the Western Gulf section of the Coastal Plain physiographic province, an area with low and generally flat topography. The area's geology developed from stream deposition in the Coastal Plain. The Pleistocene Beaumont Formation, comprised of layers of various types of sediment, mostly mud, sands and silts with moderate to low permeability and drainage, overlays the project site (University of Texas 2005). One fault crosses the project area, fault number 73, and is approximately 25 feet wide with approximately 0.15 inches per year of normal fault-related displacement of pavement (Norman 1998). The approximate location of fault number 73 is illustrated on Figure 4-1.

4.6.1.2 Soils

According to the Natural Resources Conservation Service (NRCS), the predominant soil type at the project site is Bernard-Urban land complex (NRCS 2007a), as illustrated in Figure 4-2. This soil type is not considered prime farmland or farmland of statewide importance (NRCS 2007b). The Bernard-Urban land complex comprises approximately 34,220 acres of Harris County (NRCS 2007c).

The Bernard Series is a very deep, somewhat poorly drained, very slowly permeable soil on uplands. The water table, when present, is 0.5 to 1.5 feet below ground surface (bgs). Urban land is soil covered by streets, parking lots, buildings, and other structures in urban and built-up areas. The hydrologic soil type for the Bernard-Urban land complex is D. Hydrologic soil type D classifies soils having a very slow infiltration rate (high runoff potential) when thoroughly wet, and a very slow rate of water transmission. The NRCS estimates the ponding and flooding potentials for this soil type as not probable.

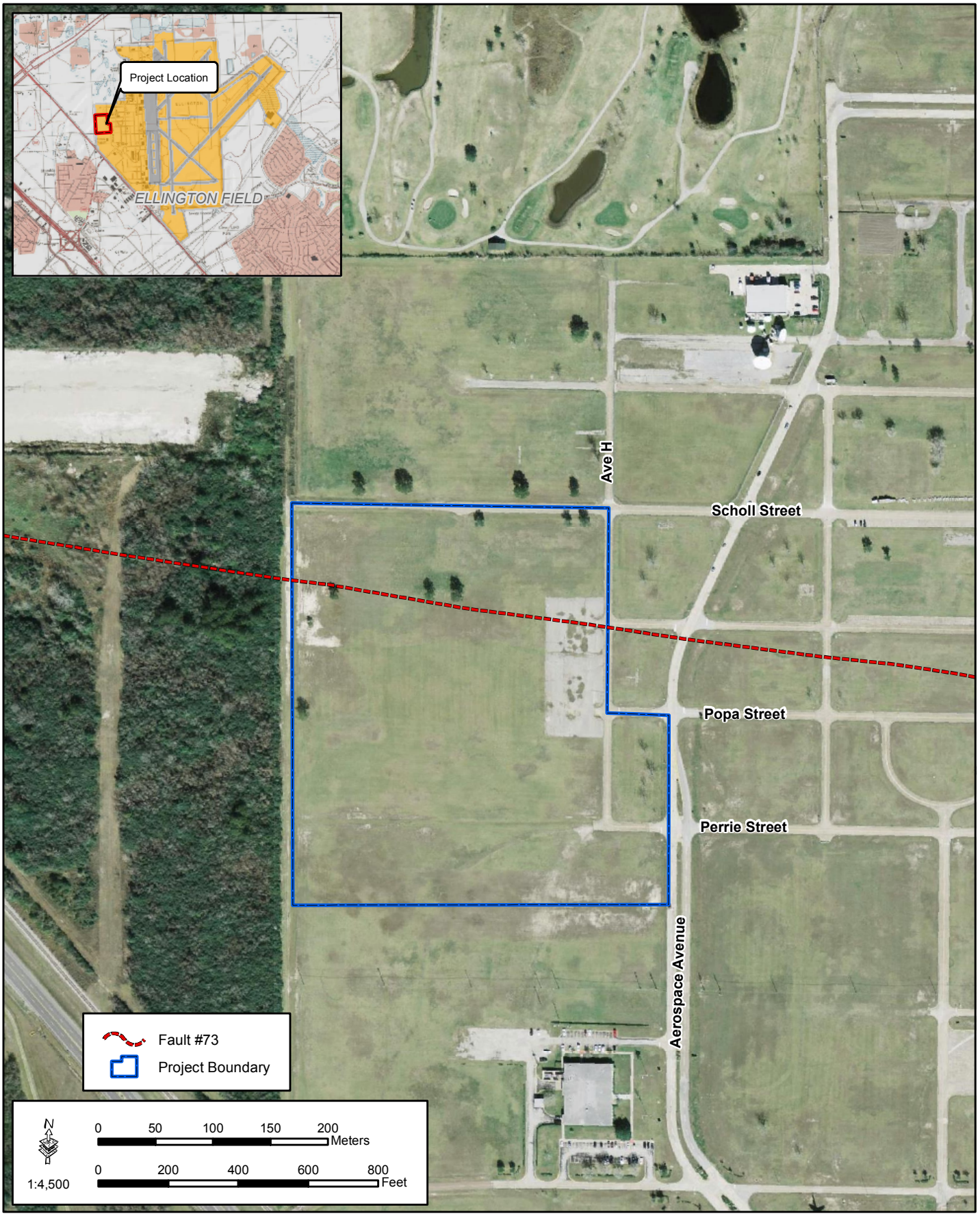


Figure 4-1: Approximate Location of Fault Number 73

GSRC

January 2008

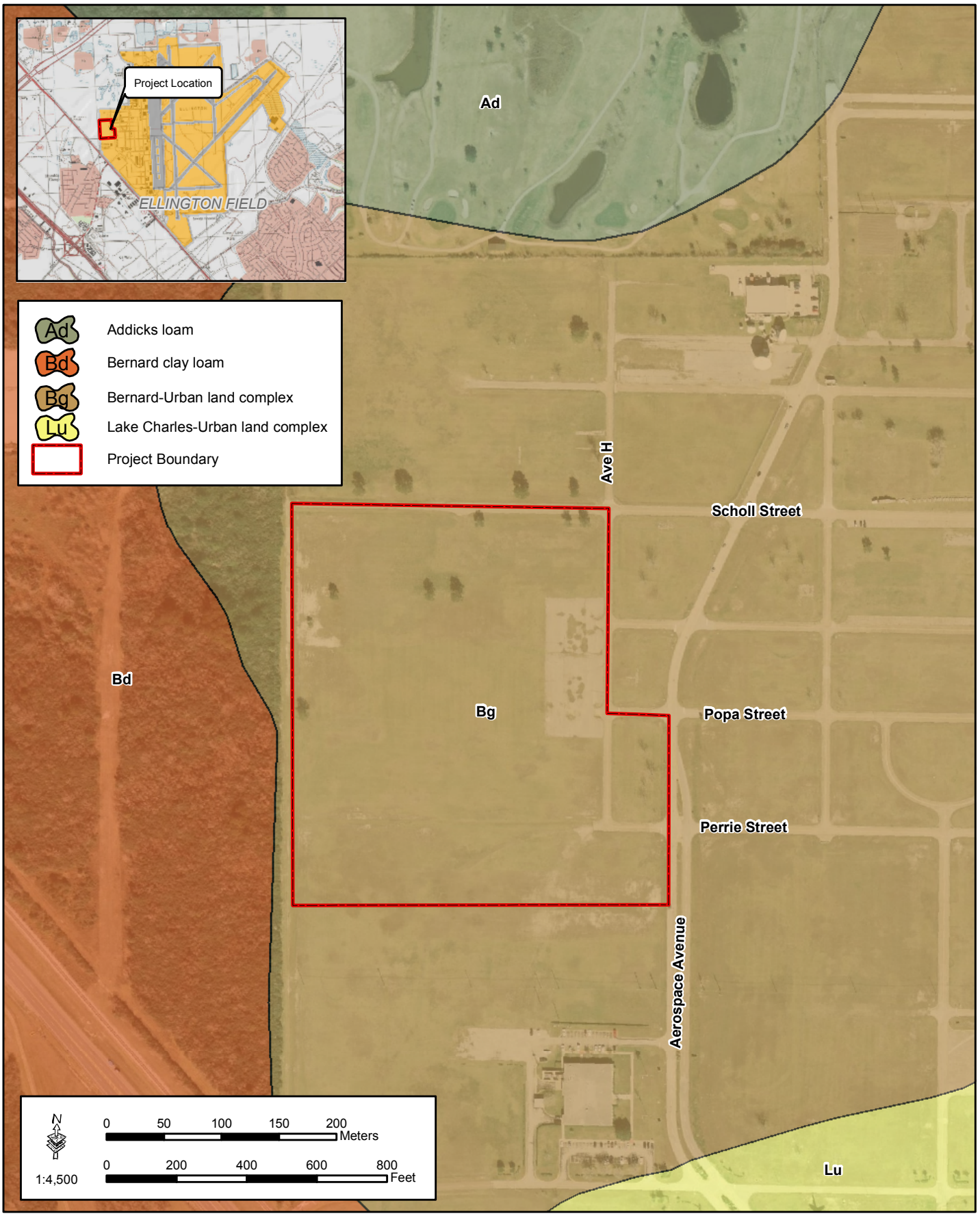


Figure 4-2: Soil Survey Map

GSRC

January 2008

4.6.2 Environmental Consequences

4.6.2.1 Proposed Action Alternative

The Proposed Action Alternative would result in negligible topographic or geologic changes to the project site. No structures, except a parking lot, would be expected to be constructed over fault line number 73. If the building lay-out plan can not avoid this fault line, special consideration would be required to design and construct the building(s) to reduce or eliminate potential damage caused by subsidence along this fault line.

Soils would be disturbed during construction of the parking lot, AFRC, and associated structures. Construction of the Ellington Field AFRC would remove up to 12 acres of Bernard-Urban land complex from biological production. Although these impacts would be permanent, they would be considered insignificant due to the vast area of similar soils adjacent to the project area. Because the 12 acres of soils would be converted to impervious surfaces and appropriate storm water drainage would be implemented, the Proposed Action Alternative would result in insignificant soil erosion or loss of topsoil. Temporary erosion during construction would be minimized with the use of best management practices (BMP). Mitigation measures provided in Section 5.0 would further minimize or reduce long-term soil erosion and sedimentation. Insignificant impacts to soils would be expected as a result of the Proposed Action Alternative.

4.6.2.2 No Action Alternative

Under the No Action Alternative, no soils would be disturbed by construction activities, and earthmoving associated with construction would not occur. Therefore, geologic features and soils would not be impacted.

4.7 WATER RESOURCES

4.7.1 Affected Environment

4.7.1.1 Surface Water

Surface waters near the project site were discussed in the July 2005 EA and are incorporated by reference (University of Texas 2005). No surface waters are found within the Ellington Field project site according to the Ellington Field Master Plan (HAS 2004). The site is generally flat with no ponds and no discernible slope, except for a drainage swale in the southern portion of the site that directs water eastward toward curb drains in Perrie Street. According to the

Ellington Field Airport Master Plan, no other water bodies or ground water wells exist on the project site (HAS 2004). The City of Houston provides the water supply for Ellington Field.

4.7.1.2 Hydrology and Groundwater

The availability of groundwater resources, as well as general water quality, were analyzed in the July 2005 EA and is incorporated herein by reference (University of Texas 2005). The project site is located within the West Galveston Bay watershed (NRCS 2007a), hydrologic code 12040204. The region of influence (ROI) for groundwater includes the local aquifers that are directly or indirectly affected by development of Ellington Field. Water from the site enters the City of Houston municipal storm sewer system and eventually discharges into Horsepen Bayou south of the site, with flows into Galveston Bay (USACE 2007).

4.7.1.3 Floodplains

According to the Federal Emergency Management Agency (FEMA) floodplain map Panel 1060, the project site is not located within a 100-year floodplain (FEMA 2007).

4.7.2 Environmental Consequences

4.7.2.1 Proposed Action Alternative

4.7.2.1.1 Surface Water

The Proposed Action Alternative would result in the disturbance of up to 12 acres of soil during construction. Disturbed soils are susceptible to erosion, especially during storm events. Operation of the AFRC would include the operation of a vehicle maintenance shop, which would be a potential source of pollutants. The development of a Stormwater Pollution Prevention Plan (SWPPP) as required by the Clean Water Act (CWA) would limit potential impacts of pollutants during construction and operation of the AFRC to an insignificant level. The SWPPP would be submitted to the TCEQ, in accordance with the Texas Pollutant Discharge Elimination System (TPDES) permit process.

Construction of the new AFRC facilities and stormwater detention basin would insignificantly affect water quality in the region. Some temporary water quality impairments may occur if there is a major rain event during construction of the facilities. Disturbed soils from access roads and the construction site would migrate during rain events. Construction equipment and operations may create miscellaneous operational pollution such as oil leaks, accidental spills, and mud spatters. Any leaks or spills from construction equipment would be cleaned up immediately in

accordance with the Spill Prevention, Control and Countermeasures Plan (SPCCP) that would be prepared prior to construction. The selected construction contractor would be required to prepare the SPCCP and ensure that the measures and procedures contained therein are consistent with Ellington Field's SPCCP. In addition, BMPs for construction site soil erosion would be utilized to prevent the migration of soils; oil and grease; and construction debris into the local stream networks. Therefore, long-term insignificant impacts to surface water are anticipated.

4.7.2.1.2 Hydrology and Groundwater

There is limited potential for direct contamination of groundwater at the project site. Activities associated with construction, such as accidental spills associated with maintenance, could affect groundwater without proper implementation of SPCCP measures. Care would be taken to avoid impacting the project site with hazardous substances (i.e., anti-freeze, fuels, oils, lubricants) used during construction. Catch pans would also be used when refueling and when equipment is stationary for extended periods (e.g., over night). However, the amount of fuel, lubricants, and oil is limited, and equipment and BMPs would be implemented to quickly contain any spills that occur. As mentioned previously, a SPCCP would be in place prior to the start of construction and all construction personnel would be briefed on the implementation of BMPs and responsibilities of this plan. Such measures would ensure that spills, if they occur, would result in negligible impacts to groundwater.

Small quantities of petroleum, oil, and lubricants (POL) would be stored and used at the AFRC for vehicle maintenance. However, these activities would include secondary containment to hold 110 percent of the largest container capacity (40 CFR 112.12). 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.

4.7.2.1.3 Floodplains

The Proposed Action Alternative would not affect floodplains, since the project site is not located within a floodplain.

4.7.2.2 No Action Alternative

4.7.2.2.1 Surface Water

No impacts to existing surface water conditions would occur as a result of the No Action Alternative.

4.7.2.2.2 Hydrology and Groundwater

Under the No Action Alternative, no soils would be disturbed. Operation of the USARC would not generate pollutants other than those resulting from leaks of parked cars. Potential impacts to water resources under the No Action Alternative would be negligible.

4.7.2.2.3 Floodplains

The No Action Alternative would not affect floodplains.

4.8 BIOLOGICAL RESOURCES

4.8.1 Affected Environment

4.8.1.1 Preferred Alternative

4.8.1.1.1 Vegetation

The Texas Parks and Wildlife Department's (TPWD) report entitled *The Vegetation Types of Texas* indicates the project site is located within the Gulf Coast Prairies and Marshes Ecological Area. The mapped vegetation type of the project site falls within the Urban and Bluestem Grassland types. The Bluestem Grasslands are characteristically species rich with commonly associated plants including: bushy bluestem (*Andropogon glomeratus*), little bluestem (*Schizachyrium scoparium*), buffalograss (*Bouteloua dactyloides*), brownseed paspalum (*Paspalum plicatulum*), windmill grass (*Chloris* spp.), live oak (*Quercus virginiana*), mesquite (*Prosopis glandulosa*), and baccharis (*Baccharis* spp.) (TPWD 1984).

A survey of the project site was conducted in January 2008. The project site is located in an urbanized area; thus, the vegetation is sparse and consists primarily of St. Augustine grass (*Stenotaphrum secundatum*), thistle (*Cirsium* spp.), wood sorrel (*Oxalis* spp.), and clover (*Trifolium* spp.). Five tree species with a total of 14 individuals were also observed: three laurel oaks (*Quercus laurifolia*), five slash pines (*Pinus elliottii*), four pecans (*Carya illinoinensis*), one crapemyrtle (*Lagerstroemia indica*), and one invasive exotic Chinese tallow-tree (*Triadica*

sebifera). Figure 2-1, shown previously, illustrates the lack of native vegetation in the project site.

A vegetative corridor was along the outside of the entire western border. During the January survey, blackberry (*Rubus* spp.), greenbriar (*Smilax* spp.), yaupon (*Ilex vomitoria*), American holly (*Ilex opaca*), laurel oak, wax myrtle (*Morella cerifera*), and Japanese climbing fern (*Lygodium japonicum*) were observed in this corridor.

4.8.1.1.2 Wildlife

Wildlife species likely to occur in these grasslands include, but are not limited to, northern harrier (*Circus cyaneus*), badger (*Taxidea taxus*), black-tailed jackrabbit (*Lepus californicus*), black-tailed prairie dog (*Cynomos ludovicianus*), nine-banded armadillo (*Dasypus novemicinctus*), swift fox (*Vulpes velox*), bullsnake (*Pituophis catinefer sayi*), northern legless lizard (*Holbrookia maculata maculata*), and ornate box turtle (*Terrapene ornata*) (TPWD 2007a). However, since the project area also falls within an urbanized area, the species assemblage may differ due to disturbance. Additional species not associated with grasslands, such as rock pigeon (*Columba livia*) and common raccoon (*Procyon lotor*), may be present due to their ability to tolerate human disturbances, and other species that would be present in a natural grasslands community may be absent.

Only four species of wildlife or evidence of their presence were observed during the survey of the project corridor, conducted in January 2008. Within the project area, white-tailed deer tracks (*Odocoileus virginianus*), fire ants (*Solenopsis invicta*), and a gull (*Larus* sp.) were observed. Along the western border, a northern mockingbird (*Mimus polyglottos*) was also observed.

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 endangered species, Texas prairie dawn-flower (*Hymenoxys texana*), inhabits Harris County,

Texas (Table 4-4) (USFWS 2008). No suitable habitat for this species was observed on the project site. A concurrence letter was sent to the USFWS on 15 February 2008; verbal concurrence of the no effect determination was received by Mr. James Wheeler, II on 1 April 2008 (see Appendix C).

Table 4-4. Federally Listed Species Potentially Occurring Within Harris County, Texas

Common/Scientific Name	Federal Status	Habitat	Potential to occur within Project Site
PLANTS			
Texas prairie dawn-flower (*Hymenoxys texana*)	Endangered	Poorly drained depressions or base of mima mounds in open grasslands or almost barren areas with slightly saline soils.	No – no suitable habitat.

Source: USFWS 2007.

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 2007b). These species are not necessarily the same as those protected by the Federal government under the ESA. Of the 43 rare, threatened, and endangered species known to occur in Harris County, 11 have the potential to occur within the project area, but suitable habitat is present at the project site for only six of those 11 species (Table 4-5). However, 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 and a concurrence letter was received on 2 April 2008 (Appendix C).

Table 4-5. State Listed Species Potentially Occurring Within Project Area in Harris County, Texas

Common/Scientific Name	State Status	Habitat	Potential to occur within Project Site
BIRDS			
American peregrine falcon (*Falco peregrinus anatum*)	Endangered	Nests in cliff eyries and found along coastlines, barrier islands, lake shores, and urban settings.	Yes – could potentially forage in the area.
Arctic peregrine falcon (*Falco peregrinus tundrius*)	Threatened	Found along coastlines, barrier islands, lake shores, and urban settings.	Yes – could potentially forage in the area.

