

Final
Environmental Assessment
for the Construction of an Armed Forces
Reserve Center and Implementation of 2005
Base Realignment and Closure Actions at
Lewisville, Texas



Prepared for:

U.S. Army Reserve
90th Regional Readiness Command

Prepared By:
U.S. Army Corps of Engineers
Mobile District

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FINDING OF NO SIGNIFICANT IMPACT (FNSI)
For the Implementation of 2005 Base Realignment and Closure Actions at
Lewisville, Texas

Pursuant to the Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of the National Environmental Policy Act (NEPA) (40 Code of Federal Regulations [CFR] 1500-1517) and the U.S. Department of Army Regulation 32 CFR 651 (Environmental Analysis of Army Actions; Final Rule), the U.S. Army Corps of Engineers, Mobile District, has prepared an Environmental Assessment (EA) of potential environmental effects associated with implementation of BRAC actions at Lewisville, Texas.

PURPOSE AND NEED

On September 8, 2005, the Defense Base Closure and Realignment Commission (“BRAC Commission”) recommended that certain realignment actions occur to units supported by the U.S. Army Reserve 90th Regional Readiness Command (RRC) on the site of the Muchert Army Reserve Center (ARC) in Dallas, Texas (TX). These recommendations were approved by the President on September 23, 2005, and forwarded to Congress. The Congress did not alter any of the BRAC Commission’s recommendations, and on November 9, 2005, the recommendations became law. The BRAC Commission recommendations must now be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended.

The BRAC Commission made the following recommendation concerning Lewisville: “Close the Muchert United States Army Reserve Center, Dallas, TX, and relocate units to a new Armed Forces Reserve Center (AFRC) in Lewisville, 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: Denton, Irving, and Denison, TX, if the state decides to relocate those National Guard units.” To enable implementation of these recommendations, the Army proposes to provide necessary facilities to support the changes in force structure.

DESCRIPTION OF THE PROPOSED ACTION

To support the BRAC recommendations, the proposed action includes construction of a new 600-member AFRC, unheated storage building, and organizational parking at a new site in Lewisville, TX. The new AFRC (50,457 square foot (SF)) would provide administrative, educational, assembly, library, learning center, vault, weapons simulator, and physical fitness areas for six Army Reserve units. The proposed action would also provide for unit storage (5,025 SF), an organizational maintenance shop (12,287 SF) and adequate parking space for all military and privately-owned vehicles.

ALTERNATIVES CONSIDERED

Preferred Alternative. The Preferred Alternative site consists of 15.3 acres and is located southwest of the intersection of Justin Road (FM 407) and Summit Avenue in Lewisville, TX. The site is irregularly shaped and contains a slight topographic high in the northwest portion. The site is undeveloped, and is covered with thick grass approximately 4 inches high. Historically the south portion of the site was undeveloped range land, and the north portion was a cultivated field. The site is outside the 100-year floodplain and is zoned light industrial.

Alternative 2. The Alternative 2 site consists of 11.6 acres and is located at the intersection of State Highway (SH) 121 and MacArthur Boulevard in Lewisville, TX. The site is undeveloped, and has utilities in close proximity. The site is zoned Light Industrial, and is outside the 100-year floodplain.

No-Action Alternative. The No Action Alternative is included as required by the CEQ regulations to identify the existing baseline conditions against which potential impacts are evaluated. The No Action Alternative must be described because it is the baseline condition or the current status of the environment. For realignment actions directed by the BRAC Commission, it is noted that the No Action Alternative is not feasible.

ENVIRONMENTAL IMPACTS SUMMARY

Twelve environmental and socioeconomic resource areas were characterized and evaluated for potential impacts from the Preferred Alternative, Alternative 2 and the No Action Alternative. No potential impacts were classified as significant. Implementation of the proposed action at the Preferred Alternative or Alternative 2 site would result in minor, short-term impacts to aesthetics, air quality, noise, socioeconomics, and transportation. Implementation of the proposed action at the Preferred Alternative or Alternative 2 site would result in minor, short-term and long-term impacts to land use, geology and soils, water resources, biological resources, utilities, and hazardous and toxic materials. No impacts to cultural resources are anticipated. If the Alternative 2 site is selected, additional surveys and evaluation would need to be conducted. The proposed action, when combined with other past, present, and reasonably foreseeable future projects in the general vicinity, would not result in significant cumulative impacts.

CONCLUSION

Direct, indirect, and cumulative impacts of the Preferred Alternative, Alternative 2 and the No Action Alternative have been considered. No significant adverse impacts from the Preferred Alternative were identified. Therefore, the issuance of a FNSI is warranted, and preparation of an environmental impact statement is not required.

PUBLIC COMMENT

Public comment was invited for a period of 30 days after publication of the notice of availability in the Lewisville Leader. A copy of the EA and draft final FNSI were made available for public review at the Lewisville Public Library in Lewisville, TX. The documents were also located at http://www.hqda.army.mil/acsim/brac/env_ea_review.htm. No comments were received.

Signature:

Approved by:



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Major General, U.S. Army Reserve

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8 July 2009
Date

ENVIRONMENTAL ASSESSMENT
ARMED FORCES RESERVE CENTER (AFRC)
LEWISVILLE, TEXAS
BRAC 2005

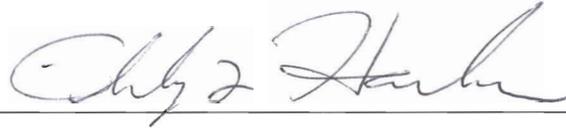
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EXECUTIVE SUMMARY

ES.1 Introduction

This Environmental Assessment (EA) analyzes and documents environmental effects associated with the Base Realignment and Closure Commission (“BRAC Commission”) recommendation that certain realignment actions occur to units supported by the U.S. Army Reserve 90th Regional Readiness Command (RRC). The BRAC Commission has recommended the closure of the Muchert United States Army Reserve Center (USARC) located in Dallas, TX and relocation of Army Reserve units to a new Armed Forces Reserve Center (AFRC) in Lewisville, TX. The new AFRC will have the capability to accommodate Texas National Guard Units from the following TX Army Reserve National Guard (ARNG) Readiness Centers: Denton, Irving, and Denison, TX. To enable implementation of these recommendations, the Army proposes to provide necessary facilities to support the changes in force structure.

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) (40 Code of Federal Regulations (CFR) Parts 1500-1508) and 32 CFR Part 651.

ES.2 Background and Setting

The Preferred Alternative site is located southwest of the intersection of Justin Road (FM 407) and Summit Avenue in Lewisville, Denton County, Texas. It is approximately 3 miles northwest of Lewisville’s center, approximately 23 miles northwest of Dallas’ city center, and approximately 32 miles northeast of Fort Worth’s city center. The site consists of approximately 15.3 acres of privately-owned land.

Alternative 2 is located northeast of the intersection of Highway 121 and MacArthur Boulevard in Lewisville, Denton County, Texas. It is approximately 3.4 miles southeast of Lewisville’s city center, approximately 18 miles northwest of Dallas’ city center, and approximately 27 miles northeast of Fort Worth’s city center. The site consists of 11.6 acres of privately-owned land.

ES.3 Proposed Action

To support the BRAC recommendations, the Proposed Action includes construction of a new 600-member AFRC, Organizational Maintenance Shop (OMS), unit storage building, and organizational parking at a new site (with a minimum of 12 net buildable acres) in Lewisville, TX. The new AFRC would provide administrative, educational, assembly, library, learning center, vault, weapons simulator, and physical fitness areas for six Army Reserve units and three National Guard Units (if relocated). The OMS will provide work bays and maintenance administrative support. The Proposed Action would also provide parking space for all military and privately-owned vehicles.

The AFRC complex would consist of the following (URS 2009):

- 50,457 square foot AFRC
- 12,287 square foot OMS
- 5,025 square foot organizational unit storage
- 17,043 square yard organizational parking

Personnel to use the facility consists of 6 full time users, and up to 80 reservists for a drill weekend.

ES.4 Alternatives

Potential sites for the new AFRC were screened for inclusion in this EA. Screening criteria consists of safety constraints, geographic constraints, environmental and topographic constraints, existing facility and mission constraints, and operational constraints. One action alternative (Preferred Alternative), one additional alternative (Alternative 2), and the No Action Alternative were carried forward for evaluation in this EA.

Seven additional sites (in addition to the Preferred Alternative and Alternative 2) were considered for the BRAC action at Lewisville, TX. Three of these sites were considered ‘contending’ and were evaluated in the Available Site Identification and Validation Report (ASIV) (United States Army Corps of Engineers (USACE) Fort Worth District 2008), but are not carried forward in the EA. The remaining four sites were considered ‘non-contending’ and were eliminated from consideration in the ASIV (and are also not carried forward in the EA).

The No Action Alternative is included as required by the CEQ regulations to identify the existing baseline conditions against which potential impacts are evaluated. The No Action Alternative must be described because it is the baseline condition or the current status of the environment.

ES.5 Environmental Consequences

Twelve environmental and socioeconomic resource areas were characterized and evaluated for potential impacts from the Preferred Alternative, Alternative 2, and the No Action Alternative. Significance criteria were developed for the affected resource categories, and for many resource categories, are necessarily qualitative in nature. No potential impacts were classified as significant. Potential impacts of the Proposed Action identified for each resource area are summarized below.

Land Use. Potential impacts to land use from the Preferred Alternative would not be significant. Neither alternative would present conflicts or nonconformance with current land use or zoning designations. There would be no conflict with adjacent land uses from either alternative since the project would not divide any communities, require any changes to land use or zoning maps, and would not interfere with the existing surrounding mixed land uses, including commercial, residential, and light industrial.

Aesthetics and Visual Resources. The Preferred Alternative and Alternative 2 would cause short-term visual impacts on the property resulting from ground disturbance associated with construction of the proposed facilities. However, the reclamation of disturbed areas would remove these visual impacts. Operations at the AFRC would result in minor adverse aesthetic impacts, including increased traffic and nighttime light, resulting from increased use during weekends when the facilities are in use by tenant organizations.

Air Quality. Overall, potential impacts to air quality from the Preferred Alternative or Alternative 2 would not be significant. Short-term air quality impacts from the Preferred Alternative would occur from construction and demolition activities associated with the movement of heavy equipment. Construction activities would be temporary and would occur in a localized area. Contaminants generated from construction would include particulate matter, vehicle emissions, and increased wind-borne dust (i.e. fugitive dust). Estimated emissions generated by the Proposed Action would be below *de minimis* thresholds.

Long-term impacts associated with operation of the proposed AFRC are not likely to occur. No fueling facilities, underground storage tanks (USTs), or paint booths would be required for the AFRC. The vehicles associated with the use of these facilities by reservists would not be expected to result in significant impacts to air quality because there would be no net gain of personnel in the airshed, the proposed users would be relocating from facilities within the same airshed.

Noise. Noise associated with the Preferred Alternative or Alternative 2 would be generated by standard construction equipment. Only a minor increase in ambient noise levels is expected to occur. Noise would also be generated by increased construction traffic on area roadways, but would be limited to certain times of the day.

After construction, the day-to-day operations of the new AFRC and associated facilities are not expected to increase significantly. The new AFRC would provide predominantly administrative, educational, assembly, and physical fitness areas for the six Army Reserve units. The weapons simulator at the new facility will not cause a significant increase in noise and will not cause a change in the noise contours in the area. Noise generated by POVs will be negligible compared to existing noise in the surrounding area.

Geology and Soils. Overall, potential impacts to geology and soils from the Preferred Alternative or Alternative 2 would not be significant. The proposed facilities would reduce water infiltration by capping the subsoil with impervious surfaces. The Proposed Action would result in the long-term addition of approximately 5.78 acres of impervious surfaces to the property. Construction of a new AFRC and parking facilities would disturb existing ground cover and increase the potential for soil erosion during the site preparation and construction phases. Best Management Practices (BMPs) for erosion control, topsoil management, and revegetation would be required and stated in the construction contract, and would minimize the potential effects.

Water Resources. Potential impacts to water resources from the Preferred Alternative or Alternative 2 would not be significant. There would be no measurable reduction in surface water quality or availability. By capping the subsoil with impervious surfaces, the Preferred Alternative would reduce groundwater recharge locally over the long term by reducing the infiltration of precipitation. The proposed training facility and OMS would result in the addition of approximately 5.78 acres of impervious surfaces. This reduction of groundwater recharge would not have a significant impact on regional groundwater supplies.

Potential nonpoint source storm water impacts would not be significant with implementation of BMPs, and as should be described in a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would be modified, as needed, to address site specific requirements and monitoring. Point discharges of wastewater are prohibited by existing National Pollutant Discharge Elimination System (NPDES) requirements under the Clean Water Act (CWA). Any spills would be mitigated using procedures identified in the Spill Prevention Control and Countermeasures (SPCC) plan to reduce potential impacts to surface water or groundwater.