Table 4-5, continued

Common/Scientific Name	State Status	Habitat	Potential to occur within Project Site
Henslow's sparrow (*Ammodramus henslowii*)	Rare, but with no regulatory listing status	Weedy fields and cut-over areas with bunch grasses, vines, and brambles where bare ground is available for running/walking.	Yes – could forage in cut-over areas, however not likely due to lack of nesting sites and food sources.
Mountain plover (*Charadrius montanus*)	Rare, but with no regulatory listing status	High plains, shortgrass prairies, and bare, dirt fields.	Yes – could forage but not likely due to lack of nesting sites and food sources.
White-tailed hawk (*Buteo albicaudatus*)	Threatened	Prairies, cordgrass flats, scrub-live oak, mesquite and oak savannas, and mixed savanna-chaparral habitats.	Yes – could use fields for forage.
MAMMALS			
Plains spotted skunk (*Spilogale putorius interrupta*)	Rare, but with no regulatory listing status	Open fields, prairies, cropland, fence rows, forest edges, and woodlands.	Yes – could forage but unlikely due to the high levels of disturbance.
PLANTS			
Costal gay-feather (*Liatris bracteata*)	Rare, but with no regulatory listing status	Black clay soils of prairie remnants.	No – site is routinely maintained.
Giant sharpstem umbrella-sedge (*Cyperus cephalanthus*)	Rare, but with no regulatory listing status	Remnant coastal prairies on poorly to moderately drained soils.	No – site is routinely maintained.
Houston daisy (*Rayjacksonia aurea*)	Rare, but with no regulatory listing status	Seasonally wet, saline, barren areas around the base of mima mounds in coastal prairies or barren to somewhat vegetated openings in grasslands.	No – site is routinely maintained.
Texas windmill-grass (*Chloris rexensis*)	Rare, but with no regulatory listing status	Sandy to sandy loam soils in open to sometimes barren areas of prairies and grasslands.	No – site is routinely maintained.
Threeflower broomweed (*Thurovia triflora*)	Rare, but with no regulatory listing status	Black clay soils of remnant grasslands or tidal flats.	No – site is routinely maintained.

Source: TPWD 2007.

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). No potential jurisdictional wetlands were observed at the project site during the field surveys.

4.8.2 Environmental Consequences

4.8.2.1 Proposed Action Alternative

The implementation of the Proposed Action Alternative would have permanent, but minimal, impacts on biological resources. Because the site consists of a disturbed field, there would be no direct impacts to natural vegetation communities and direct impacts to wildlife populations would be unlikely. 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. Six 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 and four of these species (i.e., bird species) would only occur during migratory seasons. There would be no impacts to wetlands because no wetlands exist on the project site.

4.8.2.2 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 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 at 36 CFR Part 800, “Protection of Historic Properties”.

4.9.1.1 Cultural Overview

An archaeological assessment was recently conducted for the project site. The assessment reviewed the historic data and information gathered from a site reconnaissance of the proposed

parcel to determine the level of effort needed to satisfy the requirements of Section 106 of the NHPA as amended.

The proposed parcel was historically used as rice fields and pasture in the 1900s. In 1917, the U.S. Government purchased 1,280 acres of land from Dr. R. W. Knox and the Wright land company for the construction of Ellington Field. In November 1917, the 120th Aero Squadron was transferred from Kelly Field to Houston and the construction of the base was completed in December 1917. During the World War I, Ellington Field served as a base for advanced flight training for the United States Army Air Service. In 1920, Ellington Field was deactivated as an active duty airfield and a small caretaker unit was assigned to the facility for administrative reasons (Carlson 1999).

In May 1923, the War Department ordered the small caretaker force at Ellington Field to dismantle all remaining structures and sell them as surplus. The orders to abandon Ellington Field were abruptly halted when the War Department authorized the Texas National Guard to form an aviation squadron. The 111th Observation Squadron was officially activated on June 29, 1923. The 111th Observation Squadron used many of the remaining structures and hangars from World War I for training. In 1927, the 111th Observation Squadron signed a long-term lease with the newly constructed Houston Municipal Airport and moved into the new facilities in the southwestern corner of the airfield. In February 1928, a fire engulfed Ellington Field, consuming the remaining structures. Throughout the next 12 years, the War Department leased the vacant land to local ranchers for pasture (Carlson 1999).

In 1940 construction of a new airfield at Ellington Field began to house the expanding U.S. Army Air Corps (USAAC) fleet. In November 1940, personnel from the 276th Quartermaster Company arrived in Houston to coordinate the opening of the base. Soon after, officers and enlisted personnel of the 65th Base Group arrived to formally take over the field. Eventually the 69th, 70th, 71st, 72nd, 74th, 75th, and 76th School Squadrons were transferred to Ellington Field to conduct flight training. During World War II, Ellington Field was the site for advanced flight training for bomber pilots, the USACAC Bombardier School (also known as “the Bombardment Academy of the Air”), and in 1943 became the site for advanced navigator training. When Ellington Field was completed there was nothing left from the original airfield. By September 1946, War Department officials decided to close permanently all regular USAAF activities at Ellington (Carlson 1999).

The Texas Air National Guard and USAAF Reserve units occupied Ellington Field from August 1946 until it was reactivated in July 1948 by the newly formed U.S. Air Force (USAF). The field was renamed Ellington Air Force Base. In 1949, the USAF opened a Radar-Navigator School at Ellington Air Force Base and a planetarium to help teach celestial navigation was built by Dr. Arnand M. Spitz of Houston. The newly redesignated 111th Fighter Squadron was activated and sent to Japan to serve in the Korean War in July 1951. The 111th Fighter Squadron returned to Texas in May 1952 (Carlson 1999).

The 111th Fighter Squadron was redesignated as a Fighter-Bomber Squadron in the summer of 1953 and reverted to a Fighter-Interceptor Unit in 1955. In 1957, the U.S. Air National Guard established a Jet Instrument School at Ellington Air Force Base. Also in 1957, the U.S. Navy opened a Naval Air Reserve Center at Ellington Air Force Base. In 1959, the Civil Air Patrol moved its national headquarters from Bolling Air Force Base in Washington, D.C. to Houston. Later that year, Ellington Air Force Base was transferred from the Air Training Command to the Continental Air Command (CONAC). With the transfer to a Reserve status, the number of personnel dropped from 5,000 to 200. A USAF housekeeping unit remained at the base for administrative purposes but all regular USAF flying squadrons were transferred to other bases. From 1959 on, Texas Air National Guard and USAF Reserve units conducted all flight operations at Ellington Air Force Base.

In 1958, the U.S. Congress passed the National Aeronautics and Space Act which established the civilian space agency, NASA. In 1961, NASA established the Space Task Group (STG) to plan and conduct a manned space program. Originally located in Langley Virginia, STG moved to Houston in 1961 and renamed itself the Manned Spacecraft Center (MSC). While the MSC site was under construction, unoccupied buildings and barracks at Ellington Air Force Base were used by the growing number of people moving from Virginia for administrative offices. Ellington Air Force Base was used for astronaut flight training and T-38s were provided for flight training. By 1967, Ellington Air Force Base was the site of the Apollo lunar landing training program and continued its role as the site for USAF Reserve and Texas Air National Guard flight operations. In 1976, Ellington Air Force Base was officially deactivated. From 1976 to 1984, a USAF caretaker unit oversaw the maintenance of the base. In 1984, the City of Houston purchased Ellington Air Force Base to use as a third civil airport and renamed it Ellington Field.

All buildings that used to be located on the project site have been demolished. Historic military construction and agricultural activities have severely affected the integrity of any subsurface historic or prehistoric archaeological deposits that may have been present. Soils in the project site are clayey and loamy substrates that have been disturbed by a variety of urban processes. As a result, these soils have a very low potential to contain intact archaeological deposits. During the recent reconnaissance of the project site, shovel tests were placed throughout the 22-acre site. The soils at these locations were mottled and mixed clayey loams. The area has a very low probability of having any intact prehistoric deposits. Some modern debris was observed in some of the shovel tests. The debris was associated with a location of a structure that was built between 1969 and 1979 and therefore not historic. No evidence of its foundations remained.

Based on the field assessment and background research, no further archaeological research is recommended and a determination of "no historic properties affected" by the proposed project was made by the Army. This determination was forwarded to the Texas SHPO for comment in a letter dated 27 February 2008. Concurrence was received from the SHPO on 3 April 2008.

The Army initiated consultation with three tribes that may have cultural affiliations with the project site. The Army sent letters informing the tribes of the Proposed Action Alternative and requesting any comments or concerns related to the action and the identification of any traditional cultural properties that may be impacted by the Proposed Action Alternative (Appendix C). To date, no comments have been received. The tribes contacted were the Kiowa Tribe of Oklahoma, Alabama Coushatta Tribe of Texas, and the Comanche Nation.

4.9.2 Environmental Consequences

4.9.2.1 Proposed Action Alternative

Due to extensive disturbance within the project site and lack of archaeological resources found within the site during recent investigations, it is unlikely that significant subsurface archaeological resources exist within the parcel. No traditional cultural properties, resource procurement area, 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.

No impacts to historic or cultural resources on the project site are anticipated as a result of the Proposed Action Alternative. Conservation measures to address the unlikely discovery of archaeological resources during site excavation are provided in Section 4.15.

4.9.2.2 No Action Alternative

No adverse impacts to historical or cultural resources are anticipated from the implementation of the No Action Alternative. No additional mitigation or conservation measures are recommended for the No Action Alternative.

4.10 SOCIOECONOMIC RESOURCES

4.10.1 Affected Environment

Population in the ROI of Harris County in 2006 was 3,886,207 (US Census Bureau [USCB] 2006a) with 112,085 people residing in the City of Houston's Study Area 12 (Edgebrook, Ellington / South Belt, and Clear Lake) (City of Houston Planning and Development Department [PDD] 2000). The racial mix of Harris County is predominantly Caucasian (58.5 percent), followed by African Americans (18.6 percent), and Asians (5.4 percent), with the remaining 17.5 percent of the population split between American Indians and Alaskan Natives; Native Hawaiians, and other races (USCB 2006b). In Study Area 12, 55.7 percent of the population is Caucasian, 25.3 percent of the population is Hispanic, 9.1 percent of the population is Asian, 8.1 percent of the population is African American, and 1.9 percent of the population is some other race (City of Houston PDD 2000).

Persons of any race can claim Hispanic or Latino origin. Nearly 38.2 percent of the 2006 population of Harris County claim to be of Hispanic or Latino origin (USCB 2006b and City of Houston PDD 2000).

In 2005, Harris County had a per capita personal income (PCPI) of $41,703 and this PCPI ranked 4th out of 254 counties in the State of Texas (Table 4-6, Bureau of Economic Analysis [BEA] 2005a). Harris County's PCPI was 128 percent of the state average and 121 percent of the National average; additionally, between 1995 and 2005, the Harris County PCPI grew faster than that of the state (4.4 percent) and the Nation (4.1 percent). The median household income in 2005 for Harris County was $44,085 (USCB 2005). This was slightly lower than the 2005 median household income for the Nation ($46,242) (USCB 2005) and lower than the median

household income for Study Area 12 (City of Houston PDD 2000). In 2005, the percentage of people living in poverty was higher in Harris County than in Texas and the Nation (USCB 2005, Table 4-6), and 26.0 percent of the population below the poverty level in Harris County were children under the age of 18 (USCB 2005).

Table 4-6. Income and Poverty Levels

Region	Per Capita Personal Income	Median Income	Percentage of All Ages in Poverty
Nation	$34,471	$46,242	13.3
Texas	$32,460	$42,165	17.5
Harris County	$41,703	$44,085	17.9
Study Area 12	N/A	$56,753*	N/A

N/A=Not Available; *median household income in 2000
Source: BEA 2005a; City of Houston PDD 2000; USCB 2005

The total number of jobs in Harris County in 2005 was 2,430,426 (BEA 2005b), an increase of 23 percent over the 1995 number of jobs of 1,968,548 (BEA 1995). The government and government enterprises sector provided the most jobs followed by the retail trade sector. Approximately 7.5 percent of the civilian labor force in Harris County was unemployed in 2006 (USCB 2006b).

A summary of housing in the ROI is given in Table 4-7. Harris County had a total of 1,495,024 housing units in 2006 (USCB 2006a) and Study Area 12 had 44,694 housing units in 2000 (City of Houston PDD 2000).

Table 4-7. Housing Units

Location	Total Housing Units	Status		
		Occupied		Vacant
		Owner	Rented	
Harris County (USCB 2006)	1,495,024	776,271	554,904	163,849
Study Area 12 (City of Houston PDD 2000)	44,694	24,481	17,811	2,402

Source: City of Houston PDD 2000, USCB 2006a

4.10.2 Environmental Consequences

4.10.2.1 Proposed Action Alternative

There would be a net change of 10 active duty or civilian personnel using Ellington Field as a result of the Proposed Action Alternative, but no net change in the ROI. The Proposed Action Alternative would not adversely affect local income, employment rates, or poverty levels. There are no concentrations of minority populations or children near the Proposed Action 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 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) and EO 13045 (Protection of Children from Environmental Health Risks and Safety Risks). Any materials or services purchased locally and any local hiring during construction would result in short-term negligible socioeconomic benefits. The Proposed Action 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 D.

4.10.2.2 No Action Alternative

Under the No Action Alternative, the USARC would continue to operate in downtown Pasadena and could potentially limit future development. Impacts to the socioeconomic conditions of the City of Houston would be negligible.

4.11 TRANSPORTATION

4.11.1 Affected Environment

Numerous modes of transportation are available to serve Ellington Field including air, rail, and highway access. The William P. Hobby Airport is located approximately 9 miles to the northwest and the George Bush Intercontinental Airport is located approximately 37 miles to the north/northwest. Both of these airports provide commercial and general aviation services. Ellington Field also serves as a base for corporate, commercial, cargo, and private aviation operations. The Union Pacific Railroad is located less than 0.5 mile west of the complex.

Ellington Field is served by several state and local roads (Figure 4-3). Ellington Field is located approximately 0.3 miles east of Highway 3 (Galveston Road), and 1.6 miles east of Interstate 45 (I-45) and East Sam Houston Tollway South (Beltway 8). Interstate 45 connects Ellington Field with Houston.

4.11.2 Environmental Consequences

4.11.2.1 Proposed Action Alternative

Construction of the AFRC would have no effect on regional rail or air service. Vehicle traffic on post would increase during the 2-year construction period, primarily along Aerospace Avenue and Scholl Street. Vehicle traffic off the airport would increase along I-45 and Highway 3 (Galveston Road) as construction crews and equipment commute to and from the construction site. Most equipment would be left on-site to alleviate traffic off-site.

Operation of the AFRC would also create minimal to moderate increases to vehicle traffic. As mentioned previously, 10 permanent full-time personnel would be expected to access Ellington Field on a daily basis as a result of the implementation of the Proposed Action Alternative. Moderate increases in weekend traffic would occur as a result of training activities. During training activities, up to 544 USAR and TXARNG personnel would be expected to access the site. However, other Ellington Field traffic would be substantially reduced during the weekend. Therefore, construction and operation of the AFRC at the project site would not significantly impact the traffic on or off Ellington Field.

Traffic within Ellington Field would increase as a result of the RPX project, which is currently under construction. Increases in traffic due to this project are discussed in the July 2005 EA and are incorporated by reference (University of Texas 2005). Approximately 170 full-time Army, Navy, and Marine Corps Reserve personnel and support staff would access the facilities during the week. Many of the reserve personnel would access the facilities during non-peak times as reserve exercises are predominantly conducted during the weekend. The anticipated military personnel traffic is consistent with existing traffic patterns within Ellington Field and would result in insignificant traffic or transportation related impacts in the local or regional area (University of Texas 2005).

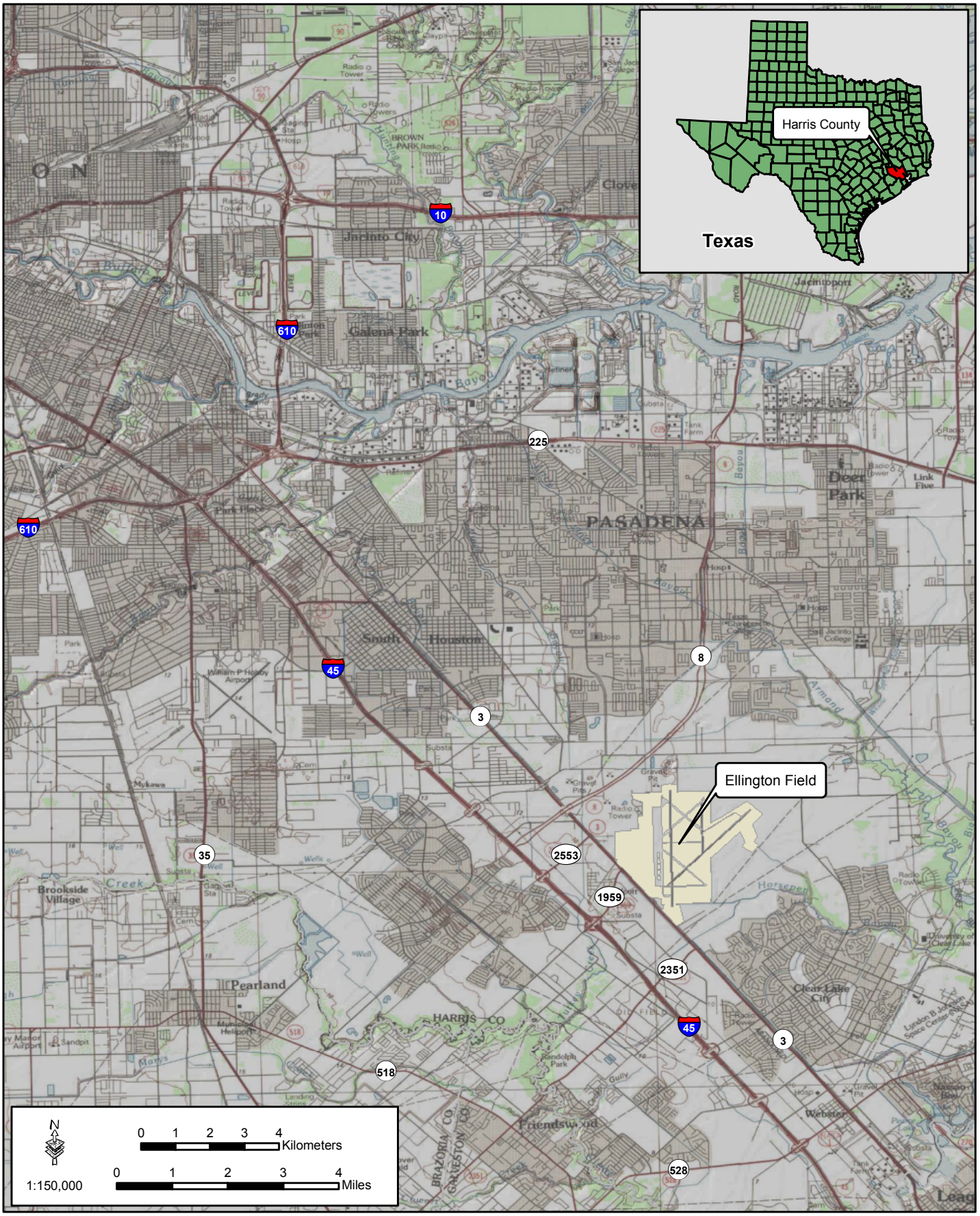


Figure 4-3: Transportation Routes in the Project Area

GSRC

February 2008

4.11.2.2 No Action Alternative

Under the No Action Alternative, there would be no effect to vehicle traffic on or off Ellington Field. Air and rail service would be maintained at status quo.

4.12 UTILITIES

4.12.1 Affected Environment

Utilities in the vicinity of the project site along Aerospace Avenue include water, electricity, natural gas, telephone, the storm and sanitary sewer service. Ellington Field receives its drinking water supply from the City of Houston. The City of Houston supplies an average of 392 million gallons per day (MGD) to business and private residences throughout the city's jurisdiction (City of Houston 2006). Centerpoint Energy (formerly known as Reliant Energy) provides the area with electricity and natural gas service (USACE 2007). SBC Texas is the telephone company provider. Ellington Field discharges wastewater into the City of Houston's wastewater collection system. The City of Houston maintains 40 wastewater treatment plants, treating an average of 277 MGD over a 650 square mile region (City of Houston 2006). There are no septic tanks located on the property.

4.12.2 Consequences

4.12.2.1 Proposed Action Alternative

Construction and operation of the proposed AFRC facility at the project site would have temporary and minimal effects on Ellington Field's potable water supply, wastewater treatment system, and storm water 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 TPDES Storm Water Discharge Permit would be required prior to construction. This permit would require that a SWPPP and Notice of Intent be prepared and filed with TCEQ. The SWPPP would identify BMPs that are required to be implemented to control storm water 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, in compliance with Section 7(a)(1) of the ESA, to the extent practicable.

Operation of the AFRC would not result in increases in demand on the city's drinking water supply and wastewater treatment system since the units would be realigned from the Pasadena

USARC, located only 10 miles away. As indicated above, however, there is sufficient capacity with both systems to accommodate the proposed construction and operation of the AFRC. The complex's Industrial Stormwater Discharge Permit would need to be amended to include discharges from the new vehicle maintenance shop.

4.12.2.2 No Action Alternative

Under the No Action Alternative, no construction of the AFRC facility would occur; thus, no effects would occur to Ellington Field, storm water system, existing discharges, water supply or waste water treatment systems.

4.13 HAZARDOUS AND TOXIC SUBSTANCES

4.13.1 Affected Environment

4.13.1.1 Uses of Hazardous Materials

Hazardous waste is a waste with properties that make it dangerous or potentially harmful to human health or the environment. Hazardous wastes can be liquids, solids, contained gases, or sludges. They can be the by-products of manufacturing processes or simply discarded commercial products, like cleaning fluids or pesticides (EPA 2007).

Hazardous materials such as jet fuel (JP8), petroleum, oil, lubricants, and various paints and adhesives associated with the operation of a vehicle maintenance facility are generated at the existing USARC, and would be expected to be required at the new AFRC.

4.13.1.2 Storage and Handling Areas

All hazardous materials and wastes associated with project operations would continue to be managed in accordance with all Federal, state and local regulations, as well as existing Army regulations and procedures. Army Regulation (AR) 200-1 (U.S. Army 2007) provides guidelines for the handling and management of hazardous materials to ensure compliance with Federal, state, and local laws.

4.13.1.3 Hazardous Waste Disposal

Current USARC procedures dispose hazardous wastes that are generated through the Defense Reutilization and Marketing Office (DRMO). The same process would be expected to be used for disposal and recovery/reclamation of hazardous waste generated at the new AFRC.

SpawGlass, a construction company working on Ellington Field runways, is temporarily storing petroleum products in the paved portion of the project site. The quantities stored do not exceed corresponding Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) threshold planning quantities. *De minimis* releases of petroleum and concrete curing compound by the current occupants were noted (USACE 2007).

4.13.1.4 Site Contamination and Cleanup

A Phase I Environmental Baseline Survey (EBS) was conducted for property adjacent to the proposed project site. The EBS did not reveal evidence of the past use, handling, release, or disposal of hazardous substances (USAR 90th RRC 2005). With respect to release or disposal of hazardous materials, no records were found in Federal or state databases for the project site having been assessed any penalties or violations associated with handling or releasing hazardous materials. A hazardous waste generator identification number is not associated with the project site.

As discussed previously, SpawGlass is temporarily using a paved portion of the project site near the eastern border as a staging area. Small quantities of chemicals are stored at the staging area. Most of the materials are non-hazardous substances, but some of the petroleum products in the area may contain CERCLA hazardous substances.

The EBS indicated that there is no evidence of underground storage tanks (USTs) on the project site (USACE 2007). Three petroleum product above-ground storage tanks (ASTs) with secondary containment and one 3,000-gallon AST without secondary containment, containing a concrete curing compound are currently on the project site. The ASTs are onsite for the SpawGlass construction project and therefore are temporary. Stained soils near the ASTs indicate releases have occurred during product transfer. The releases are considered *de minimis* based on the size of the stains (USACE 2007). Equipment stored within a raised trailer included generators that contained small quantities of petroleum products. Small stains were evident on the floor of the trailer near the equipment. A 55-gallon drum of oil and 14 5-gallon buckets of grease and oil were stored outside another trailer. No stained soil or stressed vegetation was observed around the trailers or drum during the EBS site reconnaissance (USACE 2007).

4.13.1.5 Special Hazards

Currently, there are no structures on the project site that utilize asbestos-containing material. The EBS indicated that a Bachelor/Base Enlisted Quarters (BEQ) building existed at the project site from the 1970s until the early 1990s, and other buildings were east of Avenue H, on the southeast side of the project site, from at least 1944 until the mid-1980s. The former structures may have contained lead-based paint or other potential sources of lead, but the buildings have been removed and no remnants of the structures were observed on the project site (USACE 2007).

4.13.2 Environmental Consequences

4.13.2.1 Proposed Action Alternative

Implementation of the construction activities associated with the Proposed Action Alternative could potentially result in a negligible and temporary increase in the volume of hazardous materials used and generated; however, any such increase would be minimal and could be accommodated by current installation facilities during construction of the new facility. Construction and operation of the proposed facilities would not have a significant impact on the handling, storage, and disposal of hazardous materials and wastes at the installation.

No USTs or ASTs would be required for operation of the new facilities. The potential exists for the storage of POL, JP8, various paints, and adhesives used to maintain and refuel construction equipment. Small quantities of POL, JP8, various paints and adhesives would also be stored and used at the AFRC for vehicle maintenance. However, these activities would include secondary containment to hold 110 percent of the largest capacity container (40 CFR 112.12). 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, a SPCCP would be in place prior to the start of construction and all personnel would be briefed on the implementation and responsibilities of this plan. Hazardous materials and wastes associated with the Proposed Action Alternative would be managed in accordance with all Federal, state and local regulations, as well as existing Army regulations and procedures. The Proposed Action Alternative would result in a negligible hazard to the public or environment regarding the transport, use, or disposal of hazardous materials.

4.13.2.2 No Action Alternative

Under the No Action Alternative, the new AFRC facility and associated buildings would not be built. There would be no additional impacts associated with hazardous or toxic substances.

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.

Ellington Field has been used as a military installation intermittently since 1917 and has continuously been developed as DoD missions, organizations, needs and strategies have evolved. Since 1984, Ellington Field has been under the management of the City of Houston Department of Aviation and continues to support commercial, private and military aviation. As such, most of Ellington Field and the entire project site has been developed or disturbed over the past several decades.

The proposed construction and operation of the AFRC would increase the developed areas on Ellington Field by 12 acres. Operation of the AFRC would not result in cumulative impacts to 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.

Currently, construction of a new AFRC is on-going east of this proposed AFRC site to replace the USAR and Naval and NMCR Centers. This construction is part of a RPX with the University of Texas. The new AFRC will accommodate the closure of Garcia USARC and the LCPL Richard Anderson NMCR Centers that were located on lands needed by the M.D. Anderson Cancer Center of the University of Texas. Under the worst case scenario, the on-going construction of the AFRC would convert approximately 42 acres of developed/disturbed lands to impermeable surfaces. This construction, combined with the proposed AFRC under BRAC 2005 and the existing facilities at Ellington Field, would bring the total impermeable surface on

Ellington Field to approximately 130 to 150 acres of the 2,300 total acres (7 percent). Stormwater systems relative to the new and on-going construction must be considered in the design and construction of the facilities to ensure that no violations to Ellington Field's discharge permits occur.

Cumulative effects on air quality from the Proposed Action Alternative with other planned or on-going projects such as the RPX project, discussed above, would be insignificant and the cumulative emissions would still remain below de *minimis* thresholds. The annual estimated VOC and NO_x emissions from the RPX construction activities and future operations, in combination with the estimated emissions that would be generated by the Proposed Action Alternative are presented in Table 4-8.

Table 4-8. Annual Air Emissions from RPX Construction and Operation and the Proposed Action Alternative

Activity	VOCs (tons/year)	NOx (tons/year)
RPX Construction	17.24	5.46
Proposed Action Alternative	8.51	53.68
Total	**25.75**	**59.14**
RPX Operations	32.88	8.44
Proposed Action Alternative	8.51	53.68
Total	**41.39**	**62.12**
De minimis threshold	100	100

Source: University of Texas 2005 and GSRC modeled results (Appendix B)

As can be seen from Table 4-8, the cumulative affects of the Proposed Action Alternative in conjunction with RPX would still remain well below de *minimis* thresholds for VOCs and NOx.

Operation of the AFRC would add to the cumulative amount of hazardous wastes generated at Ellington Field. However, all wastes are disposed by licensed contractors in accordance with state and Federal regulations; consequently, no significant cumulative adverse impacts would be expected.

Both the RPX and the proposed Ellington Field AFRC projects involve relocation of military units that currently use centers in the same general area and, therefore, no additional demands on water supplies, utilities, or housing would be expected. Thus, the Proposed Action Alternative would result in insignificant cumulative impacts to the human and natural environment within and surrounding Ellington Field.

4.15 ENVIRONMENTAL PROTECTION MEASURES

This section of the EA describes those measures that could be implemented to reduce or eliminate potential adverse impacts to the human and natural environment. The environmental protection measures are presented for each resource category that could be potentially affected. These proposed measures would be coordinated through the appropriate land managers and administrators, and regulatory agencies.

4.15.1 Vegetation and Wildlife

Native seeds or plants, which are 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 should be used to eliminate the potential of spreading invasive species.

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.

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 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 in the project area 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 to 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. There would be a SPCCP that describes what actions should be taken in case of a hazardous or toxic spill.

THIS PAGE LEFT INTENTIONALLY BLANK

SECTION 5.0
FINDINGS AND CONCLUSIONS

5.0 FINDINGS AND CONCLUSIONS

5.1 FINDINGS

5.1.1 Consequences of the Proposed Action Alternative

The Proposed Action Alternative would result in the permanent conversion of up to 12 acres of maintained grassland to hard surfaces and buildings. The conversion is consistent with the City of Houston Department of Aviation's land use policies, guidelines and Master Plan. No impacts to Federal or state protected species would occur. No violations of Ellington Field's air or water quality permits 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. Temporary increases in noise would be expected during the construction. Transportation would be increased during and after construction. Approximately 10 additional full-time employees are expected to commute to the AFRC on a daily basis. Most of the increases in traffic 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 to local and regional employment and personal income would be expected during the construction. However, these benefits would be insignificant when compared to the Houston Metropolitan Area. A summary of the potential effects from the Proposed Action 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 Ellington Field would remain status quo, at least for the short-term. Since the area is under ownership of the City of Houston Department of Aviation and is managed for commercial and private aviation, as well as some military missions, there is a possibility that the proposed project 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 proposed

location and that development of this site would result in insignificant adverse impacts to the area's human and natural environment. 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

Affected Resource	No Action Alternative	Proposed Action Alternative
Land Use	No impacts to land use are expected.	Up to 12 acres of maintained grassland would be converted to the facility and parking areas. The facility is consistent with the HAS's planned development.
Aesthetics	No adverse impacts are expected.	Slight degradation during construction but no significant long-term impacts would occur to the project area's visual qualities.
Air Quality	No adverse effects are anticipated.	Negligible temporary effects to air quality during construction would occur. Pre-project conditions would return upon cessation of construction activities. All emissions would be below *de minimis* 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. Due to the distance to other noise receptors, construction noise would be attenuated to acceptable levels. Operation of the facility would not be expected to increase ambient noise levels.
Soils	No impacts to soils are expected.	Up to 12 acres of soil would be disturbed and permanently removed from potential biological productivity. These soils have been previously disturbed.
Water Resources	No adverse impacts would occur.	No significant impact to region's water supply or water quality. No potentially jurisdictional wetlands occur on the proposed site.
Biological Resources	No impacts are expected.	Up to 12 acres of maintained grassland would be permanently removed. No effects to threatened or endangered species would occur.
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, impacts to the City of Houston during construction.
Transportation	No adverse impacts are expected.	Slight increase in local traffic along I-45 and Galveston Road during construction; no major congestion is expected. Traffic would be increased on Ellington Field once the relocation is complete, but traffic on public streets would not be expected to be significantly affected.
Utilities	No adverse impacts are expected.	Slight increase in the demands on the City of Houston'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
LIST OF PREPARERS

6.0 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	6 years in NEPA and 18 years in environmental studies	USACE Technical Manager
Suna Adam Knaus	GSRC	Forestry/Wildlife	18 years natural resources	EA review
Chris Ingram	GSRC	Biology/Ecology	32 years NEPA and natural resources	Project Manager, DOPAA, physical resources
Eric Webb, Ph.D.	GSRC	Ecology/Wetlands	18 years natural resources and NEPA Studies	EA Technical Review
Sherry Gelinas	GSRC	Ecology	17 years natural resources, 1 year NEPA	EA preparation; field surveys; land use, aesthetics, transportation and hazardous materials
John Lindemuth	GSRC	Archaeology	16 years Professional Archaeologist/Cultural Resources	Cultural resources
Shanna McCarty	GSRC	Ecology	2 years NEPA and natural resources	EA preparation; field surveys; water resources; soils; socioeconomics
Steve Kolian	GSRC	Environmental Studies	13 years environmental and marine science	EA preparation; air and water quality
Sara Viernum	GSRC	Ecology	1 year NEPA and natural resources	EA preparation; field surveys; biological resources
Ron Webster	Ray Clark Group, LLC	Socioeconomics/Civil Engineering	35 years NEPA studies and socioeconomic analyses	EIFS modeling and analysis

THIS PAGE LEFT INTENTIONALLY BLANK

SECTION 7.0
DISTRIBUTION LIST

7.0 DISTRIBUTION LIST

A list of the persons and agencies who received a copy of the EA is presented below.

Mr. John Blevins, Director
Compliance Assurance and Compliance Division
Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202

Ms. Donna Phillips, Regional Director
Texas Commission on Environmental Quality
5425 Polk Street, Suite H
Houston, Texas 77023-1452

Mr. Steve Parris, Field Supervisor
U.S. Fish and Wildlife Service
Clear Lake Ecological Services Field Office
17629 El Camino Real #211
Houston TX 77058-3051

James Randall, P.E., Director
Transportation and Planning
Texas Department of Transportation
125 E. 11th Street
Austin, TX 78701-2483

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

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

Mr. William Mullican,
Deputy Executive Administrator, Office of Planning, Texas Water Development Board
Stephen F. Austin Bldg.
P.O. Box 13231, 1700 N. Congress Avenue
Austin, Texas 78711-3231

THIS PAGE LEFT INTENTIONALLY BLANK

SECTION 8.0
REFERENCES

8.0 REFERENCES

Bureau of Economic Analysis (BEA). 1995. Total and part-time employment by SIC industry. Available online at: http://www.bea.gov. Last Accessed 28 January 2008.

BEA. 2005a. BEARFACTS: Harris County, Texas, 1995-2005. Available online at: http://www.bea.gov. Last Accessed 28 January 2008.

BEA. 2005b. Total and part-time employment by SIC industry. Available online at: http://www.bea.gov. Last Accessed 28 January 2008.

Caltrans 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

Carlson, Erik. 1999. Ellington Field: A Short History, 1917-1963. Lyndon B. Johnson Space Center, Houston, Texas.

City of Houston Planning and Development Department [PDD]. 2000. Study Area 12 2000 Basic Demographics. Available online at: http://www.houstontx.gov/planning/planning_studies/ludem.html. Last Accessed 28 January 2008.

City of Houston, 2006. City of Houston Public Works and Engineering. Accessed electronically via URL address: http://www.publicworks.houstontx.gov/utilities.

City of Houston. 2005. City of Houston Public Works and Engineering, 4 surface water treatment plants. Public Utilities Division, Water Production Branch. Available online at: http://www.publicworks.cityofhouston.gov/utilities/waterprod.htm. Last Accessed on 28 January 2008.

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.

Environmental Protection Agency (EPA) 2007 Welcome to the Green Book Nonattainment Areas for Criteria Pollutants www.epa.gov/oar/oaqps/greenbk

EPA. 2007. EPA Hazardous Waste. Internet Address: http://www.epa.gov/epaoswer/osw/hazwaste.htm#hazwaste. Last Updated: November 5, 2007.

Federal Emergency Management Agency (FEMA). 2007. Flood Insurance Rate Map – Harris County, Texas and incorporated areas, Panel#1060, Revised June 18, 2007.

Federal Highway Administration (FHWA) 2007. Special Report: Highway construction Noise: Measurement, Prediction, and Mitigation, Appendix A Construction Equipment Noise Levels and Ranges.

HAS (Houston Airport System). 2004. Comprehensive Plan, Master Plan, Ellington Field. Leigh Fisher Associates, Houston, Texas. 99 pp.

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.

Mid-Atlantic Regional Air Management Association (MARAMA) 2006. Fugitive Dust-Construction Calculation Sheet can be found online at: http://www.marama.org/visibility/Calculation_Sheets/

Natural Resources Conservation Service (NRCS). 2007a. Web Soil Survey, Harris County, Texas. Available online at: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Last Accseed 29 January 2008.

NRCS. 2007b. Soildata Mart. Available online at: http://soildatamart.nrcs.usda.gov/Report.aspx?Survey=TX201&UseState=TX. Last Accessed 29 January 2008.

NRCS. 2007c. Soildata Mart – Acreage and Proportionate Extent by County. Available online at: http://soildatamart.nrcs.usda.gov/Report.aspx?Survey=TX201&UseState=TX. Last Accessed 29 January 2008.

Norman, Carl E. 1998. Location, Orientation, and Movement Data of Two Geologic Faults that Cross Runway 17R, Ellington Airfield, Houston, Texas.

TPWD. 1984. The Vegetation Types of Texas. http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_bn_w7000_0120.pdf

TWPD. 2007a. Wildlife Fact Sheets. http://www.tpwd.state.tx.us/huntwild/wild/species/

TPWD. 2007b. Annotated County Lists of Rare Species http://gis2.tpwd.state.tx.us/ReportServer$gis_epasde_sql?%2fReport+Project2%2fReport5&rs:Command=Render&county=Harris

University of Texas. 2005. Environmental Assessment, Proposed Real Property Exchange and Development of an Armed Forces Reserve Center at Ellington Field, Houston, Texas, July 2005.

U.S. Army Corps of Engineers, 2007. Draft Environmental Baseline Survey, Proposed Armed Forces Reserve Center, MCAR Project No 64500, Houston, Texas. Prepared by Terraine-Ensafe 8(a) Joint Venture for the USACE Louisville District, Louisville, Kentucky.

U.S. Army Reserve, 90th Regional Readiness Command. 2005. Final Draft Environmental Baseline Survey, 45 +/- Acre Parcel, Ellington Field, Houston, Texas, 31 January 2005.

United States Census Bureau (USCB). 2005. Small Income and Poverty Estimates, Harris County, Texas, the state of Texas, and the United States. Available online at: http://www.census.gov/saipe. Last Accessed 28 January 2008.