Both the Preferred Alternative and Alternative 2 are outside of the 100-year floodplain. Because there are no floodplains on the site, there would be no impacts to floodplains from the Proposed Action, and there are no impacts to Proposed Action structures caused by building in a floodplain.

Biological Resources. Impacts to common flora and fauna would result from construction activities. Indirect impacts would be associated with loss of habitat. The project would disturb approximately 5.78 acres of land, with these areas being converted to buildings, pavement, gravel, and associated landscaped areas. During site preparation, all plants would be eliminated from the construction area and limited incidental animal injury or mortality could occur. Construction activity may have a temporary impact on wildlife movements but will pose no long-term threat to the population. No other known occurrences of sensitive species are present within the project area.

A Rare Resources Review application was submitted to the Texas Parks and Wildlife Department (TPWD) on January 19, 2009. A response is pending. In compliance with the ESA, informal consultation has been initiated with the U.S. Fish and Wildlife Service (USFWS) for the Preferred Alternative site. The Army is not aware of any resident threatened or endangered species or species proposed for listing as threatened or endangered on the Preferred Alternative site of the proposed AFRC.

No wetlands have been identified on the National Wetlands Inventory Map for the Preferred Alternative site, therefore no impacts to wetlands are anticipated. No wetlands on the Alternative 2 site were identified from the National Wetlands Inventory; however, if this site is selected, a more detailed analysis of wetlands would need to be conducted.

Cultural Resources. No significant negative impacts to architectural resources would be likely as a result of implementation of the Proposed Action. No buildings listed, eligible

for listing, or potentially eligible for listing on the National Register of Historic Places (NRHP) occur in the Proposed Action project area.

Preferred Alternative

A Phase I Cultural Resource Survey of this property was conducted on December 15, 2008 by PBS&J (PBS&J 2008). A total of eight shovel tests were excavated within the proposed project area in an effort to locate cultural resource sites, for an average density of 1.29 shovel tests per hectare (0.52 per acre), or one shovel test per 0.78 hectare (one per 1.9 acres). No prehistoric or historic artifacts or cultural features were found in any of the shovel tests or the surface investigation. Concurrence from the State Historic Preservation Office (SHPO) is dated April 8, 2009, stating that no historic properties will be affected and that the project may proceed.

Alternative 2

On February 19, 2009 a review of the Texas Historical Commissions' Historic Site Atlas National Register Listings on-line database was conducted. At that time, no NRHP properties or districts, or National Historic Landmarks were recorded on or within the Area of Potential Effects (APE) of the Alternative 2 project location. This review did not include an exhaustive search of recorded archeological sites or consultation with SHPO. Should this site location be selected, a Phase I Cultural Resources Survey would need to be conducted.

Socioeconomics. No significant negative impacts to socioeconomics would be likely as a result of implementation of the Proposed Action. In the short term, expenditures in the local economy for goods and services and direct employment associated with construction would increase sales volume, employment, and income in the Region of Influence (ROI). The economic benefits would be temporary, lasting only for the duration of the construction period. There would be no measureable change in long-term employment, population, housing, or community services because the Proposed Action involves the relocation of existing personnel within the ROI.

Environmental Justice

Construction and operation of the proposed AFRC would not result in adverse impacts associated with air quality, noise, groundwater, surface water, or hazardous materials and wastes. Safety measures to protect pedestrians, including children, would be implemented during construction. For these reasons, the proposed action would have no effect on environmental justice or protection of children.

Transportation. Potential transportation impacts from the Preferred Alternative or Alternative 2 would not be significant. During the construction phases of the Proposed Action, a temporary increase in vehicular traffic into and out of the proposed AFRC site is expected, including the use of heavy equipment. With the construction of new parking areas, it is projected that the surrounding area would be able to accommodate the increase of 6 full-time employees during the week. As a reserve facility, training personnel reporting for reserve duty primarily access the site on drill weekends once a month.

However, not all personnel report for duty on the same weekend; rather drill weekends are spread over an entire month. Summit Avenue would be congested during peak ingress/egress to the site during weekend duty, but this impact would be short-term. Current roads are adequate to accommodate these minor increases in use without modification.

Utilities. Overall, potential impacts to utilities from the Preferred Alternative or Alternative 2 are not anticipated to be significant. There is sufficient capacity with both supply and treatment systems to accommodate the proposed construction and operation of the AFRC, therefore impacts to the local utility system would be minor.

Hazardous and Toxic Substances. The proposed AFRC would consist primarily of training and office space as well as administrative service areas. There would be minimal use of hazardous materials, such as janitorial products and printing supplies. Any hazardous materials will be handled and stored in accordance with applicable regulations and label precautions. The addition of privately owned and military vehicles would increase the chance of leaks and spills. These impacts can be avoided through routine and proper maintenance of vehicles and equipment.

An Environmental Condition of Property (ECP) Report (Terraine-Ensafe 8(a) Joint Venture 2009) was prepared for the Preferred Alternative site. The following information was extrapolated from that report.

The adjacent property to the west is the Verizon Service Center (Verizon), which was formerly occupied by GTE. The GTE site was a Leaking Petroleum Storage Tank (LPST) site (ID 104621). In 1992, GTE removed one 8,000-gallon gasoline and one 4,000-gallon diesel fuel underground storage tank (UST). Subsequent site assessment activities indicated that soil and groundwater were impacted with no apparent threat to receptors. The site was closed by the TCEQ and final concurrence was issued in 1995 (Terraine-Ensafe 8(a) Joint Venture 2009).

Verizon currently operates a UST system approximately 100 feet from the west Property boundary at a higher elevation. Based on TCEQ files, the current UST system is at the same location as the closed Leaking USTs. Storm water flows across the concrete surface of the Verizon site and discharges at a low point onto the Property. During the site visit conducted for the ECP, water appeared to be seeping from under the concrete surface of the Verizon site at the stormwater discharge point onto the Property, forming a puddle approximately 10 feet wide by 20 feet long by several inches deep and saturating the surrounding ground. Due to the former LPST at the Verizon site, the proximity of the current UST system to the Property boundary, and apparent water discharging onto the Property at a point topographically downgradient from the USTs, the likelihood that petroleum products have migrated into the ground, groundwater, or surface water on the Property is considered a REC. While the ECP indicates a REC exists for the site due to the adjacent Verizon Service Center site to the west, the former LPST at the Verizon site was closed in 1995 with concurrence from TCEQ (Terraine-Ensafe 8(a) Joint Venture 2009).

No ECP has been conducted for the Alternative 2 site.

Cumulative Impacts. Cumulative impacts were evaluated by considering the impacts of the proposed action in conjunction with other past, present, and reasonably foreseeable actions. Short- and long-term minor but not significant adverse and beneficial cumulative effects would be expected for all the alternatives. These would be associated with the varied development projects potentially occurring in the ROI during the BRAC timeframe. The only reasonably foreseeable actions identified within the 1-mile radius of the Preferred Alternative are the development of the Renovo Rehabilitation Hospital across Summit Avenue to the east/southeast and improvements along the I-35 interchange at Justin Road (FM 407). There is a potential for commercial or light industrial businesses coming into the area, however none are planned at this time. The Renovo Rehabilitation Hospital is still in the initial planning stages. Texas Department of Transportation (TXDOT) is in the planning stage of a project that will involve improvements along I-35 from I-685 to U.S. 380. This will entail improvements of the interchange at I-35 and Justin Road. Construction is slated to begin in 2011 or 2012 (TXDOT, 2009). There is one specific foreseeable action identified within the 1-mile radius of Alternative 2. A Hampton Inn will be developed approximately 0.5-mile to the northeast at Lake Vista Drive and Vista Ridge Drive. The 12 environmental and socioeconomic resources were evaluated for potential cumulative impacts. The proposed projects would be expected to have short- and long-term minor adverse cumulative impacts on the following resources: transportation, air quality, water resources, biological resources, aesthetics and visual resources. Cumulative activities in the region would also be expected to have short- and long-term beneficial impacts on socioeconomics.

ES.6 Mitigation Responsibility

No mitigation measures are required for the Preferred Alternative discussed in this EA because resulting impacts are not significant. BMPs for erosion control, topsoil management, and revegetation would be required and stated in the construction contract, and therefore potential effects would not be significant. Erosion control during construction activities would be undertaken with the use of hay bales and silt fencing, as appropriate, to prevent the movement of soils into drainage ditches or low-lying areas, and could also include scheduling construction activities for periods of lowest rainfall.

ES.7 Findings and Conclusions

Direct, indirect, and cumulative impacts of the Preferred Alternative, Alternative 2, and the No Action Alternative have been considered. Alternative 1 is the 90th RRC's Preferred Alternative because it best allows the Army to efficiently provide safe training facilities for its reservists that would use the facilities. If the Alternative 2 site is selected, additional surveys would need to be conducted. No significant adverse impacts were identified. Therefore, the issuance of a Finding of No Significant Impact (FNSI) is warranted, and preparation of an environmental impact statement is not required.

TABLE OF CONTENTS

1.0	PURPOSE, NEED, AND SCOPE	1
1.1	Introduction	1
1.2	Purpose and Need	1
1.3	Scope	3
1.4	Public Involvement	3
1.5	Regulatory Framework	4
2.0	DESCRIPTION OF THE PROPOSED ACTION	5
2.1	Introduction	5
2.2	Proposed Action	5
3.0	ALTERNATIVES	7
3.1	Introduction	7
3.2	Screening Criteria	7
3.3	Alternatives Evaluated in the EA	8
3.3.1	Preferred Alternative	8
3.3.2	Alternative 2	8
3.3.3	No Action Alternative	11
3.4	Sites Considered and Not Carried Forward	11
3.4.1	Contending Sites	11
3.4.2	Non-Contending Sites	13
3.5	Summary of Comparison of Alternatives	13
4.0	AFFECTED ENVIRONMENT AND CONSEQUENCES	16
4.1	Introduction	16
4.2	Land Use	17
4.2.1	Affected Environment	17
4.2.1.1	Regional Geographic Setting and Location	17
4.2.1.2	Preferred Alternative and Alternative 2 Land Use	17
4.2.1.3	Current and Future Development in the Region of Influence	19
4.2.2	Consequences	19
4.2.2.1	Alternative 1 – Preferred Alternative	20
4.2.2.2	Alternative 2	20
4.2.2.3	No Action Alternative	20
4.3	Aesthetics and Visual Resources	20
4.3.1	Affected Environment	20
4.3.2	Consequences	21
4.3.2.1	Alternative 1 – Preferred Alternative	21
4.3.2.2	Alternative 2	21
4.3.2.3	No Action Alternative	21
4.4	Air Quality	21
4.4.1	Affected Environment	21
4.4.1.1	Ambient Air Quality Conditions	22
4.4.1.2	Air Emission Sources at Lewisville AFRC Sites	23
4.4.1.3	Regional Air Pollution Emissions Summary	23
4.4.2	Consequences	24

4.4.2.1	Alternative 1 – Preferred Alternative	24
4.4.2.2	Alternative 2	25
4.4.2.3	No Action Alternative	25
4.5	Noise.....	25
4.5.1	Affected Environment	26
4.5.2	Consequences	26
4.5.2.1	Alternative 1 – Preferred Alternative	26
4.5.2.2	Alternative 2.....	27
4.5.2.3	No Action Alternative	27
4.6	Geology and Soils	27
4.6.1	Affected Environment	27
4.6.1.1	Geologic and Topographic Conditions	27
4.6.1.2	Soils	29
4.6.1.3	Prime Farmland	29
4.6.2	Consequences	29
4.6.2.1	Alternative 1 – Preferred Alternative	29
4.6.2.2	Alternative 2.....	32
4.6.2.3	No Action Alternative	32
4.7	Water Resources	32
4.7.1	Affected Environment	32
4.7.1.1	Surface Water	32
4.7.1.2	Hydrogeology/Groundwater	33
4.7.1.3	Floodplains	33
4.7.2	Consequences	33
4.7.2.1	Alternative 1 – Preferred Alternative	35
4.7.2.2	Alternative 2.....	35
4.7.2.3	No Action Alternative	35
4.8	Biological Resources	36
4.8.1	Affected Environment	36
4.8.1.1	Vegetation.....	36
4.8.1.2	Wildlife	36
4.8.1.3	Sensitive Species.....	36
4.8.1.4	Wetlands.....	37
4.8.2	Consequences	37
4.8.2.1	Alternative 1 – Preferred Alternative	37
4.8.2.2	Alternative 2.....	39
4.8.2.3	No Action Alternative	39
4.9	Cultural Resources.....	40
4.9.1	Affected Environment	40
4.9.1.1	Prehistoric and Historic Background.....	40
4.9.1.2	Status of Cultural Resource Inventories and Section 106 Consultations	42
4.9.1.3	Native American Resources	43
4.9.2	Consequences	43
4.9.2.1	Alternative 1 – Preferred Alternative	44
4.9.2.2	Alternative 2.....	44