USCB. 2006a. Fact Sheet – Harris County, Texas. Available online at: http://factfinder.census.gov/servlet/ACSSAFFFacts?_event=Search&geo_id=&_geoContext=&_street=&_county=harris+county&_cityTown=harris+county&_state=04000US48&_zip=&_lang=en&_sse=on&pctxt=fph&pgsl=010. Last Accessed 28 January 2008.

USCB. 2006b. Harris County, Texas Selected Economic Characteristics. Available online at: http://factfinder.census.gov/servlet/ADPTable?_bm=y&-geo_id=05000US48201&-qr_name=ACS_2006_EST_G00_DP3&-ds_name=ACS_2006_EST_G00_&-_lang=en&-_sse=on. Last Accessed 28 January 2008.

USFWS. 2008. Endangered Species List - Harris County Texas. http://www.fws.gov/southwest/es/EndangeredSpecies/lists/ListSpecies.cfm

Vines, Robert A. 1977. Trees of East Texas. University of Texas Press. Austin, TX.

THIS PAGE LEFT INTENTIONALLY BLANK

APPENDIX A
ASIV Report

Available Site Identification and Validation (ASIV) Report

HOUSTON, TEXAS

Prepared by:

Jean P. Dillon (817) 886-1210
US Army Corps of Engineers
Real Estate Division
Fort Worth District
819 Taylor Street, Room 2B03, Fort Worth, Texas 76102

Available Site Identification and Validation Report
HOUSTON, TEXAS
2 JULY 2007

Delineated Area: E Houston, TX near Ellington Field.

Purpose: To identify sufficient available and suitable land to support construction of an Armed Forces Reserve Center (AFRC) to include a Training Building with multi-use classrooms and a Vehicle Maintenance Shop.

Proposed Use: Provide a facility to accommodate an 800 Member Armed Forces Reserve Center in East Houston, TX for the 90th Regional Readiness Command (RRC) and the Texas National Guard. The new AFRC will contain 151,913 square feet of Training Building, with 14,600 square feet of multi-use classrooms, and a 33,722 square foot Vehicle Maintenance Shop.

Land Requirements: Minimum of twelve (12) (+ or -) acres.

Site Plan to Scale: Attached to each Site Data Sheet.

Topographic Requirements: Flat to gently rolling, no features such as landfills, cliffs, extensive drainage ditches, wetlands or ravines. Topography must facilitate easy access to all appropriate utilities. Topographic maps are attached to each Site Data Sheet.

Environmental Requirements: Clean, uncontaminated, no underground storage tanks (UST).

Ideal Site Configuration: Rectangular to Square

Special Requirements: The minimum length of each side of the site is 152.4 meters (500 feet). For site-specific size requirements to comply with DOD Directive 2000.12, Antiterrorism Standards, and AR 525-13, Antiterrorism, refer to the Unified Facilities Criteria (UFC) 4-010-01

Site Requirements: Outside the 100-year flood plain. Flood plain maps are attached.

Field Work –

Number of Sites Investigated: Five (5)
Sites were investigated within a ten (10) mile radius of the of the target search area
Number of Contending Sites: Two (2)
Comparable Market Value (MV) Range: $65,340 to $87,120 per Acre
Market Survey/Appraised FMR: A formal appraisal has not been done
Possible Environmental Alert: None

Summary

Each contending site met the following evaluation criteria:

Net useable acreage

Antiterrorism set back requirements

Site will support intended construction and is environmentally clean

Ready access to public utilities

Reasonable cut or fill requirements

Proximity to major roadway corridor

Expectation is that the fair market appraisal will support the purchase price and is within budget.

Appropriate zoning/antiterrorism considerations.

All properties must be within the Houston city-wide target search area with an emphasis of a ten (10) mile radius of Ellington Field.

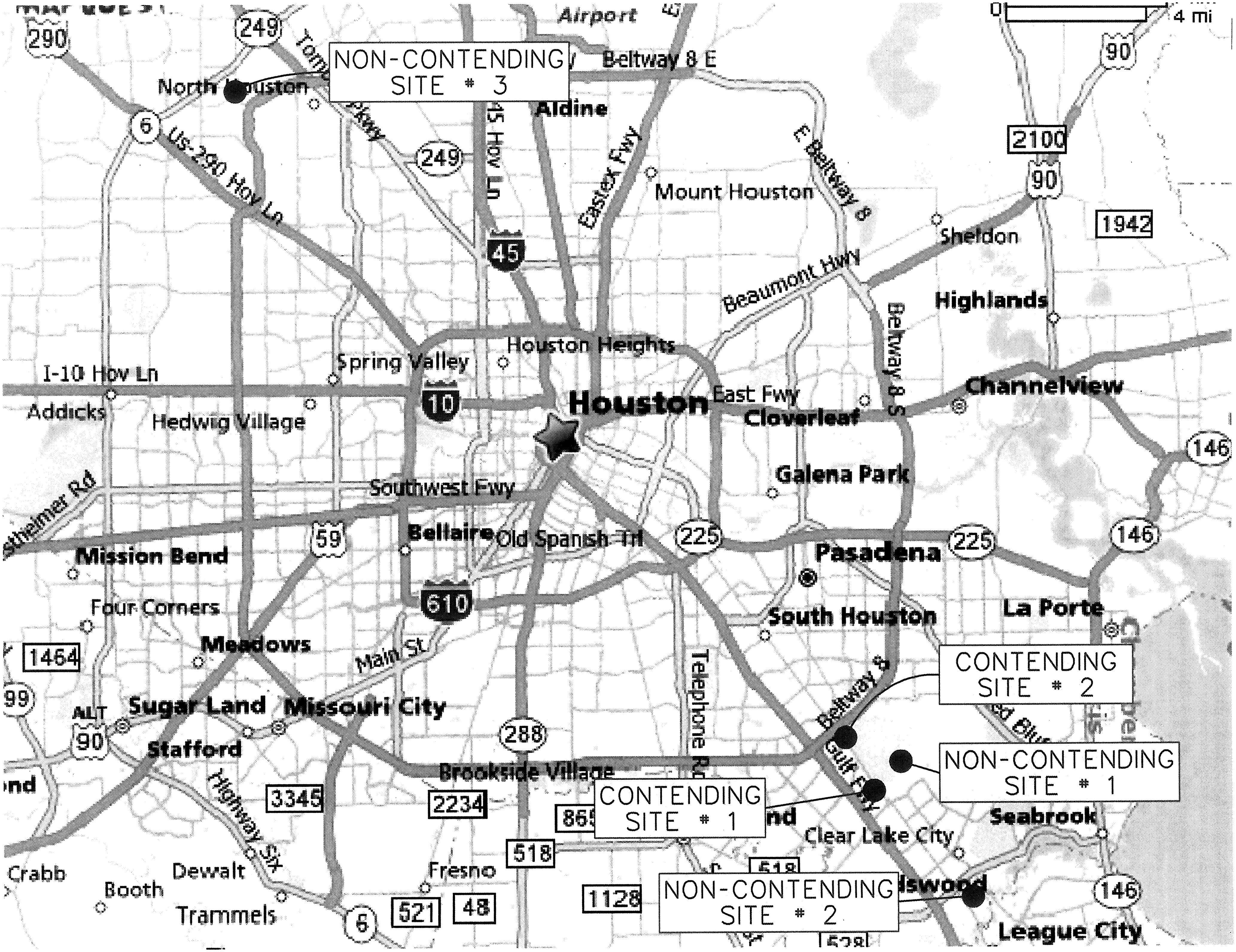
List of Non-Contending Sites and reasons for rejection:

NC Site #1 – Site #3: Property east of Ellington field—Rejected after contending site map was developed. Rejection occurred because there is not adequate ready infrastructure (as required) and the possibility of non-compliance with anti-terrorism standards due to proximity with adjacent subdivision.
NC Site #2 – Site #4: Property approximately five (5) linear miles south east of Ellington Field. Rejection occurred because of the possibility of non-compliance with anti-terrorism standards due to proximity with adjacent subdivision and size constraints will not allow for adequate development based on the above-mentioned Land Requirements and Proposed Use.

NC Site #3 – Site #5: Property approximately thirty-five (35) linear miles north west of Ellington Field. Rejection occurred because of the possibility of non-compliance with anti-terrorism standards due to proximity with adjacent subdivision and located outside of "preferred" area based on MEMORANDUM dated June 20 2007 (See Addendum).

*The writer of this report has determined there are additional sites available immediately near Ellington Field—which are owned by Exxon Mobile or The City of Houston—that are not currently for sale. The nature of the Houston real estate market coupled with the criteria identified in Memorandum dated June 20 2007 led the writer of this report to discover only one contending site; this is one less than the minimum of three (3) contending sites required for reporting purposes.

Once again, there are numerous site offerings in the Houston area, but few that are currently on the market meeting the specific outlined requirements.



NON-CONTENDING SITE # 3
CONTENDING SITE # 2
NON-CONTENDING SITE # 1
CONTENDING SITE # 1
NON-CONTENDING SITE # 2
0
4 mi
Airport
Beltway 8 E
North Houston
Aldine
US-290 Hov Ln
Mount Houston
E Beltway 8
Sheldon
Beaumont Hwy
Highlands
Beltway 8 S
Houston Heights
Spring Valley
I-10 Hov Ln
Addicks
Hedwig Village
Houston
East Fwy
Cloverleaf
Channelview
Galena Park
Southwest Fwy
Bellaire
Old Spanish Trl
Pasadena
Mission Bend
Four Corners
Meadows
Main St
South Houston
La Porte
Telephone Rd
Sugar Land
Missouri City
Stafford
Brookside Village
Highway Six
Gulf Fwy
Clear Lake City
Seabrook
Crabb
Booth
Dewalt
Trammels
Fresno
League City
Eastex Fwy
290
249
6
45
10
59
610
225
288
146
90
2100
1942
1464
99
3345
2234
518
521
48
1128

ASIV Site # 1 Data:

Address:
South east of the Galveston Road and Hillard Street intersection at Ellington Field, Houston, TX.

Congressional District: 22nd Congressional District

Senior Senator: Kay Bailey-Hutchison
Junior Senator: John Cornyn
Representative: Nick Lampson

Site Access: Via Old Galveston Road a.k.a State Highway 3 and Hillard Street or Ellington Field Road

Owner/Authorized Representative Contact Information:

NAME: Janet Schafer, J.D.; Leasing Manager
ADDRESS: 16930 John F. Kennedy Blvd, Houston, TX 77032
PHONE NUMBER 281-233-1796
FAX NUMBER N/A
EMAIL ADDRESS janet.schafer@cityofhouston.net

NAME: Robert Johnson, Project Manager & Sr. Assistant City Attorney
ADDRESS: 16930 John F. Kennedy Blvd, Houston, TX 77032
PHONE NUMBER 713-437-6745
FAX NUMBER 713-247-1017
EMAIL ADDRESS Robert.Johnson2@cityofhouston.net

NAME: James Valenta
Properties Representative, Houston Airport System
ADDRESS: 16930 John F. Kennedy Blvd, Houston, TX 77032
PHONE NUMBER 281-233-1828
FAX NUMBER 281-233-1564
EMAIL ADDRESS james.valenta@cityofhouston.net

Site Description:

Size: The entire site is approximately 54 acres. The entire site is available to be subdivided into any desired size or configuration. Attached maps were obtained from Janet Schafer. These maps give a site-specific overview of the property.

Linear feet of site measurements: Approximately 975' X 1900'

Configuration: Rectangular

Environmental Concerns Present: None

Flood Plan Data: FEMA Flood Zone

Topography Aspects: _____
Attach TOPO map (annotate site location)

Utilities:
All located on site along frontage with immediate site access or
Current Use: Vacant
(Provide description)

Buildings on Site:	**NO**
Relocation of Current Occupants Required:	**NO**
Demolition Required:	**NO**
Cut and fill Requirements:	**NO**
Zoning:	
Commercial	**YES**
Industrial	**YES**
Fenced:	**YES**
Parking sufficient net useable land available:	**YES**

Distance to nearest Fire Station: On Ellington Field
Distance to nearest Fire Hydrant: Adjacent to Property
Distance to nearest Police Station/Extended Territorial Jurisdiction (ETJ):____

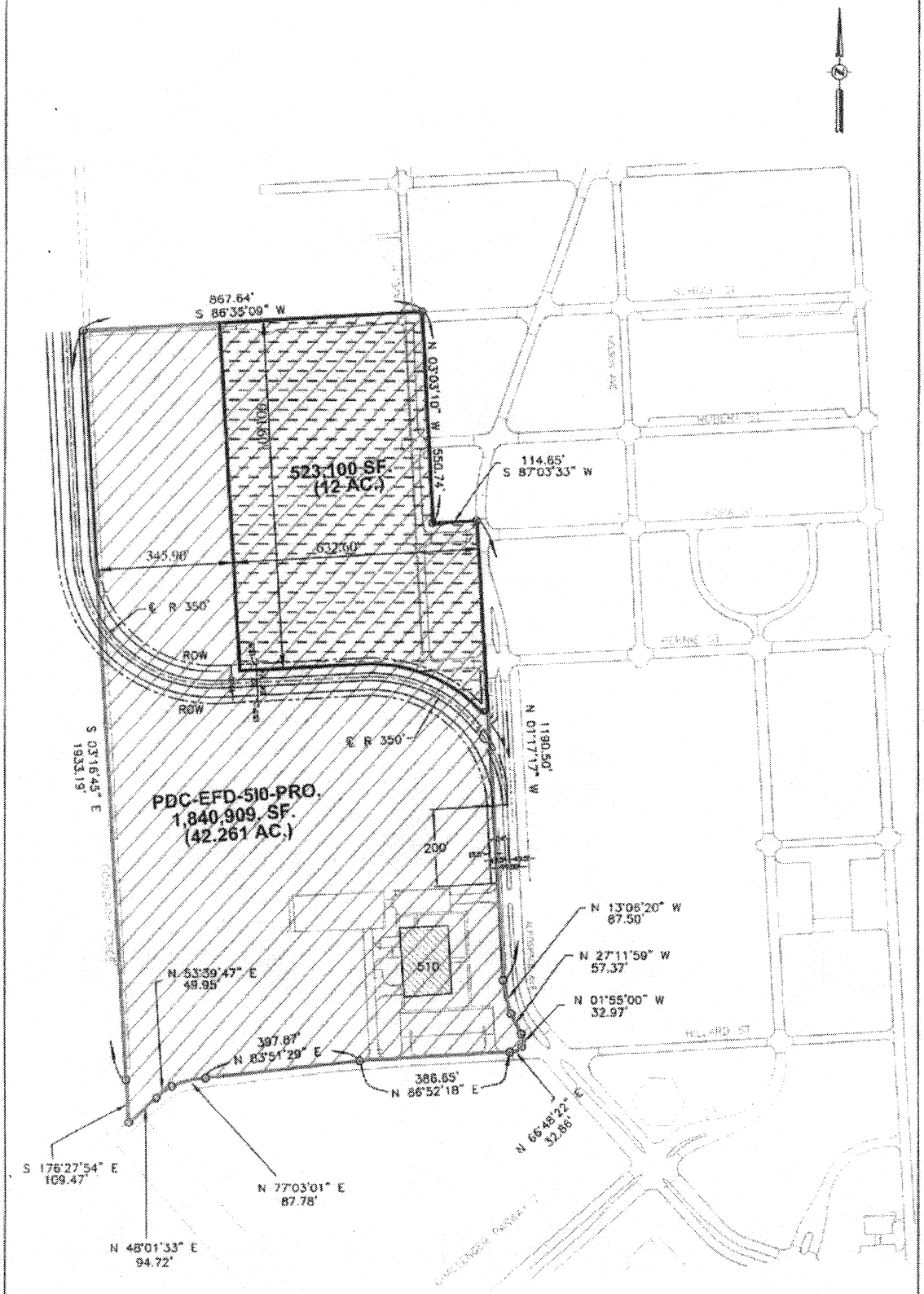
Subject to Easements:
Unknown City researching

Mineral Rights Reserved:
Unknown City researching

Purchase Data:
Available Date: Immediately Asking Price: Unknown $(per acre)
Additional Comments: The City of Houston valued the property at 1.3 Million two years ago and is in the process of determining the current Fair Market Value (FMV). All minerals were reserved by the U.S. government at the time of the conveyance of the land to the City. The land came to the City in two instruments from 1984, a Deed without Warranty and Bill of Sale (J675590), and an Indenture (J762537). The Deed without Warranty restricted any mineral extraction activity to two designated drill sites.

Until we have a survey setting out the location of the subject 12-acre tract, unknown which of the two instrument (or whether both) the subject tract is out of.
City's 2005 deed to USA for reserve center also restricted use to that compatible with surrounding aviation uses.

Will need to get FAA approval to sell before we can close.



DRAWN BY:	C.HUYNH
CHECKED BY:	TONY BRADSHAW
DATE:	03-14-2007
SCALE:	1"=300'
DWG NAME:	

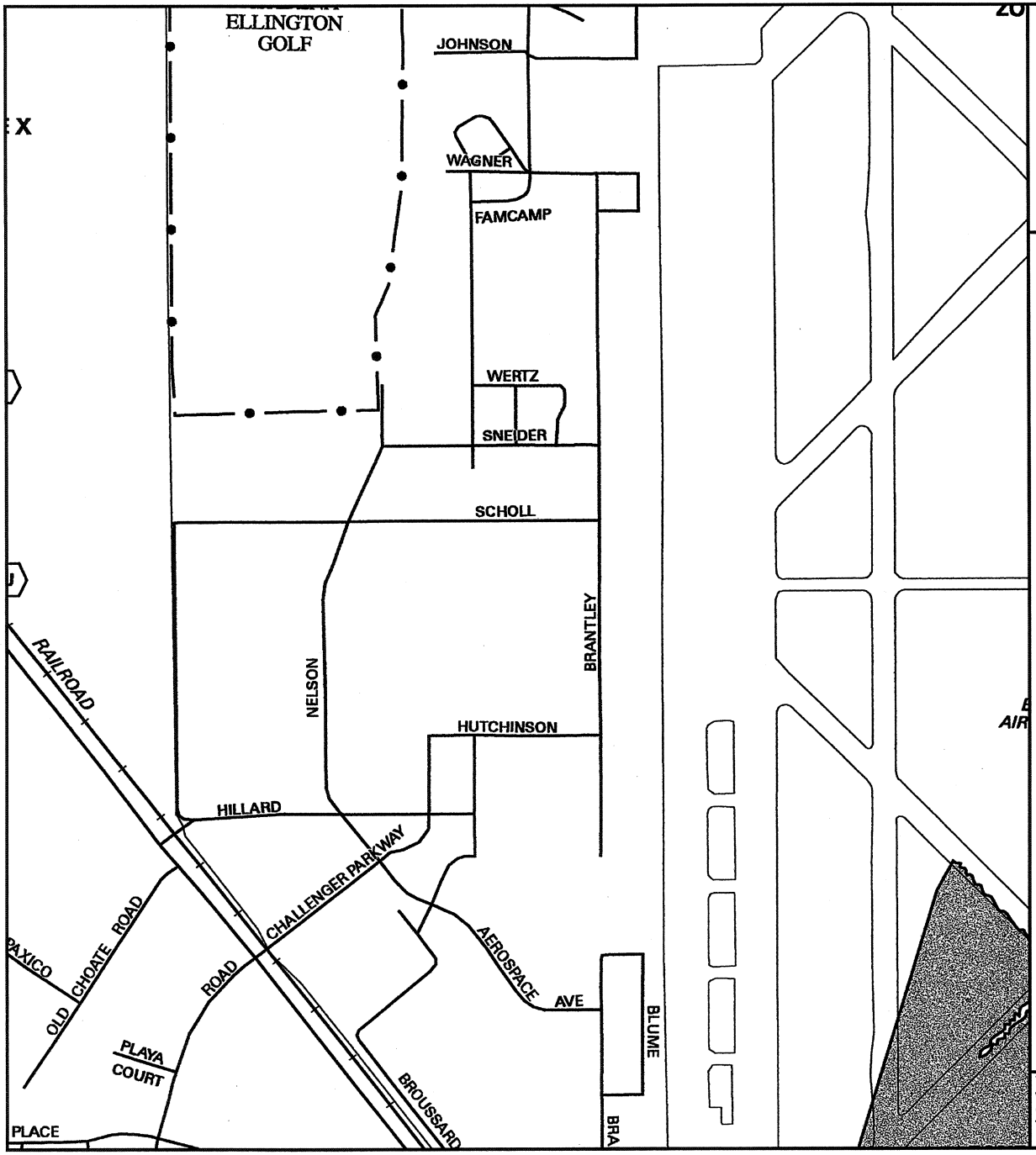
PTH PLANNING

ASIS

ELLINGTON FIELD

PDC-EFD-510-PRO.