4.9.2.3 No Action Alternative	44
4.10 Socioeconomics	44
4.10.1 Affected Environment	44
4.10.1.1 Economic Development	45
4.10.1.2 Housing.....	46
4.10.1.3 Environmental Justice	46
4.10.1.4 Protection of Children	46
4.10.2 Consequences	47
4.10.2.1 Alternative 1 – Preferred Alternative	47
4.10.2.2 Alternative 2.....	48
4.10.2.3 No Action Alternative	48
4.11 Transportation	49
4.11.1 Affected Environment	49
4.11.1.1 Roadways and Traffic	49
4.11.1.2 Public Transportation	49
4.11.2 Consequences	49
4.11.2.1 Alternative 1 – Preferred Alternative	50
4.11.2.2 Alternative 2.....	50
4.11.2.3 No Action Alternative	50
4.12 Utilities.....	50
4.12.1 Affected Environment	50
4.12.1.1 Potable Water Supply	50
4.12.1.2 Wastewater System.....	51
4.12.1.3 Storm Water System.....	51
4.12.1.4 Energy Sources	51
4.12.1.5 Communication.....	51
4.12.1.6 Solid Waste.....	51
4.12.2 Consequences	51
4.12.2.1 Alternative 1 – Preferred Alternative	52
4.12.2.2 Alternative 2.....	52
4.12.2.3 No Action Alternative	52
4.13 Hazardous and Toxic Substances	52
4.13.1 Affected Environment	52
4.13.2 Consequences	53
4.13.2.1 Alternative 1 – Preferred Alternative	53
4.13.2.2 Alternative 2.....	54
4.13.2.3 No Action Alternative	54
4.14 Cumulative Effects Summary	54
4.14.1 Past, Present, and Reasonably Foreseeable Actions	54
4.14.2 Cumulative Effects.....	55
4.14.2.1 Land Use	55
4.14.2.2 Aesthetics and Visual Resources.....	55
4.14.2.3 Air Quality	55
4.14.2.4 Noise.....	55
4.14.2.5 Geology and Soils.....	56
4.14.2.6 Water Resources	56

4.14.2.7	Biological Resources	56
4.14.2.8	Cultural Resources	56
4.14.2.9	Socioeconomics	56
4.14.2.10	Transportation	56
4.14.2.11	Utilities.....	57
4.14.2.12	Hazardous and Toxic Substances.....	57
4.15	Mitigation Summary	57
5.0	FINDINGS AND CONCLUSIONS	58
6.0	LIST OF PREPARERS	59
7.0	DISTRIBUTION LIST	60
8.0	REFERENCES.....	61
9.0	ACRONYM LIST	64
APPENDICES.....		67
	Appendix A. Photographs	A-1
	Appendix B. Site Configuration	B-1
	Appendix C. Agency Coordination	C-1
	Appendix D. EIFS Model	D-1
	Appendix E. Construction Emissions Calculation Table.....	E-1

LIST OF FIGURES

Figure 1-1. Regional Location Map, Lewisville, Texas2
Figure 3-1. Preferred Alternative Location Map9
Figure 3-2. Alternative 2 Location Map 10
Figure 3-3. Contending Sites Not Carried Forward in the EA. 12
Figure 4-1. Land Use Cover Map for Both Alternative Sites 18
Figure 4-2. U.S.G.S Topographic Map of Both Alternative Sites28
Figure 4-3. Mapped Soils of the Preferred Alternative30
Figure 4-4. Mapped Soils of the Alternative 2 Site31
Figure 4-5. FEMA Floodplain Map of Both Alternative Sites34
Figure 4-6. NWI Map of Both Alternative Sites38

LIST OF TABLES

Table 3-1. Summary Comparison of Alternatives..... 14
Table 4-1. National Ambient Air Quality Standards.....22
Table 4-2. Total Air Emissions (tons/year) from Construction Activities (18
month schedule) vs. the de minimus Thresholds25
Table 4-3. Major Employers In The Lewisville Area45

1.0 PURPOSE, NEED, AND SCOPE

1.1 Introduction

On September 8, 2005, the Defense Base Realignment and Closure Commission (“BRAC Commission”) recommended that certain realignment actions occur to units supported by the U.S. Army Reserve 90th Regional Readiness Command (RRC) on the site of the Muchert United States Army Reserve Center in Dallas, Texas (TX). These recommendations were approved by the President on September 23, 2005, and forwarded to Congress. The Congress did not alter any of the BRAC Commission’s recommendations, and on November 9, 2005, the recommendations became law. The BRAC Commission recommendations must now be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended.

The BRAC Commission has recommended the closure of the Muchert United States Army Reserve Center (USARC) located in Dallas, TX and relocation of Army Reserve units to a new Armed Forces Reserve Center (AFRC) in Lewisville, TX. The new AFRC will have the capability to accommodate Texas National Guard Units from the following TX Army National Guard (ARNG) Readiness Centers: Denton, Irving, and Denison, TX. To enable implementation of these recommendations, the Army proposes to provide necessary facilities to support the changes in force structure. The proposed new facilities consist of a training facility, organizational maintenance shop (OMS), an unheated storage building, and parking facilities. This environmental assessment (EA) analyzes and documents environmental effects associated with the Army’s proposed action at Lewisville, TX. Figure 1-1 shows the location of the existing Army Reserve Center, and the proposed sites evaluated in this EA. Details of the Proposed Action are described in Section 2.0.

1.2 Purpose and Need

The purpose of the Proposed Action is to implement the BRAC Commission’s recommendations pertaining to Lewisville, TX. 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 three major initiatives that contribute to the Army’s need for the proposed action.

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

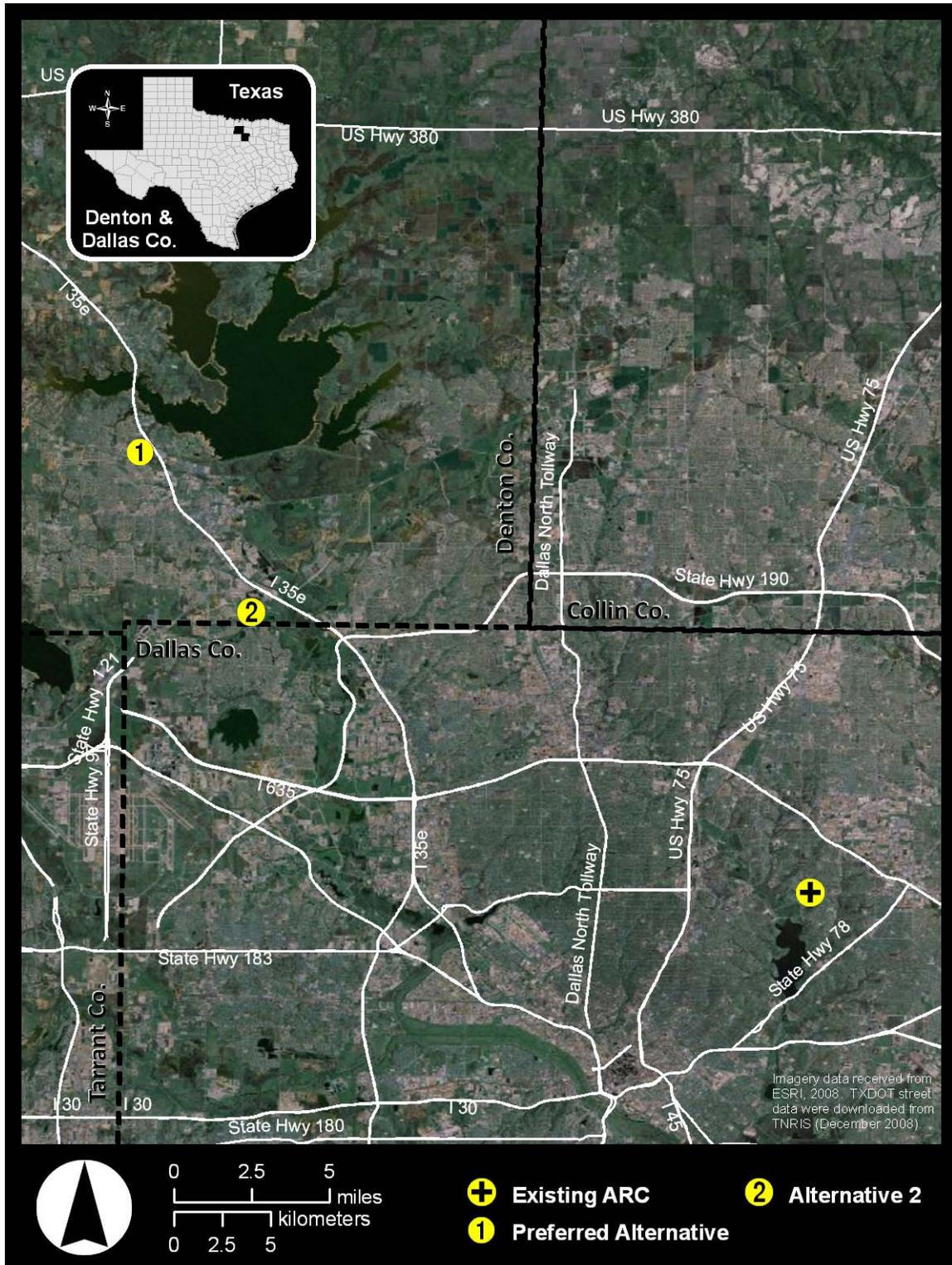


Figure 1-1. Regional Location Map, Lewisville, Texas

supports advancing the goals of transformation, improving military capabilities, and enhancing military value. The Army needs to carry out the BRAC recommendations at Lewisville, TX in order to achieve the objectives for which Congress established the BRAC process.

1.3 Scope

This EA has been developed in accordance with the National Environmental Policy Act (NEPA) of 1969 and implementing regulations issued by the President's Council on Environmental Quality (CEQ) (40 Code of Federal Regulations (CFR) Parts 1500-1508) and 32 CFR Part 651. 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 realignments at Lewisville, TX. 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 and has identified relevant beneficial and adverse effects associated with the action. The Proposed Action is described in Section 2.0, and alternatives, including the No Action Alternative, are described in Section 3.0. Conditions existing as of 2008, considered to be the baseline conditions are described in Section 4.0, Affected Environment and Environmental Consequences. The expected effects of the Proposed Action for each alternative, 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.

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

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 is available to the public for 30 days, along with a draft Finding of No Significant Impact (FNSI), if appropriate. At the end of the 30-day public review period, the Army considers all comments submitted by individuals, agencies, or organizations on the Proposed Action, the EA, and draft FNSI. As appropriate, the Army then executes the FNSI and proceeds with implementation of the Proposed Action. If it is determined prior to issuance of a final FNSI that implementation of the Proposed Action would result in significant impacts, the Army publishes in the *Federal Register* a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS), commits to mitigation actions sufficient to reduce impacts below significance levels or does not take the action.

A Notice of Availability (NOA) is published in the *Lewisville Leader*, which announces the beginning of the 30-day public review period. The EA and Draft FNSI are available during the public comment period on the internet at http://www.hqda.army.mil/acsim/brac/env_ea_review.htm, and are also available for review during the public comment period at the Lewisville Public Library, Lewisville, TX.

1.5 Regulatory Framework

In addressing environmental considerations, the 90th RRC is guided by relevant statutes (and their implementing regulations) and Executive Orders (EOs) that establish standards and provide guidance on environmental and natural resources management and planning. These include the Clean Air Act, Clean Water Act, Noise Control Act, Endangered Species Act, National Historic Preservation Act, Archaeological Resources Protection Act, Native American Graves Protection and Repatriation Act, American Indian Religious Freedom Act, Resource Conservation and Recovery Act, Comprehensive Environmental Response, Compensation and Liability Act, and Toxic Substance Control Act. EOs bearing on the Proposed Action include EO 11988 (*Floodplain Management*), EO 11990 (*Protection of Wetlands*), EO 12088 (*Federal Compliance with Pollution Control Standards*), EO 12580 (*Superfund Implementation*), EO 12898 (*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*), EO 13045 (*Protection of Children from Environmental Health Risks and Safety Risks*), EO 13175 (*Consultation and Coordination with Indian Tribal Governments*), EO 13186 (*Responsibilities of Federal Agencies to Protect Migratory Birds*), and EO 13423 (*Strengthening Federal Environmental, Energy, and Transportation Management*). 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 <https://www.denix.osd.mil>.

2.0 DESCRIPTION OF THE PROPOSED ACTION

2.1 Introduction

This section describes the Army's preferred alternative for carrying out the BRAC Commission's recommendations.