H.A.S. NO.	EPL-26
C.I.P. NO.	
PROJECT NO.	
SHEET NO.	1 OF 1



MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

ME

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1060L

FIRM

FLOOD INSURANCE RATE MAP

HARRIS COUNTY,
TEXAS
AND INCORPORATED AREAS

PANEL 1060 OF 1150

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HOUSTON, CITY OF	480296	1060	L

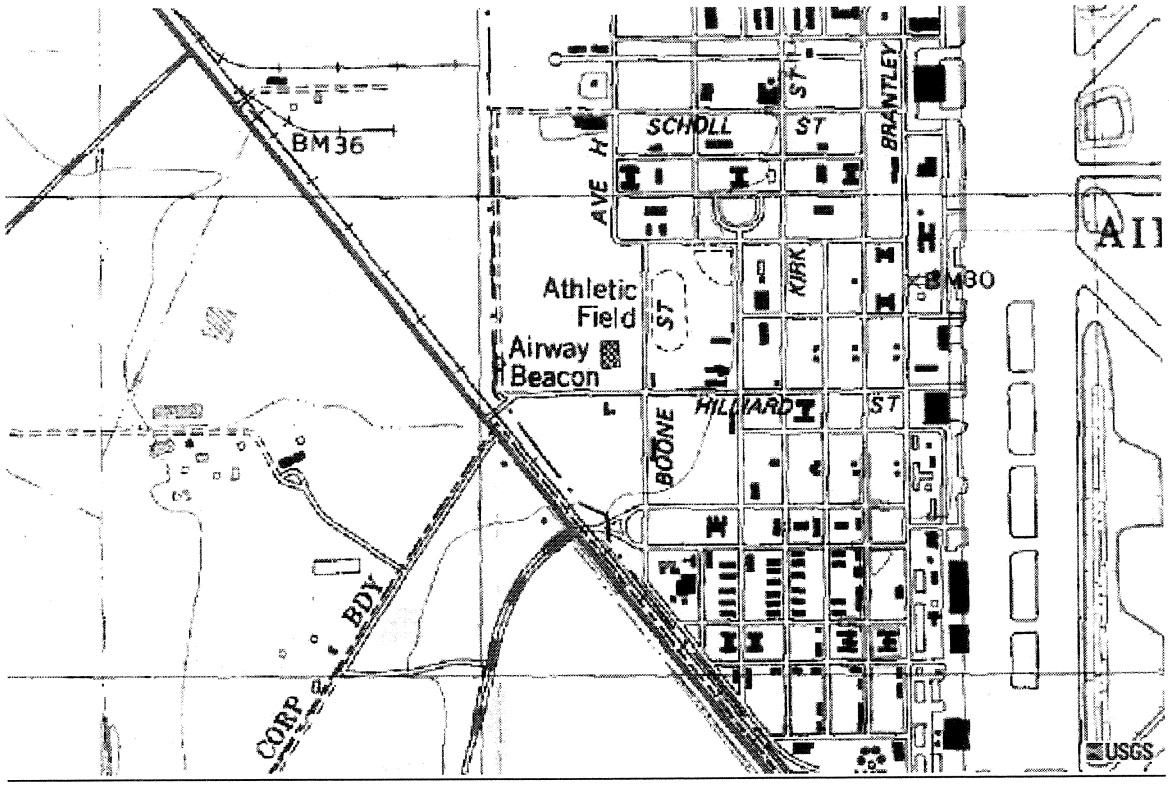
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

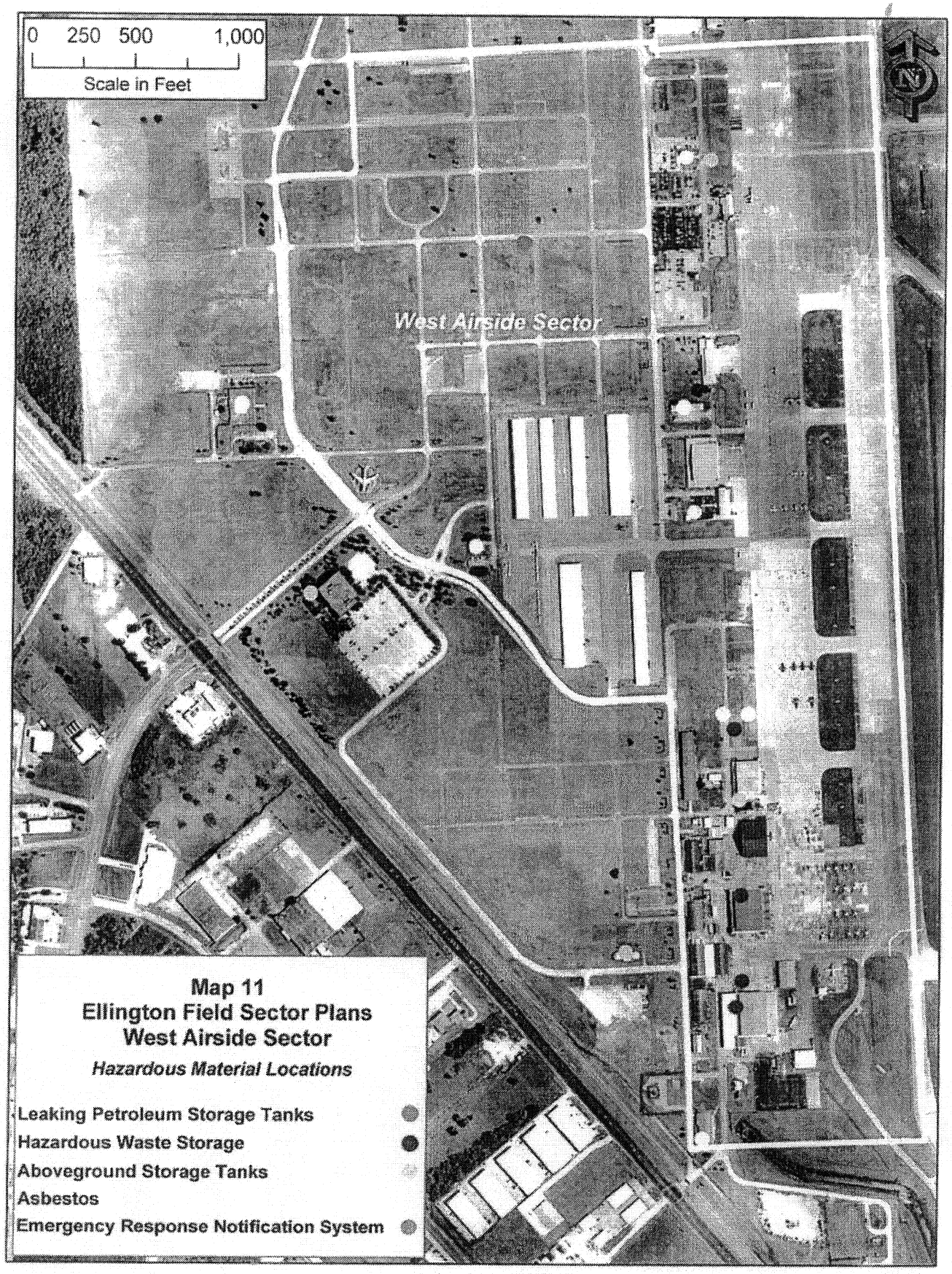
MAP NUMBER
48201C1060L

MAP REVISED:
JUNE 18, 2007

Federal Emergency Management Agency

Contending Site 1
Topographic Map




0 250 500 1,000
Scale in Feet
West Airside Sector
N
Map 11
Ellington Field Sector Plans
West Airside Sector
Hazardous Material Locations
Leaking Petroleum Storage Tanks
Hazardous Waste Storage
Aboveground Storage Tanks
Asbestos
Emergency Response Notification System


Galveston
1300
1400
NORTH
3
TEXAS
SOUTH
3
TEXAS

ASIV Site # 2 Data:

Address:
Ellington Field – Highway 3, Scarsdale & Dixie Farm Road, Houston, TX

Congressional District: 22nd Congressional District

Senior Senator: Kay Bailey-Hutchison
Junior Senator: John Cornyn
Representative: Nick Lampson

Site Access: Via Highway 3, Scarsdale & Dixie Farm Road

Owner/Authorized Representative Contact Information:

NAME: Jared L. Jakovich
ADDRESS: Jakovich Interest, LLC , Houston, TX 77032
PHONE NUMBER 713-226-7100
FAX NUMBER N/A
EMAIL ADDRESS jljakovich@jljakovich.com

Site Description: Ellington Field-Highway 3, Scarsdale & Dixie Farm Road

Size: The entire site is approximately 32.9 acres. The entire site is available to be subdivided into any desired size or configuration. These maps give a site-specific overview of the property.

Linear feet of site measurements: Approximately 2,600 feet of frontage.

Configuration: Triangular; can be configured into rectangular shape.

Environmental Concerns Present: None

Flood Plan Data: FEMA Flood Zone

Topography Aspects: _____
Attach TOPO map (annotate site location)

Utilities:
All located on site along frontage with immediate site access or
Current Use: Vacant
(Provide description)
Buildings on Site: **NO**

Relocation of Current Occupants Required: **NO**
Demolition Required: **NO**
Cut and fill Requirements: **YES**
Zoning: **None**

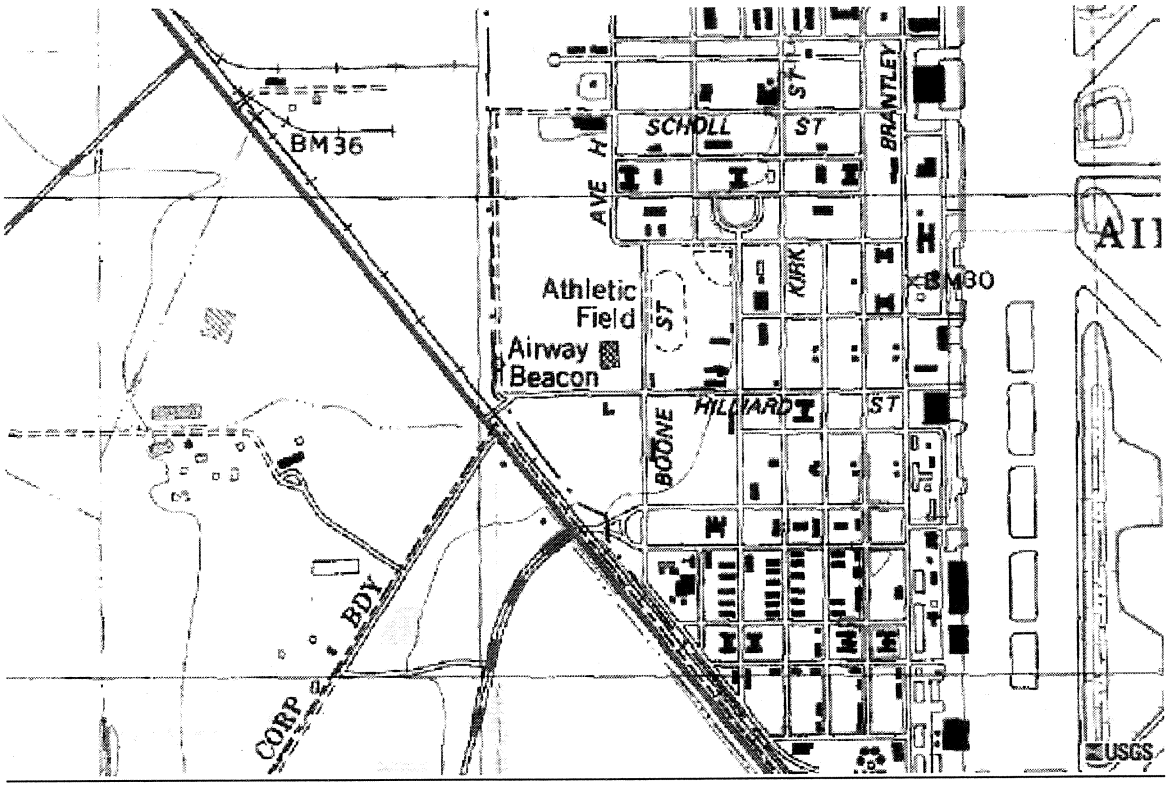
Fenced: **YES**
Parking sufficient net useable land available: **YES**
Distance to nearest Fire Station: _____
Distance to nearest Fire Hydrant: less 400' feet on Ellington Field__
Distance to nearest Police Station/Extended Territorial Jurisdiction (ETJ):____

Subject to Easements: **YES**
Pipeline easement

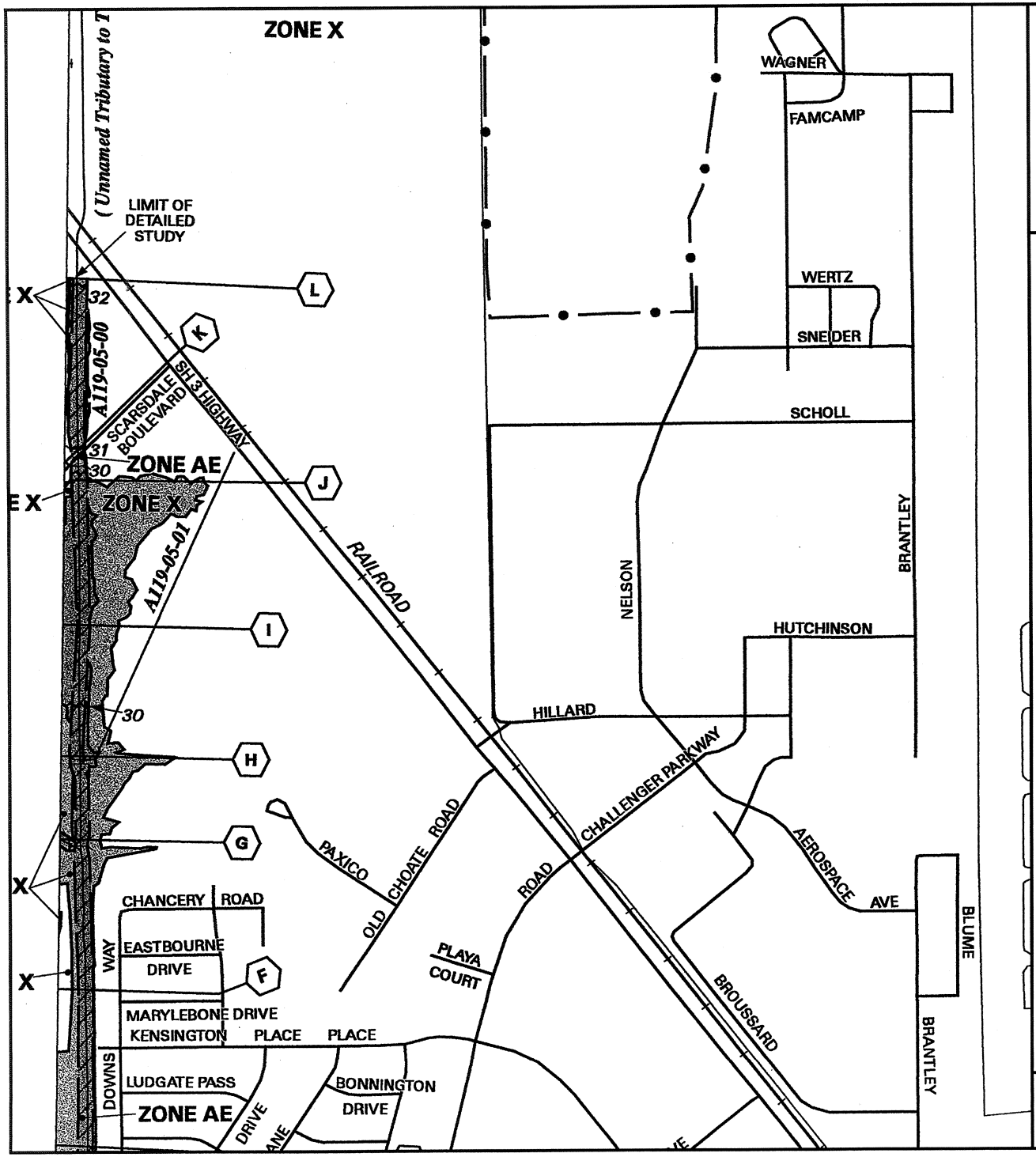
Mineral Rights Reserved: Surface wavier—owned by Exxon Mobile

Purchase Data:
Available Date: Immediately **Asking Price: $3.00 (per square foot)**
Additional Comments: Scrub trees on the property. Five acres were sold recently out of the 38 acres tract. Was a part of Ellington Field and sold as surplus property to Exxon Mobile, who later resold.