The BRAC Commission made the following recommendation concerning Lewisville, TX:

"Close the Muchert United States Army Reserve Center, Dallas, TX, and relocate units to a new Armed Forces Reserve Center Lewisville, 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: Denton, Irving, and Denison, TX, if the state decides to relocate those National Guard units."

2.2 Proposed Action

To support the BRAC recommendations, the Proposed Action includes construction of a new 600-member AFRC, Organizational Maintenance Shop (OMS), unit storage building, and organizational parking at a new site (with a minimum of 12 net buildable acres) in Lewisville, TX. The new AFRC would provide administrative, educational, assembly, library, learning center, vault, weapons simulator, and physical fitness areas for six Army Reserve units and three National Guard Units (if relocated). The OMS will provide work bays and maintenance administrative support. The Proposed Action would also provide parking space for all military and privately-owned vehicles.

The proposed AFRC would consist of permanent construction with heating, ventilation, and air conditioning (HVAC) systems, plumbing, mechanical systems, security systems, and electrical systems.

The AFRC complex would consist of the following (URS 2009):

- 50,457 square foot AFRC
- 12,287 square foot OMS
- 5,025 square foot organizational unit storage
- 17,043 square yard organizational parking

Supporting actions would include land clearing, paving, fencing, general site improvements, and extension of utilities to serve the project. Accessibility for the disabled would be provided. Anti-terrorism/Force protection (AT/FP) measures would be incorporated into the design including a standoff distance from roads, parking areas, and vehicle unloading areas. Sustainable Design and Development (SDD) and Energy Policy Act of 2005 (EPA05) features would be provided.

Final Environmental Assessment

Personnel to use the facility consists of 6 full time users, and up to 80 reservists for a drill weekend. Adequate parking spaces for privately-owned vehicles (POVs) would be provided.

3.0 ALTERNATIVES

3.1 Introduction

To support and sustain its current and future mission, the 90th RRC has programmed the construction of new facilities, including structures, roads, and parking lots. Details for screening criteria used for preliminary assessment of each potential site are described below in Section 3.2. Section 3.3 discusses the alternatives carried forward in this EA and Section 3.4 discusses the other alternatives considered, but eliminated from further discussion in the EA. Nine potential sites for the new AFRC were evaluated in the Available Site Identification and Validation (ASIV) Report and Site Survey Report (SSR) (U.S. Army Corps of Engineers (USACE) Fort Worth District 2008) and screened for inclusion in this EA.

3.2 Screening Criteria

Screening criteria consists of operational constraints, safety constraints, geographic constraints, environmental and topographic constraints, and existing facility and mission constraints. The following describes the constraints considered in the evaluation process. A more detailed description of the site selection criteria may be found in AR 140-483, para 5-7a (July 2007).

Safety Constraints – include engineering and operational safety constraints, such as explosive arcs and AT/FP guidance

Geographic Constraints – include availability of sufficient land area (minimum of 12 acres); access and security availability; proximity to utilities and/or operationally related facilities

Environmental and Topographic Constraints – include clean, uncontaminated site (no underground storage tanks); flat to gently rolling, no landfills, cliffs, extensive drainage ditches, wetlands, or ravines

Existing Facility and Mission Constraints – include interference with existing missions and training, infrastructure demand, or incompatibility with language in BRAC legislation

Operational Constraints – include the cost of relocating existing facilities and construction of new infrastructure

3.3 Alternatives Evaluated in the EA

Two Action Alternatives (Preferred Alternative and Alternative 2) and the No Action Alternative are carried forward for evaluation in this EA. Representative photographs of the alternative sites are included in Appendix A.

3.3.1 Preferred Alternative

The Preferred Alternative Site was identified as Site 2 in the ASIV (USACE Fort Worth District 2008). The site consists of 15.3 acres and is located southwest of the intersection of Justin Road (FM 407) and Summit Avenue in Lewisville, TX (see Figure 3-1). The site is irregularly shaped and contains a slight topographic high in the northwest portion. The site is undeveloped, and is covered with thick grass approximately 4 inches high. Historically the south portion of the site was undeveloped range land, and the north portion was a cultivated field.

The area in the vicinity of the Preferred Alternative site consists of mixed-use properties including undeveloped land, Quick Trip Convenience Store 942, and a strip shopping center across FM 407 (Justin Rd.) to the north; and undeveloped land to the south (beyond which are an intermittent stream and the Atchison Topeka and Santa Fe Railroad line). To the west are Verizon Service Center (abutting the property), McGee Street, then residential properties. To the east are Summit Avenue, vacant land zoned commercial, and I-35.

The proposed site configuration is shown in Appendix B. Since the property is currently undeveloped, it is not currently served by utilities. However, utilities are located along the south boundary and Summit Avenue, which borders the site to the east. The site has access to the following utilities:

- Water, Sanitary Sewer, and Storm Sewer: provided by City of Lewisville
- Natural Gas: provided by Atmos Energy
- Electric: First Choice Power (plus 11 alternative providers available)
- Telephone: Verizon
- Trash: Waste Management

The Preferred Alternative site is zoned Commercial/Light Manufacturing, and is outside the 100-year floodplain.

3.3.2 Alternative 2

Alternative 2 was identified as Site 1 in the ASIV (USACE Fort Worth District 2008). The site consists of 11.6 acres and is located at the intersection of State Highway (SH) 121 and MacArthur Boulevard in Lewisville, TX (see Figure 3-2). The site is undeveloped, and has utilities in close proximity. The site is zoned Light Industrial, and is outside the 100-year floodplain.

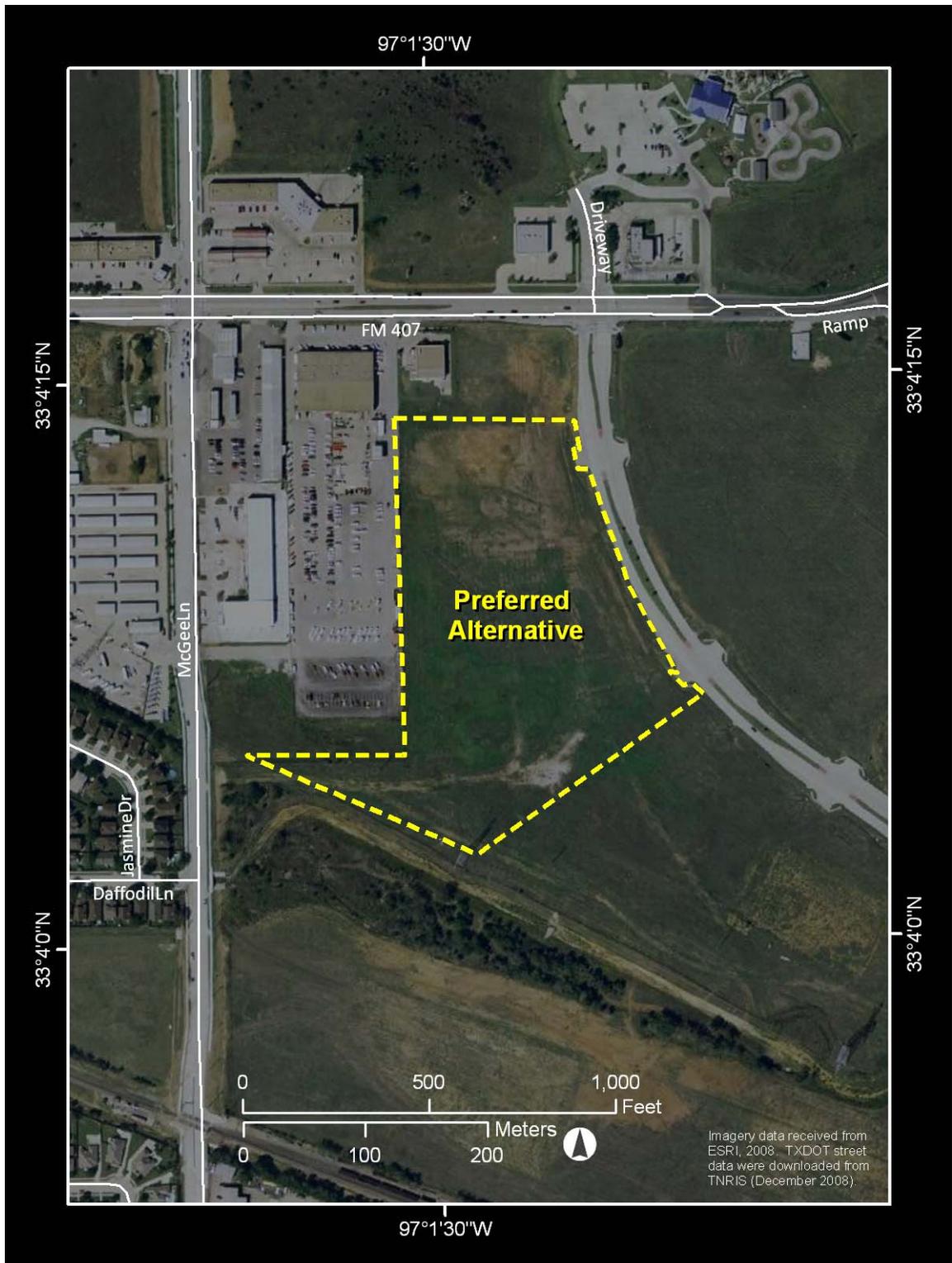


Figure 3-1. Preferred Alternative Location Map



Figure 3-2. Alternative 2 Location Map

3.3.3 No Action Alternative

The No Action Alternative is included as required by the CEQ regulations to identify the existing baseline conditions against which potential impacts are evaluated. The No Action Alternative must be described because it is the baseline condition or the current status of the environment.

Under the No Action Alternative, the proposed facilities would not be constructed to accommodate the BRAC actions as described in Section 2.0. The relocation of Army Reserve units would not be implemented. Under the No Action Alternative, the units would continue to operate and train in outdated facilities that are not properly configured to allow the most effective training to complete mission requirements and that do not offer enough acreage for expansion or to meet anti-terrorism/force protection guidelines.

3.4 Sites Considered and Not Carried Forward

Seven additional sites (in addition to the Preferred Alternative and Alternative 2) were considered for the BRAC action at Lewisville, TX. Three of these sites were considered 'contending' (see Figure 3-3) and were evaluated in the ASIV (USACE Fort Worth District 2008), but are not carried forward in the EA. The remaining four sites were considered 'non-contending' and were eliminated from consideration in the ASIV (and are also not carried forward in the EA). Explanations of why sites are not carried forward are provided below.

3.4.1 Contending Sites

The following sites were evaluated in the ASIV but were not recommended in the Site Survey Report, and are therefore not carried forward in the EA. These sites are identified on Figure 3-3.

Site 3: Forestbrook Drive and SH 121, Lewisville, TX. Site 3 was eliminated from further consideration because it was an unfavorable site for several reasons: geographic constraints (does not meet minimum acreage criteria), environmental and topographic constraints (drainage ditch running through middle of the site), and land use constraints (has been used as a disposal area for concrete and debris, adjacent to apartment complex, and currently used as a homeless camp).

Site 4: Vista Ridge Mall Drive and Denton Tap Road (Tract 5), Lewisville, TX. Site 4 was eliminated from further consideration due to topographic constraints (would require a significant amount of fill to be brought in), and environmental constraints (wetland on site).

Site 5: Vista Ridge Mall Drive and Denton Tap Road (Tract 2), Lewisville, TX. Site 5 was eliminated from further consideration because a purchase option has been executed on the site and it is no longer available.