Contending Site 2
Topographic Map




4.73 Acres
Under
Contract
34.56 Acres
Available
© 2009 AE, LLC
© 2005 GDT, Inc



MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

ME

NFIP

PANEL 1060L

FIRM

FLOOD INSURANCE RATE MAP

HARRIS COUNTY, TEXAS AND INCORPORATED AREAS

PANEL 1060 OF 1150

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HOUSTON, CITY OF	480296	1060	L

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER 48201C1060L

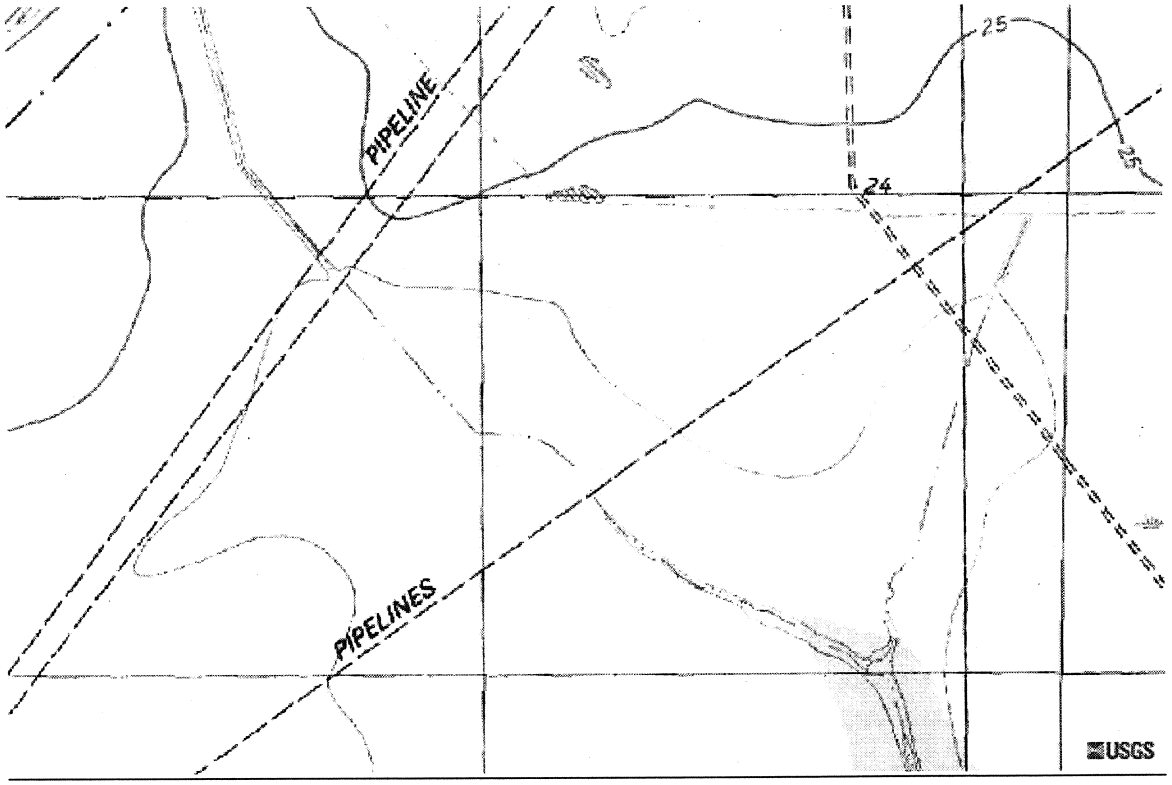
MAP REVISED: JUNE 18, 2007

Federal Emergency Management Agency


FOR SALE / Build to Suit
± 38.72 Acres / Will Subdivide
± 2,634 frontage feet
JAKOVICH INTEREST, L.L.C.
(718) 226-7100


FOR SALE / Build to Suit
± 38.72 Acres / Will Subdivide
± 2,634 frontage feet
(18) 226-7100

Contending Site 3
Topographic Map



APPENDIX B
Air Emission Calculations

CALCULATION SHEET-COMBUSTABLE EMISSIONS

Assumptions for Cumbustable Emissions					
Type of Construction Equipment	Num. of Units	HP Rated	Hrs/day	Days/yr	Total hp-hrs
Water Truck	1	300	10	240	720000
Diesel Road Compactors	1	100	10	240	240000
Diesel Dump Truck	1	300	10	240	720000
Diesel Excavator	1	300	10	240	720000
Diesel Hole Cleaners/Trenchers	1	175	10	240	420000
Diesel Bore/Drill Rigs	1	300	10	240	720000
Diesel Cement & Mortar Mixers	1	300	10	240	720000
Diesel Cranes	2	175	10	240	840000
Diesel Graders	1	300	10	240	720000
Diesel Tractors/Loaders/Backhoes	2	100	10	240	480000
Diesel Bull Dozers	0	300	10	240	0
Diesel Front End Loaders	1	300	10	240	720000
Diesel Fork Lifts	2	100	10	240	480000
Diesel Generator Set	3	40	10	240	288000

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
Diesel Generator Set	1.210	3.760	5.970	0.730	0.710	0.810	587.300

CALCULATION SHEET-COMBUSTABLE EMISSIONS

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	0.349	1.642	4.356	0.325	0.317	0.587	425.284
Diesel Road Paver	0.098	0.391	1.296	0.090	0.087	0.196	141.814
Diesel Dump Truck	0.349	1.642	4.356	0.325	0.317	0.587	425.284
Diesel Excavator	0.270	1.031	3.650	0.254	0.246	0.587	425.522
Diesel Hole Cleaners\Trenchers	0.236	1.129	2.689	0.213	0.204	0.343	247.990
Diesel Bore/Drill Rigs	0.476	1.817	5.673	0.397	0.389	0.579	420.285
Diesel Cement & Mortar Mixers	0.484	1.841	5.776	0.381	0.373	0.579	420.285
Diesel Cranes	0.407	1.203	5.295	0.315	0.305	0.676	490.796
Diesel Graders	0.278	1.079	3.753	0.262	0.254	0.587	425.522
Diesel Tractors/Loaders/Backhoes	0.979	4.343	3.819	0.725	0.704	0.503	365.564
Diesel Bull Dozers	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Front End Loaders	0.302	1.230	3.967	0.278	0.270	0.587	425.443
Diesel Aerial Lifts	1.047	4.105	4.528	0.735	0.714	0.503	365.406
Diesel Generator Set	0.384	1.193	1.895	0.232	0.225	0.257	186.395
Total Emissions	**5.658**	**22.648**	**51.053**	**4.531**	**4.405**	**6.570**	**4765.588**

Conversion factors	
Grams to tons	1.102E-06

CALCULATION SHEET-TRANSPORTATION COMBUSTABLE EMISSIONS

Construction Worker Personal Vehicle Commuting to Construction Sight-Passenger and Light Duty Trucks									
	Emission Factors		Assumptions				Results by Pollutant		
Pollutants	Passenger Cars g/mile	Pick-up Trucks, SUVs g/mile	Mile/day	Day/yr	Number of cars	Number of trucks	Total Emisssions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	1.36	1.61	120	240	30	30	1.29	1.53	2.83
CO	12.4	15.7	120	240	30	30	11.81	14.95	26.75
NOx	0.95	1.22	120	240	30	30	0.90	1.16	2.07
PM-10	0.0052	0.0065	120	240	30	30	0.00	0.01	0.01
PM 2.5	0.0049	0.006	120	240	30	30	0.00	0.01	0.01
							-		

Heavy Duty Trucks Delivery Supply Trucks to Construction Sight									
	Emission Factors		Assumptions				Results by Pollutant		
Pollutants	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 Emisssions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	0.29	0.55	60	240	2	2	0.01	0.02	0.03
CO	1.32	3.21	60	240	2	2	0.04	0.10	0.14
NOx	4.97	12.6	60	240	2	2	0.16	0.40	0.56
PM-10	0.12	0.33	60	240	2	2	0.00	0.01	0.01
PM 2.5	0.13	0.36	60	240	2	2	0.00	0.01	0.02

USAFR Commute to New Site									
	Emission Factors		Assumptions				Results by Pollutant		
Pollutants	Passenger Cars g/mile	Pick-up Trucks, SUVs g/mile	Mile/day	Day/yr	Number of cars	Number of trucks	Total Emisssions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	1.36	1.61	60	365	0	0	-	0.00	-
CO	12.4	15.7	60	365	0	0	-	0.00	-
NOx	0.95	1.22	60	365	0	0	-	0.00	-
PM-10	0.0052	0.0065	60	365	0	0	-	0.00	-
PM 2.5	0.0049	0.006	60	365	0	0	-	0.00	-

POV 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.
Fleet Charactorization: Privately Owned Vehicles (POVs) commuting to work, where 50% are pick up trucks and 50% passenger cars.

CALCULATION SHEET-FUGITIVE DUST

Fugitive Dust Emissions at New Construction Site.					
Construction Site	**Emission Factor tons/acre/month (1)**	**Total Area-Construction Site/month**	**Months/yr**	**Total PM-10 Emissions tns/yr**	**Total PM-2.5 (2)**
Fugitive Dust Emissions	0.11	22.00	12	29.04	5.81

1. Mid-Atlantic Regional Air Management Association (MARAMA). Fugitive Dust-Construction Calculation Sheet can be found online at: http://www.marama.org/visibility/Calculation_Sheets/. MRI= Midwest Research Institute, Inventory of Agricultural Tiling, Unpaved Roads, Airstrips and construction Sites., prepared for the U.S. EPA, PB 238-929, Contract 68-02-1437 (November 1996)

2. 20% of the total PM-10 emissions are PM-2.5 (EPA 2006).

CALCULATION SHEET-SUMMARY OF EMISSIONS

Proposed Action Construction Emissions for Criteria Pollutants (tons per year)						
Emission source	VOC	CO	NOx	PM-10	PM-2.5	SO_2
Combustable Emissions	5.66	22.65	51.05	4.53	4.41	6.57
Construction Site-fugitive PM-10	NA	NA	NA	29.04	5.81	NA
Construction Workers Commuter & Trucking	2.85	26.90	2.62	0.03	0.03	NA
Army Reserve Staff Commute	0.00	0.00	0.00	0.00	0.00	NA
Total emissions	8.51	49.55	53.68	33.60	10.24	6.57
De minimis threshold	100.00	NA	100.00	NA	NA	NA

APPENDIX C
Correspondence

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

April 21, 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:

Enclosed for your review, please find one (1) copy of the Environmental Assessment (EA) and draft Finding of No Significant Impact (FNSI) for the proposed construction and operation of the Armed Forces Reserve Center (AFRC) at Ellington Field in Houston, Texas. The establishment of the AFRC at Ellington Field is in response to the Defense Base Closure and Realignment (BRAC) Commission's recommendations, in accordance with the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended. The proposed action is to close the U.S. Army Reserve Center (USARC) in Pasadena, Texas and re-locate the units to a new AFRC.

A new facility will be required to provide classroom training and administrative support for the five Reserve units assigned to the new AFRC. The design standards indicate that approximately 151,913 square feet (SF) of offices and classrooms are required to accommodate the 800 member AFRC operations. The new AFRC would also include a 33,700-SF vehicle maintenance shop and a 3,700-SF storage unit. Parking facilities will also be incorporated into the design. The total amount of disturbed area is expected to be approximately 12 acres. No additional weapons systems or demands on training ranges are required for the proposed action.

NO HISTORIC
PROPERTIES AFFECTED
PROJECT MAY PROCEED
By William A. Martin
for F. Lawerence Oaks
State Historic Preservation Officer
Date 5/6/08
Track# 200807504

The EA and draft FNSI are being made available for public review for a period of 30 days, beginning on the day the Notice of Availability is published in the local newspapers. The anticipated date of publication is April 27, 2008. The EA and draft FNSI are also available for review and download from the following URL address:
http://www.hqda.army.mil/acsim/brac/env_ea_review.htm

If you have any questions, please do not hesitate to call me at (501) 771-7992.

Sincerely,

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

Enclosure

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

REPLY TO
ATTENTION OF

February 29, 2008

Environmental Office

Mr. Billy E. Horse
Chairman, Kiowa Tribe of Oklahoma
Business Committee
P.O. Box 369
Carnegie, OK 73015

Dear Chairman Horse:

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 actions is to close the Pasadena U.S. Army Reserve Center (USARC) in Houston and construct a new Armed Forces Reserve Center (AFRC) at Ellington Field, Houston, Texas.

A new facility will be required to provide classroom training and administrative support for the five Reserve units assigned to the new AFRC. The design standards indicate that approximately 151,913 square feet (SF) of offices and classrooms are required to accommodate the 800 member AFRC operations. The new AFRC would also include a 33,700-SF vehicle maintenance shop and a 3,700-SF storage unit. Parking facilities will also be incorporated into the design. The total amount of disturbed area is expected to be approximately 12 acres. No additional weapons systems or demands on training ranges are required for the proposed action.

Only one location, the proposed site at Ellington Field, was identified as suitable for the construction of the AFRC. Ellington Field was formerly a U.S. Air Force Base, but is now owned and managed by the Houston Airport Authority. Due to the limited size of the available property and past and current development at Ellington Field, only one site at Ellington Field is being considered (see Enclosure). 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 property as 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 immediately notify our representative listed below.

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.

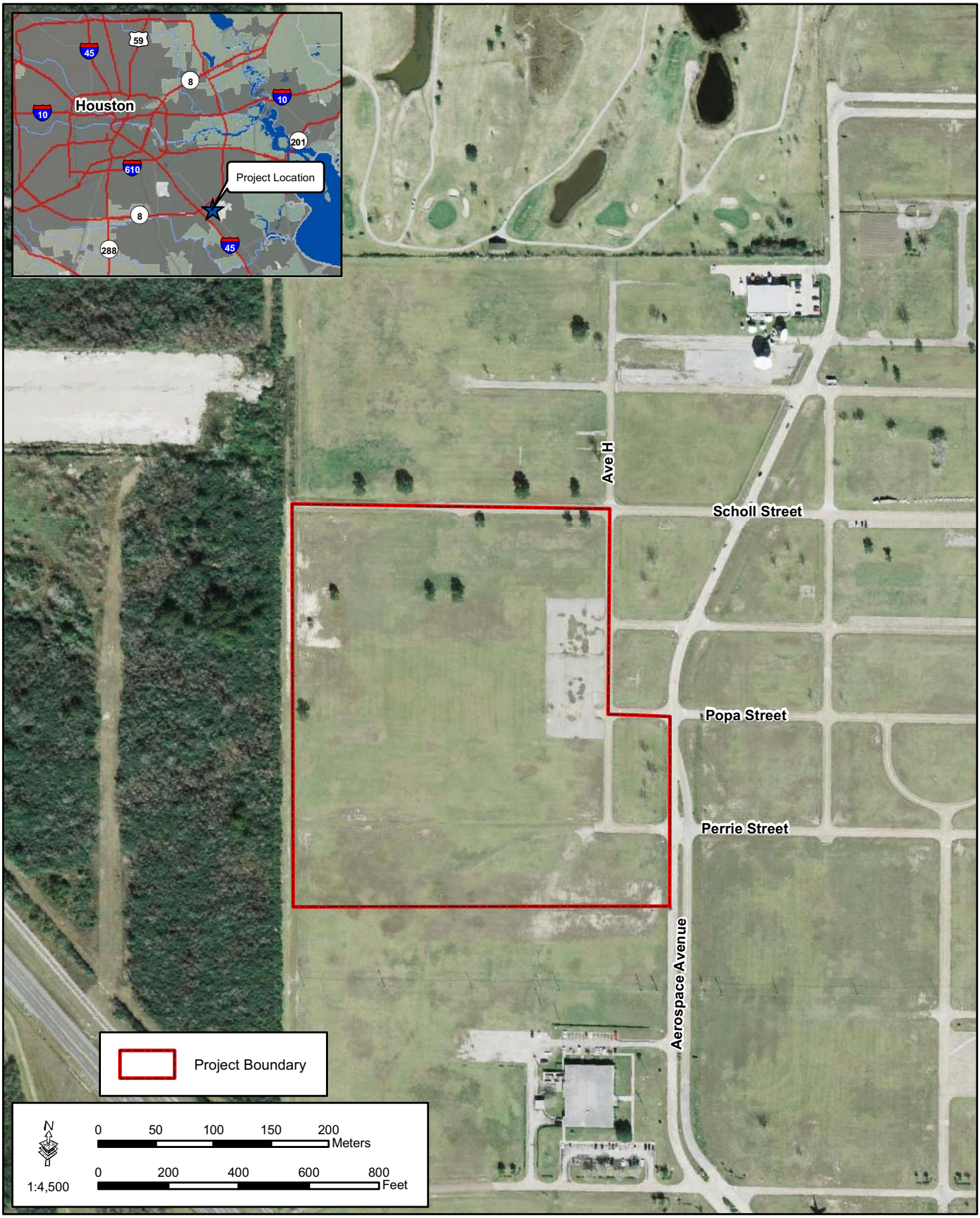
To facilitate future discussions, please forward the name and preferred method for contacting your tribal representative, traditional religious leader, or other tribal point of contact. We are also contacting officials of other tribes who are culturally affiliated with lands in Harris County to invite them to consult with us on cultural resource issues regarding this project.

This notification is required by The National Historic Preservation Act of 1966 (NHPA), as amended, and Presidential Executive Order 13175 Consultation and Coordination with Indian 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, phone: (501) 771-7992, at your earliest convenience.

Sincerely,

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

Enclosure



Enclosure A Project Site Map

GSRC

December 2007

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

REPLY TO
ATTENTION OF

February 29, 2008

Environmental Office

Mr. Wallace Coffey
Chairman, Comanche Nation
HC32 - Box 1720
Lawton, OK 73502

Dear Chairman Coffey:

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 actions is to close the Pasadena U.S. Army Reserve Center (USARC) in Houston and construct a new Armed Forces Reserve Center (AFRC) at Ellington Field, Houston, Texas.

A new facility will be required to provide classroom training and administrative support for the five Reserve units assigned to the new AFRC. The design standards indicate that approximately 151,913 square feet (SF) of offices and classrooms are required to accommodate the 800 member AFRC operations. The new AFRC would also include a 33,700-SF vehicle maintenance shop and a 3,700-SF storage unit. Parking facilities will also be incorporated into the design. The total amount of disturbed area is expected to be approximately 12 acres. No additional weapons systems or demands on training ranges are required for the proposed action.

Only one location, the proposed site at Ellington Field, was identified as suitable for the construction of the AFRC. Ellington Field was formerly a U.S. Air Force Base, but is now owned and managed by the Houston Airport Authority. Due to the limited size of the available property and past and current development at Ellington Field, only one site at Ellington Field is being considered (see Enclosure). 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 property as 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 immediately notify our representative listed below.

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.

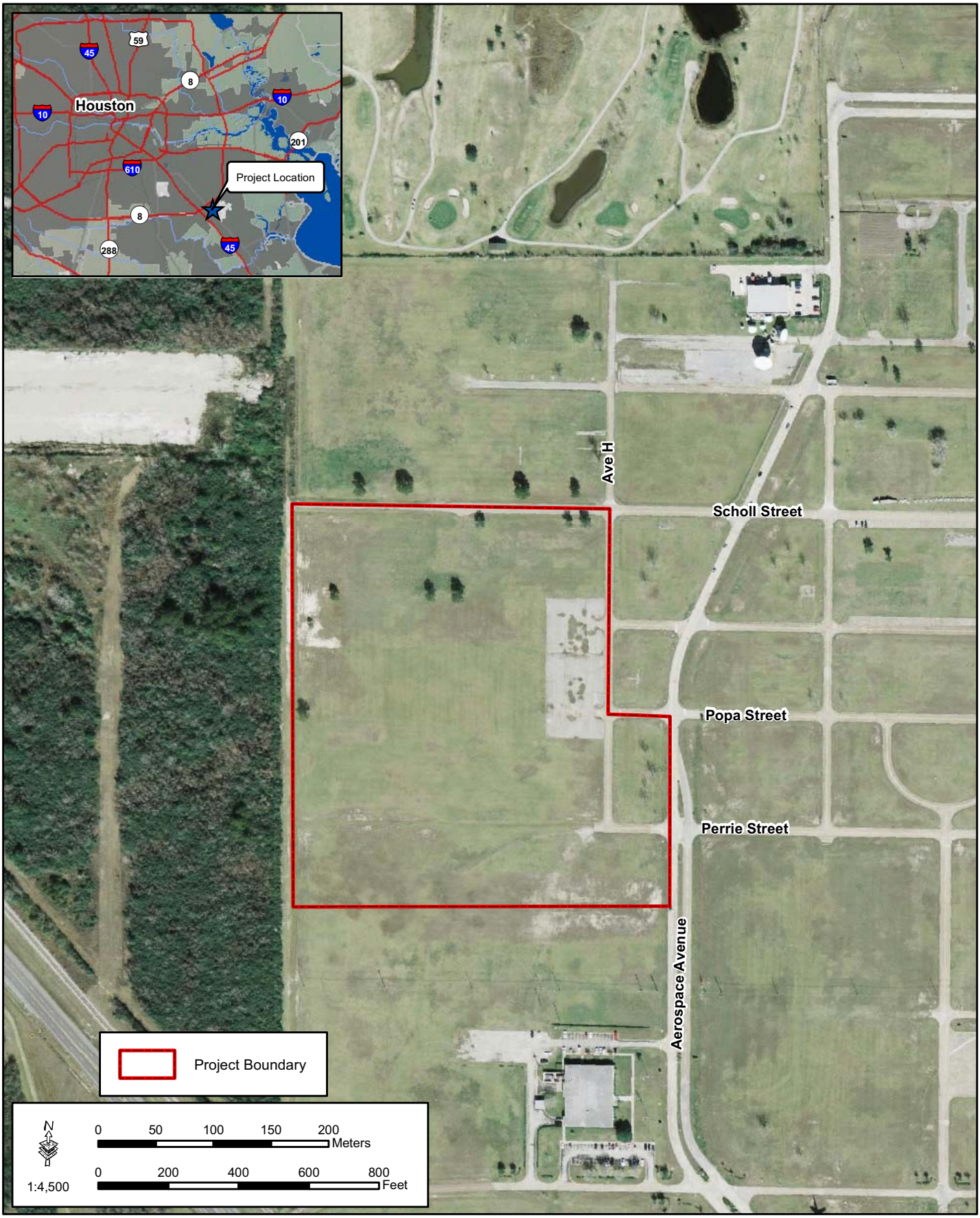
To facilitate future discussions, please forward the name and preferred method for contacting your tribal representative, traditional religious leader, or other tribal point of contact. We are also contacting officials of other tribes who are culturally affiliated with lands in Harris County to invite them to consult with us on cultural resource issues regarding this project.

This notification is required by The National Historic Preservation Act of 1966 (NHPA), as amended, and Presidential Executive Order 13175 Consultation and Coordination with Indian 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, phone: (501) 771-7992, at your earliest convenience.

Sincerely,

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

Enclosure



Enclosure A Project Site Map

GSRC

December 2007

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

REPLY TO
ATTENTION OF

February 29, 2008

Environmental Office

Mr. Ronnie Thomas
Chairman, Alabama-Coushatta Tribe of Texas
Route 3, Box 640
571 State Park Road 56
Livingston, TX 77351

Dear Chairman Thomas:

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 actions is to close the Pasadena U.S. Army Reserve Center (USARC) in Houston and construct a new Armed Forces Reserve Center (AFRC) at Ellington Field, Houston, Texas.

A new facility will be required to provide classroom training and administrative support for the five Reserve units assigned to the new AFRC. The design standards indicate that approximately 151,913 square feet (SF) of offices and classrooms are required to accommodate the 800 member AFRC operations. The new AFRC would also include a 33,700-SF vehicle maintenance shop and a 3,700-SF storage unit. Parking facilities will also be incorporated into the design. The total amount of disturbed area is expected to be approximately 12 acres. No additional weapons systems or demands on training ranges are required for the proposed action.

Only one location, the proposed site at Ellington Field, was identified as suitable for the construction of the AFRC. Ellington Field was formerly a U.S. Air Force Base, but is now owned and managed by the Houston Airport Authority. Due to the limited size of the available property and past and current development at Ellington Field, only one site at Ellington Field is being considered (see Enclosure). 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 property as 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 immediately notify our representative listed below.

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.

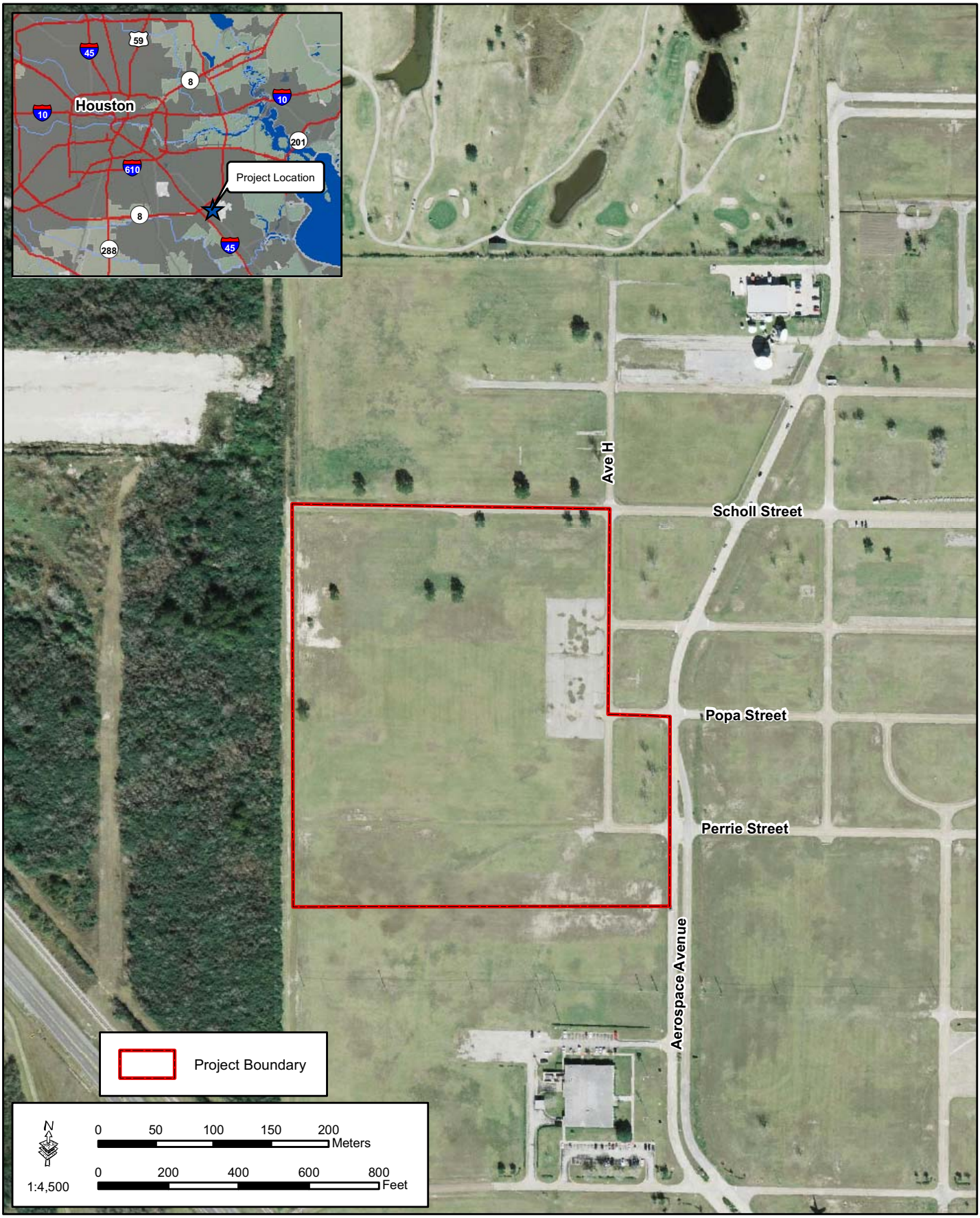
To facilitate future discussions, please forward the name and preferred method for contacting your tribal representative, traditional religious leader, or other tribal point of contact. We are also contacting officials of other tribes who are culturally affiliated with lands in Harris County to invite them to consult with us on cultural resource issues regarding this project.

This notification is required by The National Historic Preservation Act of 1966 (NHPA), as amended, and Presidential Executive Order 13175 Consultation and Coordination with Indian 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, phone: (501) 771-7992, at your earliest convenience.

Sincerely,

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

Enclosure



Enclosure A Project Site Map

GSRC

December 2007

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

February 28, 2008

Reply to Attention of Environmental Division

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 actions is to close the Pasadena U.S. Army Reserve Center (USARC) in Houston and construct a new Armed Forces Reserve Center (AFRC) at Ellington Field, Houston, Texas.

The Army is required by section 106 of the National Historic Preservation Act to consider the effects of the proposed action on historic properties. A new facility will be required to provide classroom training and administrative support for the five Reserve units assigned to the new AFRC. The design standards indicate that approximately 151,913 square feet (SF) of offices and classrooms are required to accommodate the 800 member AFRC operations. The new AFRC would also include a 33,700-SF vehicle maintenance shop and a 3,700-SF storage unit. Parking facilities will also be incorporated into the design. The area of potential effect includes all the proposed construction activity and adjacent property for a total of approximately 12 acres. No additional weapons systems or demands on training ranges are required for the proposed action.

Only one location, the proposed site at Ellington Field, was identified as suitable for the construction of the AFRC. Ellington Field was formerly an U.S. Air Force Base, but is now owned and managed by the Houston Airport Authority. Due to the limited size of the available property and past and current development at Ellington Field, only one site at Ellington Field is being considered (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 this location. Photographs of the proposed site are included as Enclosure B.

Ellington Field was constructed in 1917, primarily for aircraft training. After World War I, activities at the field declined and the field was closed in 1927. Many of the buildings were destroyed by a fire and by 1930, the only remains of the aviation training facilities were a

concrete water tower and some concrete slabs. A new base was approved by Congress in 1940 and was in full operation by the spring of 1941. However, the field was again inactive from 1946 to 1947. Subsequently, it became Ellington Air Force Base, which was active until 1976. The City of Houston Department of Aviation assumed ownership over Ellington Field in 1984.

The Texas Historical Sites Atlas was searched by remote terminal to identify any known archaeological sites, historic structures, historic districts, or historic markers within 1-mile of the project area. No known archaeological sites or other historic structures or objects were previously recorded within 1-mile of the proposed parcel. Three surveys were previously conducted within 1-mile of the propose parcel. No archaeological sites were recorded as a result of any of those surveys. The closest survey conducted entitled *An Assessment and Recommendation for Archaeological Potential for the Proposed Joint Training Center Project at Ellington Air Force Base in Harris County, Texas* was conducted immediately adjacent to the current project area to the northeast. In the study they found that there was a low probability of intact subsurface finds, a high degree of disturbance to the parcel, and a lack of any intact historic resources on the parcel. They recommended that no further archaeological work would be required as part of the development of the Ellington Field AFRC (Foradas 2005).

Given the fact that the entire project area is considered to be heavily disturbed, the USACE, Mobile District BRAC NEPA support team requested a site visit of the proposed Ellington Field project site to determine the potential for intact cultural deposits and if a cultural resources survey would be needed for the proposed property. A field site visit was conducted by archaeologists from Gulf South Research Corporation and was completed in February 2008. The results of the field site visit are provided in the enclosed letter report.

Based on the results of previously conducted archaeological surveys immediately adjacent to the area, historic land use of the proposed project area, and the enclosed field site visit report, the Army, as the lead Federal agency, has determined that there are "no historic properties affected" by the proposed closing of the Pasadena USARC in Houston and construction of a new AFRC at Ellington Field, Houston, Texas.

We request your concurrence on our determination that there are "no historic properties affected" by the proposed construction of a new AFRC at Ellington Field, Houston, Texas, in accordance with 36 CFR 800.4(d)(1). If you have any questions or concerns about this project, please contact Joseph Giliberti, BRAC NEPA support team archaeologist at (251)694-4114.

Sincerely,

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

Enclosures

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

February 28, 2008

Reply to Attention of Environmental Division

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 actions is to close the Pasadena U.S. Army Reserve Center (USARC) in Houston and construct a new Armed Forces Reserve Center (AFRC) at Ellington Field, Houston, Texas.

The Army is required by section 106 of the National Historic Preservation Act to consider the effects of the proposed action on historic properties. A new facility will be required to provide classroom training and administrative support for the five Reserve units assigned to the new AFRC. The design standards indicate that approximately 151,913 square feet (SF) of offices and classrooms are required to accommodate the 800 member AFRC operations. The new AFRC would also include a 33,700-SF vehicle maintenance shop and a 3,700-SF storage unit. Parking facilities will also be incorporated into the design. The area of potential effect includes all the proposed construction activity and adjacent property for a total of approximately 12 acres. No additional weapons systems or demands on training ranges are required for the proposed action.

Only one location, the proposed site at Ellington Field, was identified as suitable for the construction of the AFRC. Ellington Field was formerly an U.S. Air Force Base, but is now owned and managed by the Houston Airport Authority. Due to the limited size of the available property and past and current development at Ellington Field, only one site at Ellington Field is being considered (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 this location. Photographs of the proposed site are included as Enclosure B.

Ellington Field was constructed in 1917, primarily for aircraft training. After World War I, activities at the field declined and the field was closed in 1927. Many of the buildings were destroyed by a fire and by 1930, the only remains of the aviation training facilities were a concrete water tower and some concrete slabs. A new base was approved by Congress in 1940

and was in full operation by the spring of 1941. However, the field was again inactive from 1946 to 1947. Subsequently, it became Ellington Air Force Base, which was active until 1976. The City of Houston Department of Aviation assumed ownership over Ellington Field in 1984.

The Texas Historical Sites Atlas was searched by remote terminal to identify any known archaeological sites, historic structures, historic districts, or historic markers within 1-mile of the project area. No known archaeological sites or other historic structures or objects were previously recorded within 1-mile of the proposed parcel. Three surveys were previously conducted within 1-mile of the propose parcel. No archaeological sites were recorded as a result of any of those surveys. The closest survey conducted entitled *An Assessment and Recommendation for Archaeological Potential for the Proposed Joint Training Center Project at Ellington Air Force Base in Harris County, Texas* was conducted immediately adjacent to the current project area to the northeast. In the study they found that there was a low probability of intact subsurface finds, a high degree of disturbance to the parcel, and a lack of any intact historic resources on the parcel. They recommended that no further archaeological work would be required as part of the development of the Ellington Field AFRC (Foradas 2005).

Given the fact that the entire project area is considered to be heavily disturbed, the USACE, Mobile District BRAC NEPA support team requested a site visit of the proposed Ellington Field project site to determine the potential for intact cultural deposits and if a cultural resources survey would be needed for the proposed property. A field site visit was conducted by archaeologists from Gulf South Research Corporation and was completed in February 2008. The results of the field site visit are provided in the enclosed letter report.

Based on the results of previously conducted archaeological surveys immediately adjacent to the area, historic land use of the proposed project area, and the enclosed field site visit report, the Army, as the lead Federal agency, has determined that there are "no historic properties affected" by the proposed closing of the Pasadena USARC in Houston and construction of a new AFRC at Ellington Field, Houston, Texas.

We request your concurrence on our determination that there are "no historic properties affected" by the proposed construction of a new AFRC at Ellington Field, Houston, Texas, in accordance with 36 CFR 800.4(d)(1). If you have any questions or concerns about this project, please contact Joseph Giliberti, BRAC NEPA support team archaeologist at (251)694-4114.

CONCUR
by William A. Martin
for F. Lawerence Oaks
State Historic Preservation Officer
Date 3/6/08
Track#

Sincerely,

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

Enclosures

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

February 15, 2008

Reply to Attention of Environmental Division

Mr. John Blevins, Director
Compliance Assurance and Compliance Division
Environmental Protection Agency, Region 6
1445 Ross Avenue
Suite 1200
Dallas, Texas 75202

Dear Mr. Blevins:

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 actions is to close the Pasadena U.S. Army Reserve Center (USARC) in Houston and construct a new Armed Forces Reserve Center (AFRC) at Ellington Field, Houston, Texas.

A new facility will be required to provide classroom training and administrative support for the five Reserve units assigned to the new AFRC. The design standards indicate that approximately 151,913 square feet (SF) of offices and classrooms are required to accommodate the 800 member AFRC operations. The new AFRC would also include a 33,700-SF vehicle maintenance shop and a 3,700-SF storage unit. Parking facilities will also be incorporated into the design. The total amount of disturbed area is expected to be approximately 12 acres. No additional weapons systems or demands on training ranges are required for the proposed action.

Only one location, the proposed site at Ellington Field, was identified as suitable for the construction of the AFRC. Ellington Field was formerly an U.S. Air Force Base, but is now owned and managed by the Houston Airport Authority. Due to the limited size of the available property and past and current development at Ellington Field, only one site at Ellington Field is being considered (see Enclosure). 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.

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 late April 2008. If you have any questions, please do not hesitate to call me at (501)771-7992.

Sincerely,

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

Enclosure

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

February 15, 2008

Reply to Attention of Environmental Division

Ms. Donna Phillips, Regional Director
Texas Commission on Environmental Quality
5425 Polk Street, Suite H
Houston, Texas 77023-1452

Dear Ms. Phillips:

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 actions is to close the Pasadena U.S. Army Reserve Center (USARC) in Houston and construct a new Armed Forces Reserve Center (AFRC) at Ellington Field, Houston, Texas.

A new facility will be required to provide classroom training and administrative support for the five Reserve units assigned to the new AFRC. The design standards indicate that approximately 151,913 square feet (SF) of offices and classrooms are required to accommodate the 800 member AFRC operations. The new AFRC would also include a 33,700-SF vehicle maintenance shop and a 3,700-SF storage unit. Parking facilities will also be incorporated into the design. The total amount of disturbed area is expected to be approximately 12 acres. No additional weapons systems or demands on training ranges are required for the proposed action.

Only one location, the proposed site at Ellington Field, was identified as suitable for the construction of the AFRC. Ellington Field was formerly an U.S. Air Force Base, but is now owned and managed by the Houston Airport Authority. Due to the limited size of the available property and past and current development at Ellington Field, only one site at Ellington Field is being considered (see Enclosure). 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.

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 late April 2008. If you have any questions, please do not hesitate to call me at (501)771-7992.

Sincerely,

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

Enclosure

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

February 15, 2008

Reply to Attention of Environmental Division

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 actions is to close the Pasadena U.S. Army Reserve Center (USARC) in Houston and construct a new Armed Forces Reserve Center (AFRC) at Ellington Field, Houston, Texas.

A new facility will be required to provide classroom training and administrative support for the five Reserve units assigned to the new AFRC. The design standards indicate that approximately 151,913 square feet (SF) of offices and classrooms are required to accommodate the 800 member AFRC operations. The new AFRC would also include a 33,700-SF vehicle maintenance shop and a 3,700-SF storage unit. Parking facilities will also be incorporated into the design. The total amount of disturbed area is expected to be approximately 12 acres. No additional weapons systems or demands on training ranges are required for the proposed action.

Only one location, the proposed site at Ellington Field, was identified as suitable for the construction of the AFRC. Ellington Field was formerly an U.S. Air Force Base, but is now owned and managed by the Houston Airport Authority. Due to the limited size of the available property and past and current development at Ellington Field, only one site at Ellington Field is being considered (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 this location.

Surveys have been performed at the proposed construction sites; all sites have been disturbed by previous military construction and current airport operations. Vegetation at the sites consist of Bermudagrass (*Cynodon dactlyon*), crabgrass (*Digitaria* sp.), St. Augustine grass (*Stenotaphrum secundatum*), thistle (*Cirsium* spp.), wood sorrel (*Oxalis* spp.), and clover (*Trifolium* spp.). Landscaping along roadways included various tree species including laurel oak (*Quercus laurifolia*), slash pine (*Pinus elliottii*), sweet pecan (*Carya illinoinensis*), and crapemyrtle (*Lagerstroemia indica*). Photographs of the sites are included as Enclosure B.

The only wildlife or wildlife sign observed during the site visits were white-tailed deer tracks (*Odocoileus virginianus*), rabbit scat (*Sylvilagus* sp.), a gull (*Larus* sp.), and a northern mockingbird (*Mimus polyglottos*). No Federal or state-protected species were observed and the surveys indicated that the sites do not provide suitable habitat for these species.

The only Federally listed species that is listed for Harris County is the Texas prairie dawn-flower (*Hymenoxys texana*). Due to the past and on-going disturbances, including routine mowing, this species would not be expected to occur at the proposed project site. Although the state-protected Texas horned lizard (*Phrynosoma cornutum*) could possibly occur on Ellington Field, the density of grasses and other herbaceous plants would preclude these sites of being considered quality habitat.

Based on these surveys and the current conditions of the project site, we have determined that the proposed action would have no effect on any Federal or state-listed species. Because of the limited size and low quality of the habitat, insignificant impacts to other wildlife populations would occur as a result of the construction of the AFRC.