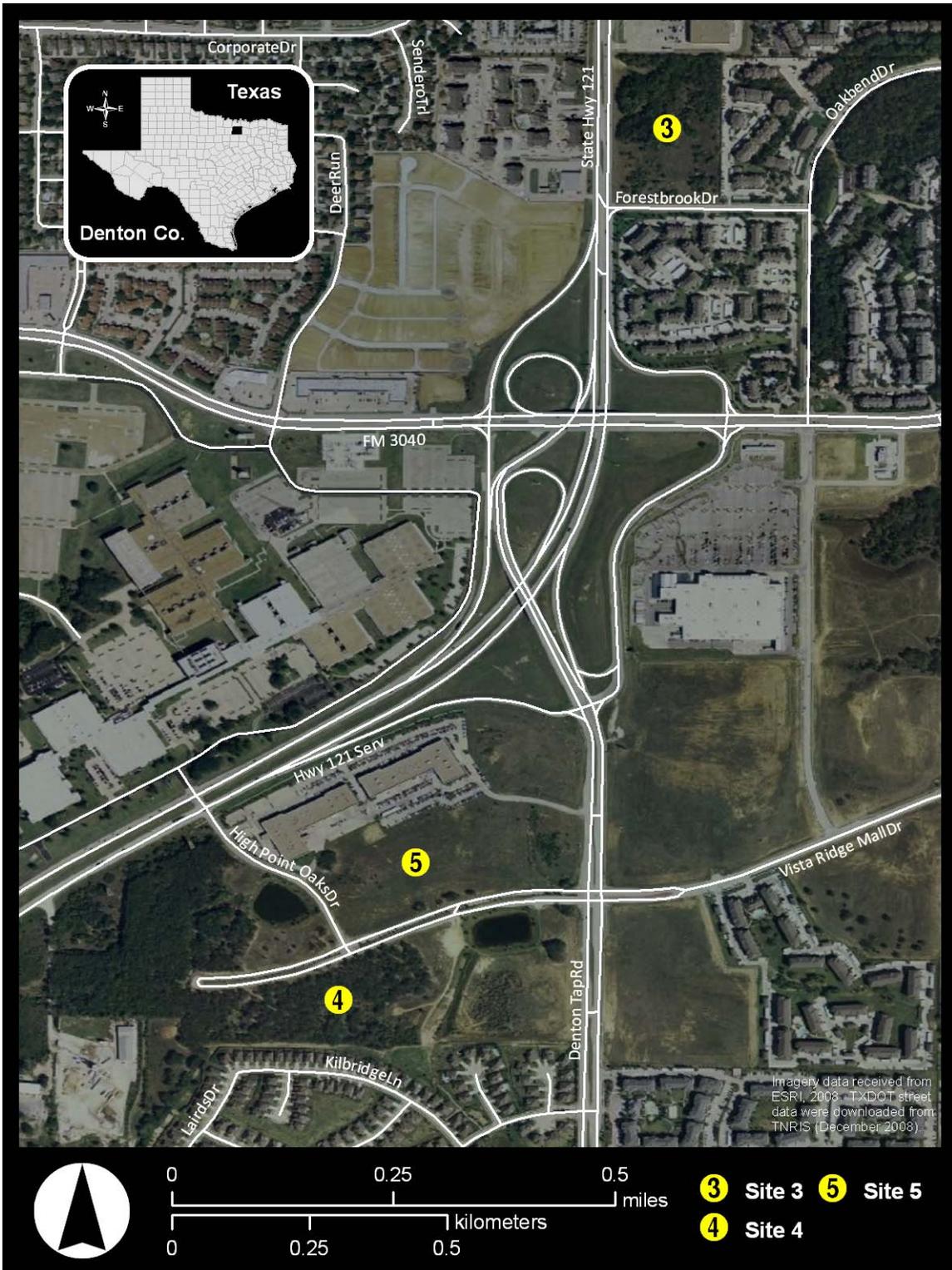


Figure 3-3. Contending Sites Not Carried Forward in the EA.

3.4.2 Non-Contending Sites

The following sites were considered non-contending and were not evaluated in the ASIV.

Site 6: 725 West Round Grove (FM 3040) and Edmonds Lane. Site 6 was considered non-contending because it is surrounded by residential areas and located adjacent to a gas station.

Site 7: Kealy Road and Water Treatment Plant Road. Site 7 was considered non-contending due to geographic and land use constraints. The site does not provide adequate frontage, is nestled between two rail roads, and the City of Lewisville plans to extend Valley Ridge Road through the center of the property.

Site 8: Kealy Road and Simmons Road. Site 8 was considered non-contending due to geographic and environmental constraints. The site does not provide adequate frontage, abuts a railroad, has an irregular shape, and has a drop in the terrain. There were also potential environmental hazards observed on site (empty paint cans, oil spot).

Site 9: IH 121 at the Convergence Center. Site 9 was considered non-contending because this site is available for lease only.

3.5 Summary of Comparison of Alternatives

Table 3-1 provides a summary comparison of the alternatives (Preferred Alternative, Alternative 2, and No Action Alternative) with respect to the resource areas discussed in this EA.

Table 3-1. Summary Comparison of Alternatives

Resources	Alternative 1 (Preferred Alternative)	Alternative 2	No-Action Alternative
Land Use	No impacts anticipated	No impacts anticipated	No impacts would occur
Aesthetics and Visual Resources	Minor impacts, short term adverse visual impacts from construction equipment and activities	Minor impacts, short term adverse visual impacts from construction equipment and activities	No impacts would occur
Air Quality	Minor, temporary, short-term impacts from air emissions from construction activity	Minor, temporary, short-term impacts from air emissions from construction activity	No impacts would occur
Noise	Minor, temporary, short-term noise impacts from construction activities. Noise in the area would increase slightly as a result of increased traffic from personnel entering the facility but these impacts are negligible.	Minor, temporary, short-term noise impacts from construction activities. Noise in the area would increase slightly as a result of increased traffic from personnel entering the facility but these impacts are negligible.	No impacts would occur
Geology and Soils	Potential for soil erosion during construction; minimized through use of Best Management Practices (BMPs)	Potential for soil erosion during construction; minimized through use of Best Management Practices (BMPs)	No impacts would occur
Water Resources	No impacts to surface water, floodplains. Minimal potential impacts to groundwater and stormwater; minimized through SWPPP and SPCC plans, and NPDES permit	No impacts to surface water, floodplains. Minimal potential impacts to groundwater and stormwater; minimized through SWPPP and SPCC plans, and NPDES permit	No impacts would occur
Biological Resources	Minor, short-term impacts to vegetation and wildlife from construction; no impacts to Threatened and Endangered Species; no impacts to wetlands	Minor, short-term impacts to vegetation and wildlife from construction; no impacts to Threatened and Endangered Species; no impacts to wetlands anticipated (but more detailed analysis would be required if selected)	No impacts would occur
Cultural Resources	No impacts anticipated	No impacts anticipated; a Phase I Cultural Resource survey would be required if selected	No impacts would occur

Final Environmental Assessment

Resources	Alternative 1 (Preferred Alternative)	Alternative 2	No-Action Alternative
Socioeconomic Resources	Short-term positive impacts on local economy during construction; no long-term impacts	Short-term positive impacts on local economy during construction; no long-term impacts	No impacts would occur
Transportation	Short-term, minor impacts during construction and duty weekends from increase in traffic	Short-term, minor impacts during construction and duty weekends from increase in traffic	No impacts would occur
Utilities	No impacts anticipated	No impacts anticipated	No impacts would occur
Hazardous and Toxic Substances	Minor, short-term impacts during construction	Minor, short-term impacts during construction. An ECP study would be required if selected	No impacts would occur

4.0 AFFECTED ENVIRONMENT AND CONSEQUENCES

4.1 Introduction

This chapter describes the existing environmental and human resources that could potentially be affected by the Proposed Action and alternatives. The environment described in this chapter is the baseline for the consequences that are presented for each resource and each alternative. The region of influence (ROI) or area of potential effect (APE) for each resource category is the Preferred Alternative or Alternative 2 site and its surroundings, unless stated otherwise in the individual resource category discussion.

This chapter also describes potential impacts for each environmental and human resource. An impact is defined as a consequence from modification to the existing environment due to a proposed action or alternative. Impacts can be beneficial or adverse, can be a primary result of an action (direct) or a secondary result (indirect), and can be permanent or long lasting (long term) or temporary and of short duration (short term). Impacts can vary in degree from a slightly noticeable change to a total change in the environment.

For this EA, short-term impacts are defined as those impacts resulting from construction, renovation, or demolition activities (e.g., those that are of temporary duration), whereas long term impacts are those resulting from the presence of new facilities and operation of the proposed new facilities once they are constructed and commissioned for operation.

Under NEPA, a review of significant irreversible and irretrievable effects that result from development of the Proposed Action is required (40 CFR 1502.16). Irreversible commitments of resources are those resulting from impacts to resources so they cannot be completely restored to their original condition. Irretrievable commitments of resources are those that occur when a resource is removed or consumed and will therefore never be available to future generations for their use. For resources or subjects where irreversible or irretrievable effects would result, such effects are discussed with short and long-term impacts.

Significance criteria were developed for the affected resource categories, and for many resource categories, are necessarily qualitative in nature. Quantitative criteria can be established when there are specific numerical limits established by regulation or industry standard. These criteria are based on existing regulatory standards, scientific and environmental documentation, and/or professional judgment. Impacts are classified as significant or not significant based on the significance criteria. Impacts do not necessarily mean negative changes, and any detectable change is not, in and of itself, considered to be negative. In the following discussions, to highlight adverse impacts for the decision maker, the impacts are considered adverse unless identified as beneficial.

The affected environment and baseline conditions are described for each resource in general terms for the Preferred Alternative and Alternative 2 or the resource-specific ROI. The affected environment description for each resource is followed by the potential

impacts to the resource from Alternative 1 (the Preferred Alternative), Alternative 2, and the No Action Alternative.

4.2 Land Use

4.2.1 Affected Environment

This section describes existing land use conditions on and surrounding the Preferred Alternative and Alternative 2. It considers natural land uses and land uses that reflect human modification. Natural land use classifications include wildlife areas, forests, and other open or undeveloped areas. Human land uses include residential, commercial, industrial, utilities, agricultural, recreational, and other developed uses. Management plans, policies, ordinances, and regulations determine the types of uses that are allowable, or protect specially designated or environmentally sensitive uses.

The following sections discuss the regional geographic setting and location, project site land use, and current and future development. The ROI for land use is the land within and adjacent to the Preferred Alternative and Alternative 2 project areas.

4.2.1.1 Regional Geographic Setting and Location

The Preferred Alternative property is located southwest of the intersection of Justin Road (FM 407) and Summit Avenue in Lewisville, Denton County, Texas. It is approximately 3 miles northwest of Lewisville's center, approximately 23 miles northwest of Dallas' city center, and approximately 32 miles northeast of Fort Worth's city center. The site consists of approximately 15.3 acres of privately-owned land.

Alternative 2 is located northeast of the intersection of Highway 121 and MacArthur Boulevard in Lewisville, Denton County, Texas. It is approximately 3.4 miles southeast of Lewisville's city center, approximately 18 miles northwest of Dallas' city center, and approximately 27 miles northeast of Fort Worth's city center. The site consists of 11.6 acres of privately-owned land.

4.2.1.2 Preferred Alternative and Alternative 2 Land Use

The Preferred Alternative site is currently undeveloped and is zoned commercial/light manufacturing. The property is vegetated with thick grass that is regularly maintained. A 20-foot wide water pipe easement crosses the southern portion of the property. There is a fire hydrant near the southwest corner of the property. Overhead power lines are located just south of the property boundary.

The property chosen as Alternative 2 is currently undeveloped and unimproved and is zoned light industrial. The property is vegetated with grass that is maintained on a regular basis. A land use cover map for both sites is included as Figure 4-1.