We respectfully ask that you provide written concurrence with our determination. We would appreciate your prompt attention and response. If you have any questions, please do not hesitate to call me at (501)771-7992.

Sincerely,

James Wheeler II

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

Enclosures

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

ARMY RESERVE
100 YEARS STRONG
READY FOR THE NEXT 100 YEARS!

February 15, 2008

Reply to Attention of Environmental Division

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 actions is to close the Pasadena U.S. Army Reserve Center (USARC) in Houston and construct a new Armed Forces Reserve Center (AFRC) at Ellington Field, Houston, Texas.

A new facility will be required to provide classroom training and administrative support for the five Reserve units assigned to the new AFRC. The design standards indicate that approximately 151,913 square feet (SF) of offices and classrooms are required to accommodate the 800 member AFRC operations. The new AFRC would also include a 33,700-SF vehicle maintenance shop and a 3,700-SF storage unit. Parking facilities will also be incorporated into the design. The total amount of disturbed area is expected to be approximately 12 acres. No additional weapons systems or demands on training ranges are required for the proposed action.

Only one location, the proposed site at Ellington Field, was identified as suitable for the construction of the AFRC. Ellington Field was formerly an U.S. Air Force Base, but is now owned and managed by the Houston Airport Authority. Due to the limited size of the available property and past and current development at Ellington Field, only one site at Ellington Field is being considered (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 this location.

Surveys have been performed at the proposed construction sites; all sites have been disturbed by previous military construction and current airport operations. Vegetation at the sites consist of Bermudagrass (*Cynodon dactlyon*), crabgrass (*Digitaria* sp.), St. Augustine grass (*Stenotaphrum secundatum*), thistle (*Cirsium* spp.), wood sorrel (*Oxalis* spp.), and clover (*Trifolium* spp.). Landscaping along roadways included various tree species including laurel oak (*Quercus laurifolia*), slash pine (*Pinus elliottii*), sweet pecan (*Carya illinoinensis*), and crapemyrtle (*Lagerstroemia indica*). Photographs of the sites are included as Enclosure B.

The only wildlife or wildlife sign observed during the site visits were white-tailed deer tracks (*Odocoileus virginianus*), rabbit scat (*Sylvilagus* sp.), a gull (*Larus* sp.), and a northern mockingbird (*Mimus polyglottos*). No Federal or state-protected species were observed and the surveys indicated that the sites do not provide suitable habitat for these species.

The only Federally listed species that is listed for Harris County is the Texas prairie dawn-flower (*Hymenoxys texana*). Due to the past and on-going disturbances, including routine mowing, this species would not be expected to occur at the proposed project site. Although the state-protected Texas horned lizard (*Phrynosoma cornutum*) could possibly occur on Ellington Field, the density of grasses and other herbaceous plants would preclude these sites of being considered quality habitat.

Based on these surveys and the current conditions of the project site, we have determined that the proposed action would have no effect on any Federal or state-listed species. Because of the limited size and low quality of the habitat, insignificant impacts to other wildlife populations would occur as a result of the construction of the AFRC.

We respectfully ask that you provide written concurrence with our determination. We would appreciate your prompt attention and response. If you have any questions, please do not hesitate to call me at (501)771-7992.

Sincerely,

James Wheeler II

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

Enclosures

TEXAS PARKS & WILDLIFE

Review of the project activity as proposed indicates minimal impacts to fish and wildlife resources.
Reviewed:
Date: 31 Jul 08

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

February 15, 2008

Reply to Attention of Environmental Division

Mr. Steve Parris, Field Supervisor
U.S. Fish and Wildlife Service
Clear Lake Ecological Services Field Office
17629 El Camino Real #211
Houston TX 77058-3051

Dear Mr. Parris:

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 actions is to close the Pasadena U.S. Army Reserve Center (USARC) in Houston and construct a new Armed Forces Reserve Center (AFRC) at Ellington Field, Houston, Texas.

A new facility will be required to provide classroom training and administrative support for the five Reserve units assigned to the new AFRC. The design standards indicate that approximately 151,913 square feet (SF) of offices and classrooms are required to accommodate the 800 member AFRC operations. The new AFRC would also include a 33,700-SF vehicle maintenance shop and a 3,700-SF storage unit. Parking facilities will also be incorporated into the design. The total amount of disturbed area is expected to be approximately 12 acres. No additional weapons systems or demands on training ranges are required for the proposed action.

Only one location, the proposed site at Ellington Field, was identified as suitable for the construction of the AFRC. Ellington Field was formerly an U.S. Air Force Base, but is now owned and managed by the Houston Airport Authority. Due to the limited size of the available property and past and current development at Ellington Field, only one site at Ellington Field is being considered (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 this location.

Surveys have been performed at the proposed construction sites; all sites have been disturbed by previous military construction and current airport operations. Vegetation at the sites consist of Bermudagrass (*Cynodon dactlyon*), crabgrass (*Digitaria* sp.), St. Augustine grass (*Stenotaphrum secundatum*), thistle (*Cirsium* spp.), wood sorrel (*Oxalis* spp.), and clover (*Trifolium* spp.). Landscaping along roadways included various tree species including laurel oak (*Quercus laurifolia*), slash pine (*Pinus elliottii*), sweet pecan (*Carya illinoinensis*), and crapemyrtle (*Lagerstroemia indica*). Photographs of the sites are included as Enclosure B.

The only wildlife or wildlife sign observed during the site visits were white-tailed deer tracks (*Odocoileus virginianus*), rabbit scat (*Sylvilagus* sp.), a gull (*Larus* sp.), and a northern mockingbird (*Mimus polyglottos*). No Federal or state-protected species were observed and the surveys indicated that the sites do not provide suitable habitat for these species.

The only Federally listed species that is listed for Harris County is the Texas prairie dawn-flower (*Hymenoxys texana*). Due to the past and on-going disturbances, including routine mowing, this species would not be expected to occur at the proposed project site. Although the state-protected Texas horned lizard (*Phrynosoma cornutum*) could possibly occur on Ellington Field, the density of grasses and other herbaceous plants would preclude these sites of being considered quality habitat.

Based on these surveys and the current conditions of the project site, we have determined that the proposed action would have no effect on any Federal or state-listed species. Because of the limited size and low quality of the habitat, insignificant impacts to other wildlife populations would occur as a result of the construction of the AFRC.

We respectfully ask that you provide written concurrence with our determination. We would appreciate your prompt attention and response. If you have any questions, please do not hesitate to call me at (501)771-7992.

Sincerely,

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

Enclosures

Received phone message today, 1 Apr 08, at 0908, from Edith Erfling with USFWS Houston Field Office.
She stated that since we had made a no effect determination, there was no need to seek a response from USFWS,
just document in the files.

James Wheeler II

AFFIDAVIT OF PUBLICATION

STATE OF TEXAS:

COUNTY OF HARRIS:

Before me, the undersigned authority, a Notary Public in and for the State of Texas, on the day personally appeared: VICKI EUBANKS, who after being duly sworn, says that she is the ACCOUNTS RECEIVABLE LEAD at the HOUSTON CHRONICLE, a daily newspaper published in Harris County, Texas, and that the publication, of which the annexed herein, or attached to, is a true and correct copy, was published to-wit:

GULF SOUTH RESEACH CORPORATI 22821637 15870120
RAN A LEGAL NOTICE
SIZE BEING: 1 X 62 L

product	date	class	page
hc	Apr 27 2008	1245.0	W_sund_013

Vicki Eubanks

VICKI EUBANKS
ACCOUNTS RECEIVABLE LEAD

Sworn and subscribed to before me, this the 27th Day of April A.D. 2008

NOTARY PUBLIC STATE OF TEXAS
VERONICA M TYRONE
NOTARY PUBLIC. STATE OF TEXAS
MY COMMISSION EXPIRES
FEB. 10, 2012

Veronica M Tyrone

Notary Public in and for the State of Texas

NOTICE OF AVAILABILITY ENVIRONMENTAL ASSESSMENT ESTABLISHMENT OF THE ARMED FORCES RESERVE CENTER AT ELLINGTON FIELD HOUSTON, TEXAS

The public is hereby notified of the availability of the Environmental Assessment (EA) and draft Finding of No Significant Impact (FNSI) for the construction and operation of the Armed Forces Reserve Center (AFRC) at Ellington Field, in east Houston, Texas. The establishment of the AFRC has been recommended by the Defense Base Closure and Realignment (BRAC) Commission, in response to the Defense Base Closure and Realignment Act of 1990. The EA and FNSI will be available for review for 30 days beginning the day of this publication. Copies are available for review at the following public libraries: Clear Lake City-County Freeman Branch Library, 16616 Dianna Lane, Houston, Texas 77062; Braceweli Neighborhood Library, 10115 Kleckley, Houston, Texas 77075; and Central Library HPL Express Downtown, 500 McKinney, Julian Ideson Building, Houston, Texas 77002. The EA will also be available for review and downloading from the BRAC's website at http://www.hqda.army.mil/acsim/brac/env_ea_review.htm. Comments and requests for copies should be sent Mr. James Wheeler II, Chief, Environmental Division, 90th Regional Readiness Command, 8000 Camp Robinson Road, North Little Rock, AR 72118-2205.

APPENDIX D
Economic Impact Forecast System

Analysis of Socioeconomic Effects For East Houston AFRC 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 with in 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 selction 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:

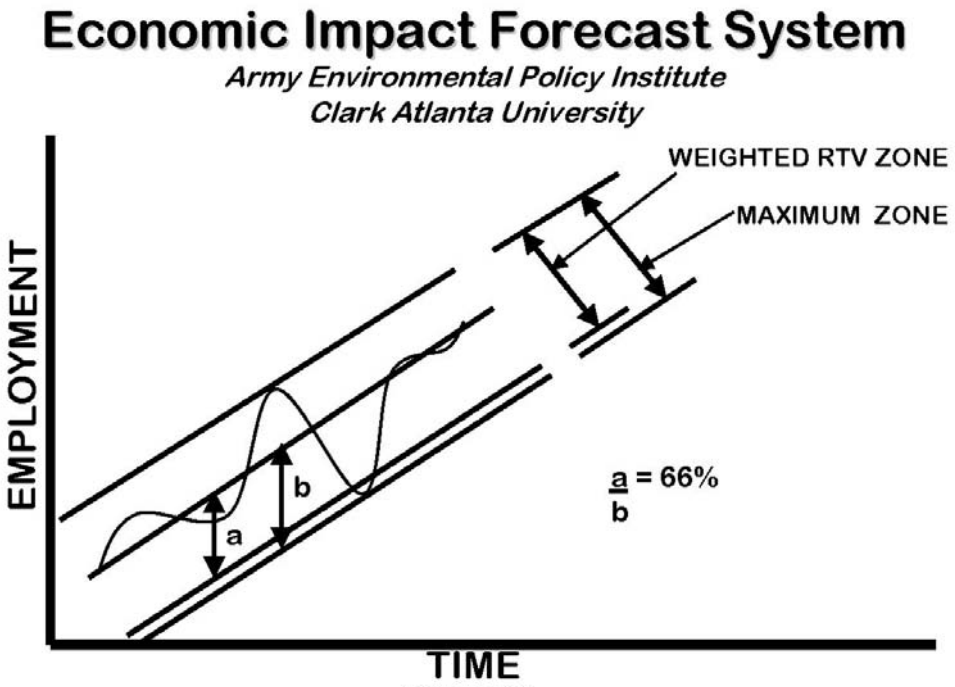


Figure 10
Visual Depiction of the RTV Technique

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:

	Increase	Decrease
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 East Houston AFRC realignment, no change in civilian or military strength in the region will occur, given the close proximity of the two affected sites. The only exogenous economic stimulus will be associated with the construction of some 204,003 square feet of additional facilities at Holston AAP. This will involve some $35 million dollars in construction expenditures, using an estimate of some $170 per square foot (derived from previous construction estimates).

The Houston SMSA consists of Harris county, and forms the ROI for this analysis.

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:

***

EIFS REPORT

PROJECT NAME

EastHoustonAFRC

STUDY AREA

48201 Harris, TX

FORECAST INPUT

Change In Local Expenditures	$35,000,000
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	3.9	
Sales Volume - Direct	$26,025,640	
Sales Volume - Induced	$75,474,360	
Sales Volume - Total	$101,500,000	0.04%
Income - Direct	$3,978,951	
Income - Induced	$11,538,960	
Income - Total	$15,517,910	0.02%
Employment - Direct	87	
Employment - Induced	251	
Employment - Total	338	0.02%
Local Population	0	

Local Off-base Population	0	0%

RTV SUMMARY

	Sales Volume	Income	Employment	Population
Positive RTV	5.76 %	5.24 %	4.99 %	3.59 %
Negative RTV	-6.98 %	-6.2 %	-5.27 %	-1.63 %

To further clarify the basis for the significance determination, the following time series data and RTV calculations are provided:

RTV DETAILED

SALES VOLUME

Year	Value	Adj_Value	Change	Deviation	%Deviation
1969	6144637	26852063	0	0	0
1970	6797950	28075534	1223471	-1252801	-4.46
1971	7477896	29612468	1536934	-939338	-3.17
1972	8321622	31871812	2259343	-216929	-0.68
1973	9511458	34336362	2464551	-11721	-0.03
1974	11388979	37014182	2677819	201547	0.54
1975	13406859	39952440	2938258	461986	1.16
1976	15551593	43855491	3903051	1426779	3.25
1977	17985324	47481257	3625766	1149494	2.42
1978	21454170	52777259	5296002	2819730	5.34
1979	25081183	55429415	2652156	175884	0.32
1980	29518643	57266169	1836754	-639518	-1.12
1981	35279591	62092080	4825911	2349639	3.78
1982	38650132	64159218	2067138	-409134	-0.64
1983	38014742	61203735	-2955483	-5431755	-8.87
1984	40051276	61678964	475228	-2001044	-3.24

1985	41460529	61776189	97225	-2379047	-3.85
1986	40261597	58781933	-2994255	-5470527	-9.31
1987	40836372	63296375	4514441	2038169	3.22
1988	44365733	60337398	-2958977	-5435249	-9.01
1989	48934011	63124872	2787475	311203	0.49
1990	54575240	67127546	4002674	1526402	2.27
1991	58595583	69142785	2015239	-461033	-0.67
1992	63097950	71931662	2788877	312605	0.43
1993	66104813	73376343	1444681	-1031591	-1.41
1994	68893984	74405506	1029162	-1447110	-1.94
1995	73694423	77379141	2973635	497363	0.64
1996	79829678	81426270	4047129	1570857	1.93
1997	89031919	89031919	7605649	5129377	5.76
1998	98762871	96787615	7755696	5279424	5.45
1999	104111554	99947090	3159474	683202	0.68
2000	114078244	106092768	6145678	3669406	3.46

INCOME

Year	Value	Adj_Value	Change	Deviation	%Deviation
1969	6838441	29883986	0	0	0
1970	7605950	31412574	1528588	-1036101	-3.3
1971	8321532	32953267	1540693	-1023996	-3.11
1972	9198205	35229124	2275857	-288832	-0.82
1973	10409335	37577698	2348574	-216115	-0.58
1974	12372073	40209237	2631539	66850	0.17
1975	14451740	43066185	2856948	292259	0.68
1976	16635617	46912439	3846253	1281564	2.73
1977	18989461	50132179	3219740	655051	1.31
1978	22585173	55559526	5427347	2862658	5.15
1979	26404553	58354063	2794537	229848	0.39
1980	31020350	60179481	1825418	-739271	-1.23
1981	36975744	65077309	4897828	2333139	3.59
1982	40722293	67599005	2521696	-42993	-0.06
1983	40817948	65716897	-1882108	-4446797	-6.77
1984	43631781	67192941	1476044	-1088645	-1.62
1985	45560407	67885007	692066	-1872623	-2.76
1986	44957912	65638553	-2246454	-4811143	-7.33
1987	45709846	70850259	5211706	2647017	3.74
1988	49405615	67191637	-3658622	-6223311	-9.26

1989	53996281	69655200	2463563	-101126	-0.15
1990	59984781	73781282	4126081	1561392	2.12
1991	64225614	75786221	2004939	-559750	-0.74
1992	69126631	78804358	3018137	453448	0.58
1993	72573490	80556575	1752217	-812472	-1.01
1994	75753761	81814065	1257490	-1307199	-1.6
1995	81304446	85369664	3555599	990910	1.16
1996	87283499	89029167	3659503	1094814	1.23
1997	96241168	96241168	7212001	4647312	4.83
1998	106397064	104269125	8027957	5463268	5.24
1999	110318255	105905522	1636398	-928291	-0.88
2000	120380697	111954049	6048527	3483838	3.11

EMPLOYMENT

Year	Value	Change	Deviation	% Deviation
1969	834174	0	0	0
1970	861836	27662	-19011	-2.21
1971	889464	27628	-19045	-2.14
1972	935049	45585	-1088	-0.12
1973	1007480	72431	25758	2.56
1974	1073423	65943	19270	1.8
1975	1131662	58239	11566	1.02
1976	1194664	63002	16329	1.37
1977	1273968	79304	32631	2.56
1978	1375362	101394	54721	3.98
1979	1461678	86316	39643	2.71
1980	1541762	80084	33411	2.17
1981	1671945	130183	83510	4.99
1982	1714381	42436	-4237	-0.25
1983	1634489	-79892	-126565	-7.74
1984	1675719	41230	-5443	-0.32
1985	1672266	-3453	-50126	-3
1986	1593559	-78707	-125380	-7.87
1987	1611259	17700	-28973	-1.8
1988	1675611	64352	17679	1.06
1989	1739281	63670	16997	0.98
1990	1817887	78606	31933	1.76
1991	1859423	41536	-5137	-0.28
1992	1850202	-9221	-55894	-3.02

1993	1877507	27305	-19368	-1.03
1994	1924730	47223	550	0.03
1995	1974625	49895	3222	0.16
1996	2029429	54804	8131	0.4
1997	2119779	90350	43677	2.06
1998	2230415	110636	63963	2.87
1999	2269223	38808	-7865	-0.35
2000	2327708	58485	11812	0.51

POPULATION

Year	Value	Change	Deviation	% Deviation
1969	1709436	0	0	0
1970	1750208	40772	-12474	-0.71
1971	1798997	48789	-4457	-0.25
1972	1836292	37295	-15951	-0.87
1973	1880758	44466	-8780	-0.47
1974	1947128	66370	13124	0.67
1975	2028784	81656	28410	1.4
1976	2111896	83112	29866	1.41
1977	2180492	68596	15350	0.7
1978	2259012	78520	25274	1.12
1979	2337502	78490	25244	1.08
1980	2438539	101037	47791	1.96
1981	2546583	108044	54798	2.15
1982	2696632	150049	96803	3.59
1983	2757212	60580	7334	0.27
1984	2757361	149	-53097	-1.93
1985	2747170	-10191	-63437	-2.31
1986	2782260	35090	-18156	-0.65
1987	2745987	-36273	-89519	-3.26
1988	2730720	-15267	-68513	-2.51
1989	2763975	33255	-19991	-0.72
1990	2835927	71952	18706	0.66
1991	2912041	76114	22868	0.79
1992	2982258	70217	16971	0.57
1993	3033757	51499	-1747	-0.06
1994	3080698	46941	-6305	-0.2
1995	3121621	40923	-12323	-0.39
1996	3172959	51338	-1908	-0.06

1997	3229338	56379	3133	0.1
1998	3295050	65712	12466	0.38
1999	3359671	64621	11375	0.34
2000	3413303	53632	386	0.01

***

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:

	projected change	RTV
Business (sales) volume	0.04%	5.767%
Income	0.02%	5.24%
Employment	0.02%	4.99%
Population	0.0%	3.59%

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.