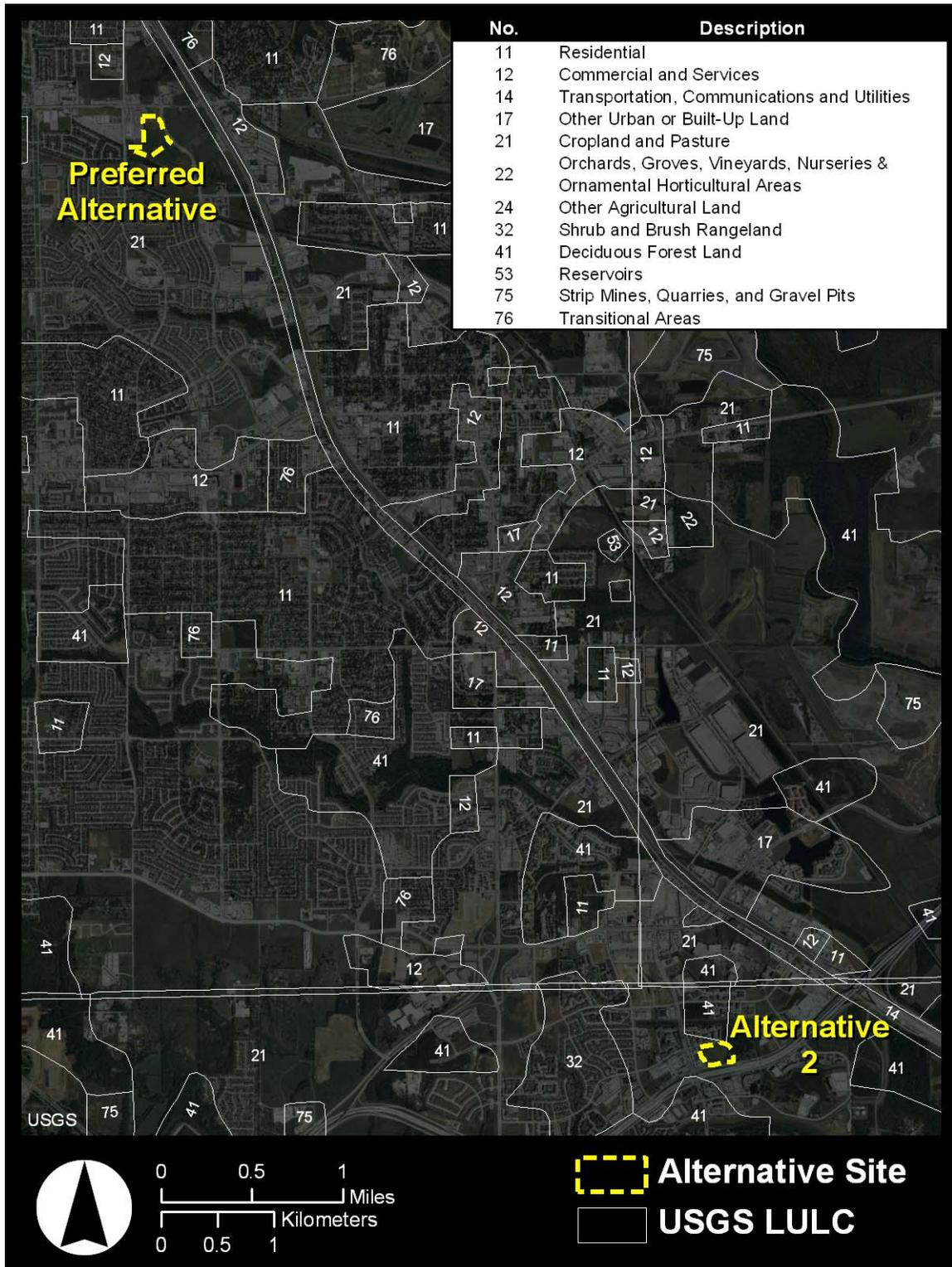


Figure 4-1. Land Use Cover Map for Both Alternative Sites

4.2.1.3 Current and Future Development in the Region of Influence

The property surrounding the Preferred Alternative site is light industrial, commercial, and residential. Adjacent property to the north is a Verizon Service Center building and undeveloped land. Further to the north is Justin Road (FM 407), a Quick Trip Convenience Store and McDonald's. Surrounding properties even further to the north include undeveloped land, commercial buildings, and Interstate 35. There is a marina on Lake Lewisville that is located approximately 1 mile to the north. Adjacent property to the south is undeveloped land surrounding an intermittent drainage channel, then the Atchison Topeka Santa Fe Railroad line. Further to the south is a residential neighborhood and a cemetery. Adjacent property to the west is the Verizon maintenance and equipment storage site and a car wash along McGee Avenue. Properties further to the west consist of a mixture of residential and commercial uses. Adjacent property to the east is Summit Avenue and undeveloped land that is zoned commercial/light industrial. Further to the east is commercial property and Interstate 35. There is a 622 acre park (Lake Park) that is approximately 1 mile to the east. There are currently no land use conflicts in the ROI. Other than the facilities proposed under the Proposed Action, no other development of the property has been planned. The area surrounding the site is zoned light industrial. According to the City of Lewisville, there is potential that some light industrial/commercial businesses will move into the area in the future. The Renovo Rehabilitation Hospital, a 54,000 square feet, 40 bed, rehabilitation hospital facility is proposed to be built on the east side of Summit Avenue, across the street from the Preferred Alternative site. This project is in the preliminary planning phase and there is not a specific construction date. Also, this project may require rezoning of the property.

The Alternative 2 site is zoned light industrial. There are no current development or improvement plans for the Alternative 2 site or surrounding area (City of Lewisville, 2009).

4.2.2 Consequences

Considerations for impacts to land use include the land on and adjacent to the Preferred Alternative project area and Alternative 2, the physical features that influence current or proposed uses, pertinent land use plans and regulations, and land availability. Conformity with existing land use is of utmost importance.

Potential impacts to land use are considered significant if the Proposed Action would:

- Conflict with applicable ordinances and/or permit requirements;
- Cause nonconformance with the current general plans and land use plans, or preclude adjacent or nearby properties from being used for existing activities; or
- Conflict with established uses of an area requiring mitigation.

4.2.2.1 Alternative 1 – Preferred Alternative

Overall, potential impacts to land use from the Preferred Alternative would be negligible. The Preferred Alternative would not present conflicts or nonconformance with current local or state land use or zoning designations. There would be no conflict with adjacent land uses from the realignment alternative since the project would not divide any communities, require any changes to land use or zoning maps, and would not interfere with the existing surrounding commercial and light industrial land uses.

4.2.2.2 Alternative 2

Potential impacts to land use from Alternative 2 would be negligible. This alternative would not present conflicts or nonconformance with current local or state land use or zoning designations.

4.2.2.3 No Action Alternative

Under the No Action Alternative, there would be no changes in land use at the Preferred Alternative or Alternative 2 sites.

4.3 Aesthetics and Visual Resources

4.3.1 Affected Environment

This section describes the aesthetic and visual resource conditions at the Preferred Alternative and Alternative 2. The visual resources of the alternatives include natural and manmade physical features that provide the landscape its character and value as an environmental resource. Landscape features that form a viewer's overall impression about an area include landform, vegetation, water, color, adjacent scenery, scarcity, and constructed modifications to the natural setting. The ROI for aesthetics includes the areas visible from the Preferred Alternative and Alternative 2 construction locations and areas from which the Proposed Action construction locations are visible.

Both alternative sites and the surrounding area are characterized by relatively gentle topography. The Preferred Alternative site consists of grassland that is regularly maintained. There is an intermittent tributary south of the site that is channelized and eroded. Views from the Preferred Alternative site are dominated by a mixture of industrial, commercial, and residential structures as well as roadways and utility lines (specifically overhead power lines). Several billboards are present along the roadways. There is a chain link fence with barbed wire separating the Verizon service center from the subject property. There is a water tower that is visible to the west of the Verizon service center. The area to the south of the stream channel is forested with a mixture of Eastern red cedar trees and hardwoods.

The Alternative 2 site is also mostly grassland that is regularly maintained. The eastern perimeter of the site is wooded. Further to the east is a perennial stream channel. Views from this site include commercial structures, an apartment complex, and roadways, including State Highway 121. There is an office building and parking garage across Highway 121 to the south and southeast.

4.3.2 Consequences

Potential impacts to aesthetic and visual resources are considered significant if the Proposed Action would substantially degrade the natural or constructed physical features at the alternative sites that provide the property its character and value as an environmental resource. The magnitude of any impact would be primarily determined by the number of viewers affected, viewer sensitivity to changes, distance of viewing, and compatibility with existing land use.

4.3.2.1 Alternative 1 – Preferred Alternative

Overall, potential impacts to aesthetics and visual resources from the Preferred Alternative would not be significant. The Preferred Alternative would cause short-term negative visual impacts on the Lewisville AFRC property resulting from ground disturbance associated with construction of the proposed facilities. However, the reclamation of disturbed areas would remove these visual impacts.

The Preferred Alternative would also result in long-term adverse visual impacts, because the land currently supporting grasses would be disturbed for construction and paving for the organizational parking area. However, these impacts would not be significant as they would be consistent with the aesthetics of surrounding land uses. Operations at the AFRC would result in minor adverse aesthetic impacts, including increased traffic and nighttime light, resulting from increased use during weekends when the facilities are in use by tenant organizations. Because the surrounding areas are developed, there are already nearby sources of nighttime light and glare. The realignment alternative is expected to generate nighttime light and glare that is similar to the current on-site and surrounding sources.

4.3.2.2 Alternative 2

Impacts anticipated to occur from Alternative 2 would be similar to those discussed under the Preferred Alternative.

4.3.2.3 No Action Alternative

Under the No Action Alternative, there would be no effects on the viewshed or on the aesthetic values of the region.

4.4 Air Quality

4.4.1 Affected Environment

This section describes the existing air quality conditions at and surrounding the Preferred Alternative and Alternative 2 sites. For analysis purposes, the ROI for air quality is defined as Denton County, Texas, where the sites are located. The alternative sites are located in U.S. Environmental Protection Agency (EPA) Region 6. The Dallas-Fort Worth area, including Denton County, currently does not meet the federal guidelines for acceptable levels of ozone. Ambient air quality conditions are discussed first, followed by air pollution emissions at the site and regional air pollution emissions.

4.4.1.1 Ambient Air Quality Conditions

The ambient air quality in an area can be characterized in terms of whether it complies with the primary and secondary National Ambient Air Quality Standards (NAAQS). The Clean Air Act (42 U.S.C. 7401 et seq.) requires the EPA to set NAAQS for pollutants considered harmful to public health and the environment. NAAQS have been established for seven criteria pollutants: carbon monoxide (CO); lead (Pb); nitrogen dioxide (NO₂); ozone (O₃); particulate matter with an aerodynamic size less than or equal to 10 microns (PM₁₀); particulate matter with an aerodynamic size less than or equal to 2.5 microns (PM_{2.5}); and sulfur dioxide (SO₂). These pollutants are believed to be detrimental to public health and the environment, and are known to cause property damage. Table 4-1 lists the NAAQS values for each criteria pollutant. Texas has adopted all of the NAAQS standards. Texas Commission on Environmental Quality (TCEQ) is responsible for ensuring that the air quality within Texas meets or is better than the levels required by Federal and State standards. The TCEQ is in the process of developing an 8-hour Ozone Attainment Demonstration State Implementation Plan (SIP) for the Dallas-Fort Worth nonattainment area. The objective of the SIP is to reduce ozone emissions and reach the ozone attainment goal by June 15, 2010. The Clean Air Plan includes controls on transportation; controls on compressor engines; controls on minor sources; controls on major sources; controls on cement kilns; controls on electrical generating units; retrofit or replacement of older diesel engines through the Texas Emissions Reduction Plan (TERP); repair or replacement of older cars and trucks through the AirCheck Texas Program; proposed restrictions on Discreet Emissions Reductions Credits (DERCs); new regulations on back-up generators, as well as other items of concern (EPA Region 6 2009). The North Central Texas Council of Governments (NCTCOG) is working with TCEQ and EPA among many other entities on improving the air quality. The NCTCOG Regional Transportation Council (RTC) has developed a wide array of air quality programs that promote the reduction of nitrogen oxides emissions, which lead to ground-level ozone formation (NCTCOG 2008). These programs include Air North Texas, Clean Cities Technical Coalition, Clean Fleet Vehicle Policy, Blue Skyways Collaborative, Air Check Texas, and the SmartWay Program, among others.

Texas is one of 28 eastern U.S. states under the Clean Air Interstate Rule (CAIR), a program to permanently cap emissions of SO₂ and nitrogen oxides (NO_x). CAIR will help Texas meet and maintain NAAQS for ground-level ozone and fine particle pollution (SO₂ and NO_x contribute to the formation of fine particles (PM), and NO_x contributes to the formation of ground-level ozone).

Table 4-1. National Ambient Air Quality Standards.

Pollutant	Standard Value
Carbon Monoxide (CO)	
8-hour average	9 ppm
1-hour average	35 ppm
Lead (Pb)	
Quarterly Average	1.5 µg/m ³
Nitrogen Dioxide (NO₂)	
Annual arithmetic mean	0.053 ppm

Ozone (O3)	
8-hour average	0.075 ppm
1-hour average	0.12 ppm
Particulate matter less than 10 microns (PM10)	
Annual Mean	50 µg/m ³
24-hour average	150 µg/m ³
Particulate matter less than 2.5 microns (PM2.5)	
Annual arithmetic mean	15.0 µg/m ³
24-hour average	35 µg/m ³
Sulfur dioxide (SO2)	
Annual arithmetic mean	0.03 ppm
24-hour average	0.14 ppm

Source: 40 CFR 50.4 through 50.13
 µg/m³ micrograms per cubic meter
 ppm parts per million

4.4.1.2 Air Emission Sources at Lewisville AFRC Sites

The Lewisville AFRC sites currently have no stationary pollutant emission sources.

4.4.1.3 Regional Air Pollution Emissions Summary

General air quality monitoring is conducted in areas of high population density and near major sources of air pollutant emissions. Rural areas are typically not considered in such monitoring. Regions that are in compliance with the NAAQS are designated as attainment areas. Areas for which no monitoring data is available are designated as unclassified and are by default considered to be in attainment of the NAAQS. In areas where the applicable NAAQS are not being met, a non-attainment status is designated.

The Lewisville AFRC sites are located in EPA Region 6. These sites are currently in an area cited as non-attainment for ozone. The deadline for the TCEQ to bring this region into attainment is 2010. This area is considered in attainment for all other measured pollutants.

Ground level ozone is the biggest air quality problem in the U.S. This “bad ozone” forms when emission sources such as transportation, industrial and commercial operations, and vegetation emit NOx and other volatile organic compounds (VOC) which react in the presence of sunlight. It is mainly a daytime problem that occurs in the summer. The biggest concern with high ozone concentrations is the damage it causes to human health and vegetation (TCEQ, 2008)

To regulate the emission levels resulting from a project, federal actions located in non-attainment areas are required to demonstrate compliance with the general conformity guidelines established in 40 CFR Part 93, Determining Conformity of Federal Actions to State or Federal Implementation Plans (the Rule). Section 93.153 of the Rule sets the applicability requirements for projects subject to the Rule through the establishment of *de minimis* levels for annual criteria pollutant emissions. These *de minimis* levels are set according to criteria pollutant nonattainment area designations. Projects below the *de*

de minimis levels are not subject to the Rule. Those at or above the levels are required to perform a conformity analysis as established in the Rule. The *de minimis* levels apply to direct and indirect sources of emissions that can occur during the construction and operational phases of the action.

In addition to evaluation of air emissions against *de minimis* levels, emissions are also evaluated for regional significance. A federal action that does not exceed the threshold emission rates of criteria pollutants may still be subject to a general conformity determination if the direct and indirect emissions from the action exceed 10 percent of the total emissions inventory for a particular criteria pollutant in a non-attainment or maintenance area. If the emissions exceed this 10 percent threshold, the federal action is considered to be a “regionally significant” activity, and thus, the general conformity rules apply.

4.4.2 Consequences

Potential impacts to air quality are considered significant if the Proposed Action would:

- Increase ambient air pollution above any NAAQS;
- Contribute to an existing violation of any NAAQS;
- Interfere with or delay timely attainment of NAAQS; or
- Impair visibility within any federally mandated Prevention of Significant Deterioration (PSD) Class I area.

4.4.2.1 Alternative 1 – Preferred Alternative

Temporary increases in air pollution would occur from the use of construction equipment in building new facilities. Dust, diesel emissions, and particulate matter are expected to temporarily increase during the first 12 to 18 months of the project. Due to the short duration of the construction project, any increases or impacts on ambient air quality are expected to be short-term and minor.

Calculations were performed to estimate the total air emissions from the new construction activities. Calculations were made for standard construction equipment such as bulldozers, excavators, front end loaders, backhoes, cranes, and dump trucks. 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 piece of equipment would be used. The assumptions and resulting calculations are presented in Appendix E.

The total air quality emissions, as presented in Table 4-2, were calculated to determine the applicability of the General Conformity Rule. The General Conformity Rule applies to areas that have been designated as a non-attainment zone for an air pollutant, such as the Dallas area. Regulations set forth in 40 CFR 51 Subpart W-Determining Conformity of the General Federal Action to State or Federal Implementation Plans determine if additional permits are needed. According to 40 CFR 51.853(b), Federal actions require a Conformity Determination for each pollutant where the total of direct and indirect emissions in a non-attainment or maintenance area caused by a Federal action would

equal or exceed any of the rates in paragraphs 40 CFR 51.853(b)(1) or (2). A summary of the total emissions are presented in Table 4-2. As can be seen from this table, the proposed construction activities do not exceed thresholds and, thus, do not require a Conformity Determination.

Table 4-2. Total Air Emissions (tons/year) from Construction Activities (18 month schedule) vs. the *de minimus* Thresholds

Pollutant	Total	<i>De minimus</i> Thresholds
Nitrogen Oxides (NOx)	8.99	100
Volatile Organic Compounds (VOC)	1.46	100

Long-term impacts associated with operation of the proposed AFRC are not likely to occur. No fueling facilities, underground storage tanks (USTs), or paint booths would be required for the AFRC. The vehicles associated with the use of these facilities by reservists would not be expected to result in significant impacts to air quality because the existing two reserve units will be relocated and there will be no net gain of personnel in the airshed, the proposed users would be relocating from facilities within the same airshed.

4.4.2.2 Alternative 2

Impacts anticipated to occur from Alternative 2 would be similar to those discussed under the Preferred Alternative.

4.4.2.3 No Action Alternative

Implementation of the No Action Alternative would not change current conditions and therefore would not affect the current air quality conditions in the region.

4.5 Noise

Noise is generally defined as unwanted sound. Sound is all around us; it becomes noise when it interferes with normal activities such as speech, concentration, or sleep. Noise associated with military installations is a factor in land use planning both on- and off-post. Noise emanates from vehicular traffic associated with new facilities and from project sites during construction. Ambient noise (the existing background noise environment) can be generated by a number of noise sources, including mobile sources, such as automobiles and trucks, and stationary sources such as construction sites, machinery, or industrial operations. In addition, there is an existing and variable level of natural ambient noise from sources such as wind, streams and rivers, wildlife and other sources.

Sound is measured with instruments that record instantaneous sound levels in decibels (dB). A-weighted sound level measurements (dBA) are used to characterize sound levels that can be sensed by the human ear. The typical measurement for quieter sounds, such as rustling leaves or a quiet room, is from 20 to 30 dBA. Conversational speech is commonly 60 dBA, and a home lawn mower measures approximately 98 dBA. All sound levels discussed in this EA are A-weighted.

4.5.1 Affected Environment

Sources of noise at the Preferred Alternative site are negligible, and are largely limited to minor traffic noise from personnel entering and exiting the area, and occasional lawn mowing equipment used to maintain the grass. On-site sources of noise are negligible in comparison to off-site sources, which are dominated by traffic along FM 407 (Justin Road), Summit Avenue, McGee Avenue, Interstate 35 and the actual operation of facilities associated with the adjacent Verizon property.

Sources of noise at the Alternative 2 site are negligible and are largely limited to minor traffic noise from personnel entering and exiting the area, and occasional lawn mowing equipment used to maintain the grass. Off-site sources of noise are dominated by traffic along Highway 121 and MacArthur Boulevard as well as operation of the surrounding commercial facilities.

4.5.2 Consequences

Potential noise impacts resulting from the Proposed Action are evaluated with respect to the potential for:

- Annoyance – noise can impact the performance of various every day activities such as communication and watching television in residential areas.
- Hearing loss – the EPA recommends limiting daily equivalent energy to 70 dBA, approximately 75 dBA day-night average sound level, to protect against hearing impairment over a period of 40 years (day-night average sound level is an average sound level generated by all operations during an average or busy 24-hour period, with sound levels of nighttime noise events emphasized by adding a 10-dB weighting).
- Sleep interference, which is of great concern in residential areas.

The standard threshold for determining at what point noise impacts become a nuisance is 65 dBA day-night average sound level.

4.5.2.1 Alternative 1 – Preferred Alternative

Negligible adverse, but temporary and short-duration noise impacts would occur under the Preferred Alternative during construction activities. These impacts could be mitigated by confining construction activities to normal working hours and employing noise-controlled construction equipment to the extent possible. Additionally, the arrival and staging of heavy equipment and materials would be scheduled to occur during normal work hours to the greatest extent possible to avoid disturbing personnel and residents in the surrounding communities.

After construction, noise from the day-to-day operations of the new AFRC and associated facilities are not expected to increase significantly. The proposed construction would be expected to add approximately 6 vehicles to the daily commuting traffic on a given weekday. Noise levels would not be significant compared to the traffic on FM 407 and Interstate 35 as well as daily operations at the surrounding industrial and commercial facilities. The weapons simulator at the new facility will not cause a significant increase in noise. The maximum number of individuals reporting on any given weekend is expected to be approximately 80 and would only contribute negligible amounts of noise to the current environment. The estimated 6 fulltime personnel commuting to the site daily would also only contribute negligible amounts of noise to the current environment.

4.5.2.2 Alternative 2

Impacts anticipated to occur from Alternative 2 would be similar to those discussed under the Preferred Alternative. Under this Alternative, there is one residential receptor that is immediately adjacent to the property. Vehicular noise from the privately owned vehicles would be comparable to or less than the existing noise levels from traffic on Highway 121 and MacArthur Blvd.

4.5.2.3 No Action Alternative

Under the No Action Alternative, no changes or impacts would occur to noise levels on or surrounding the Preferred Alternative or Alternative 2 site.

4.6 Geology and Soils

4.6.1 Affected Environment

This section describes the geology and soil conditions at the Lewisville AFRC Preferred Alternative site and Alternative 2 site. Geologic and topographic conditions are discussed first, followed by soils, and prime farmland. The ROI for geology and soils is the land within the Proposed Action project area.

4.6.1.1 Geologic and Topographic Conditions

The land on the Preferred Alternative site is fairly level and contains a slight topographic high in the northwest corner and slopes gently toward the south and southeast. The elevation of the site ranges from approximately +/- 570 feet above mean sea level (MSL) in the northwest portion to approximately 550 feet MSL in the southeast portion. The land on the Alternative 2 site is also fairly level and slopes gently to the east (see Figure 4-2). The underlying geology in these areas consists of the Upper Cretaceous Woodbine Formation which consists of mixed sandstone, shale, and clay. The land is located in the Northern Blackland Prairies Physiographic Province. The rolling to nearly level plains of the Northern Blackland Prairie are underlain by interbedded chinks, marls, limestones, and shales of Cretaceous age. Most of the prairie has been converted to cropland, non-native pasture, and expanding urban uses. Soils are mostly fine-textured, dark, calcareous, and productive Vertisols (Bureau of Economic Geology, 1996).

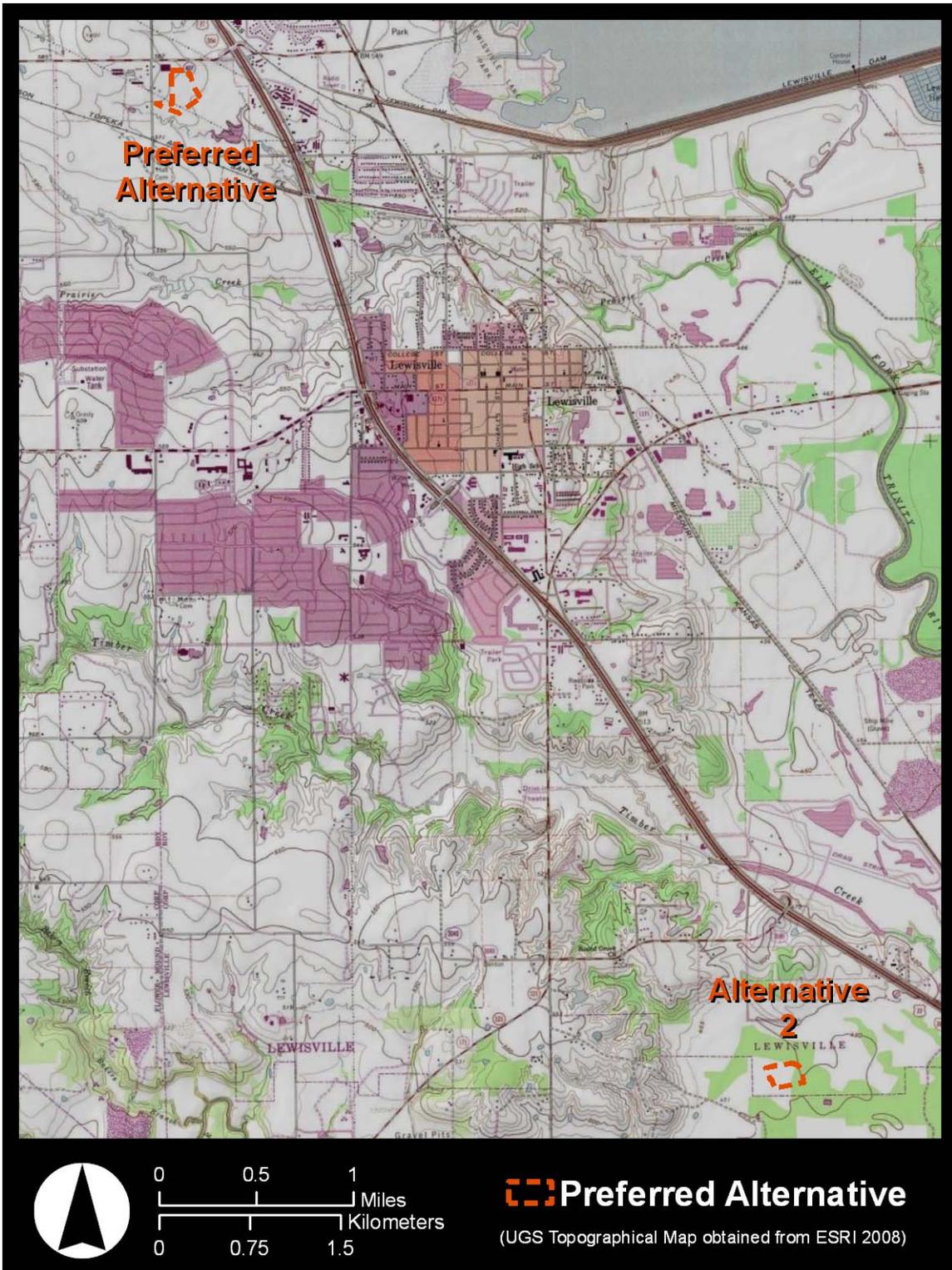


Figure 4-2. U.S.G.S Topographic Map of Both Alternative Sites

4.6.1.2 Soils

The gently sloping land occupied by the Preferred Alternative is covered by soils represented by three mapping units (Figure 4-3). The soils mapped on the project area include Justin fine sandy loam, 1 to 3 percent slopes (46), Wilson clay loam, 0 to 1 percent slopes and Wilson clay loam, 1 to 3 percent slopes. Justin series soils consist of very deep, well drained, moderately slowly permeable soils that formed in clayey and loamy sediments. These nearly level to gently sloping soils are on uplands. Wilson series soils consist of very deep, moderately well drained, very slowly permeable soils that formed in alkaline clayey sediments. These soils are on nearly level to gently sloping stream terraces or terrace remnants on uplands. (Natural Resource Conservation Service (NRCS 2008)).

The soil mapped on the Alternative 2 site is Trinity clay, occasionally flooded (78) (Figure 4-4). Trinity series soils consist of very deep, moderately well drained, very slowly permeable soils on flood plains. They formed in alkaline clayey alluvium. Slopes are typically less than 1 percent, but range from 0 to 3 percent (NRCS 2008).

4.6.1.3 Prime Farmland

Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses. Prime farmland is protected by the Farmland Protection Policy Act (FPPA); however, urban lands are exempt from the provisions of the FPPA (7 CFR Parts 657 and 658). Justin fine sandy loam soils are considered Prime Farmland soils. Wilson clay loam soils are not considered prime farmland soils. Trinity clay soils are considered prime farmland soils.

4.6.2 Consequences

Potential impacts to geology or soils are considered significant if the Proposed Action would:

- Expose people or structures to major geologic hazards;
- Cause substantial erosion or siltation;
- Cause substantial land sliding; or
- Cause substantial damage to project structures/facilities.

4.6.2.1 Alternative 1 – Preferred Alternative

Overall, potential impacts to geology and soils from the Preferred Alternative would not be significant. The proposed facilities would reduce water infiltration by capping the subsoil with impervious surfaces.

Construction of a new AFRC and parking facilities would disturb existing ground cover and increase the potential for soil erosion during the site preparation and construction phases. Irreversible commitments of resources would include a minimal amount of soil loss through either wind or water erosion during construction activities. BMPs for

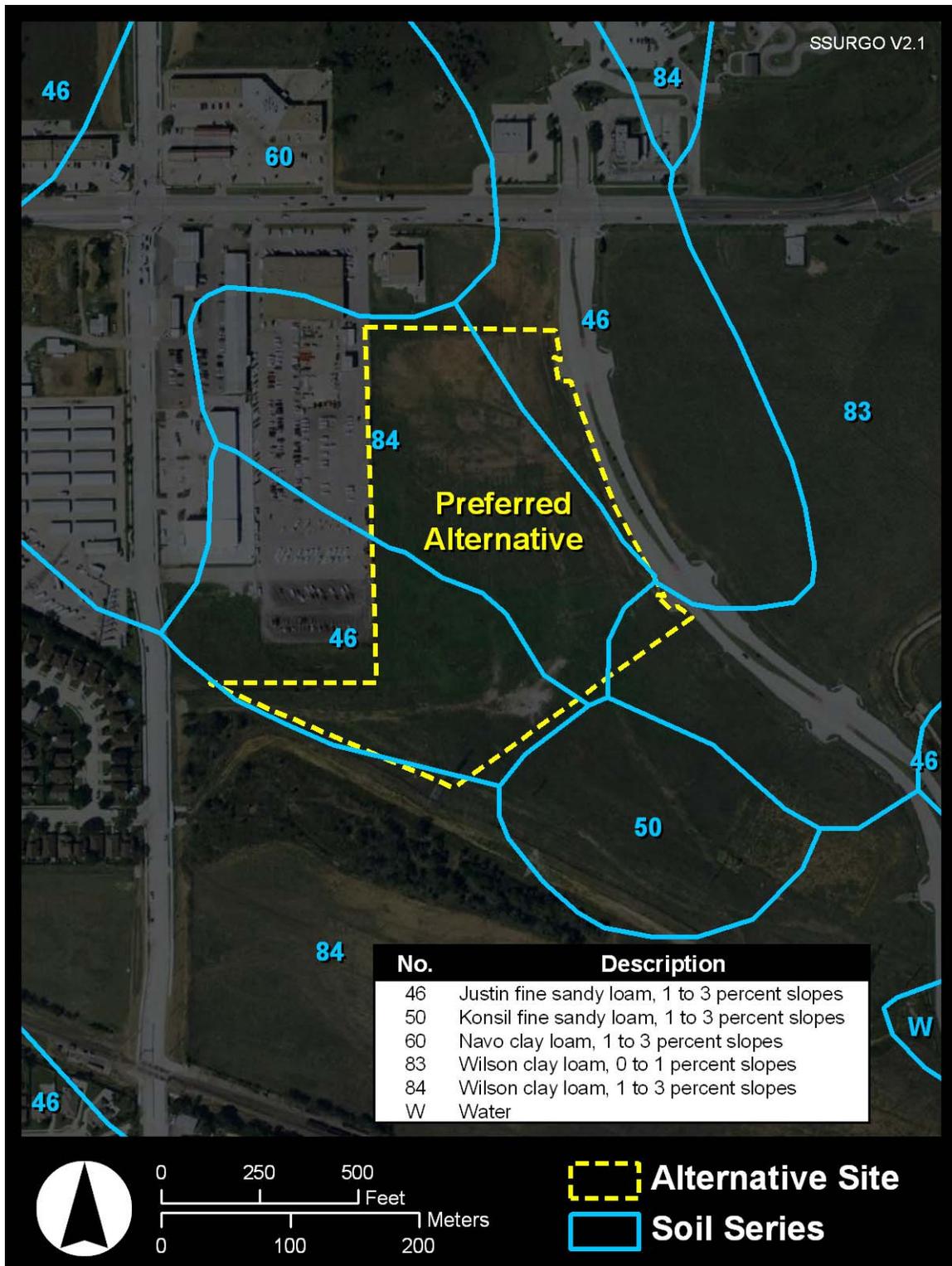


Figure 4-3. Mapped Soils of the Preferred Alternative

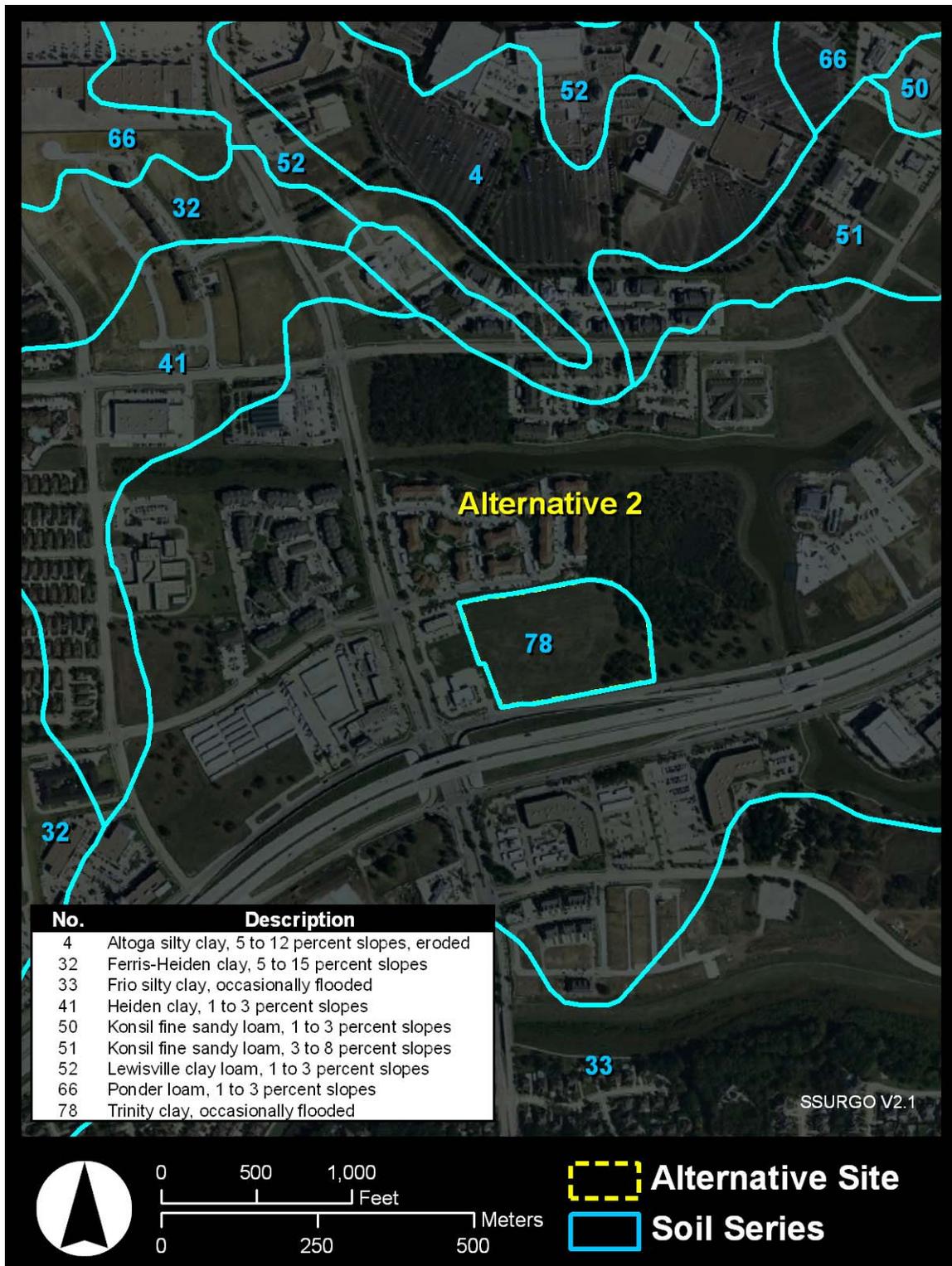


Figure 4-4. Mapped Soils of the Alternative 2 Site

erosion control, topsoil management, and revegetation would be required and stated in the construction contract, and would reduce the potential effects to insignificant levels. Erosion control during construction activities would be undertaken with the use of hay bales and silt fencing, as appropriate, to prevent the movement of soils into drainage ditches or low-lying areas, and could also include scheduling construction activities for periods of lowest rainfall. Once the facilities are operational and new vegetation is in place, additional erosion of topsoil would be minimal and would be limited or mitigated through adherence to a storm water management plan.

The FPPA is not applicable because the land is zoned light industrial and is therefore committed to urban development.

4.6.2.2 Alternative 2

Impacts anticipated to occur from Alternative 2 would be similar to those discussed under the Preferred Alternative. The FPPA is also not applicable because the land is zoned light industrial and is therefore committed to urban development.

4.6.2.3 No Action Alternative

Under the No Action Alternative, no changes or impacts would occur to geologic or soil resources.

4.7 Water Resources

4.7.1 Affected Environment

This section describes water resources on the alternative Lewisville AFRC sites, including surface and groundwater resources. Surface water includes lakes, rivers, and streams and is important for a variety of reasons, including economic, ecological, recreational, and human health. Groundwater comprises the subsurface hydrogeologic resources of the property's physical environment. This section also discusses floodplains. Wetlands are discussed in Section 4.8.1.4. The ROI for water resources is the Preferred Alternative and Alternative 2 sites as well as areas downstream from these sites.

4.7.1.1 Surface Water

The Lewisville Preferred Alternative AFRC site is in the Elm Fork of the Trinity River watershed (Hydrologic Unit Code (HUC) 12030103). The nearest surface water feature in the vicinity of the Preferred Alternative AFRC site is an intermittent tributary to Prairie Creek to the south which discharges into Lake Lewisville. This tributary had a very small amount of flow on the day of the on-site investigation. There are three stormwater drainage inlets along the west side of Summit Avenue. There is no flowing surface water on the Preferred Alternative site.

The Alternative 2 site is also within the HUC 12030103. The major surface water feature in the vicinity of Alternative 2 is an unnamed tributary to Timber Creek approximately 0.2 miles to the east. This tributary appears to be channelized and man-made and is not present on the topographic quadrangle map. The sources of the municipal water that

would be used at both alternative sites are from Lewisville Lake (via Lewisville Water Treatment Plant) and Dallas Water Utilities (City of Lewisville 2007). The City of Dallas receives drinking water from five lakes: Grapevine, Lewisville, Ray Roberts, Ray Hubbard, and Tawakoni (City of Dallas 2006). According to the City of Lewisville website, the water provided by Lewisville meets or exceeds water quality standards and maintains a rating of “Superior Public Water Supply”, the highest rating given by TCEQ. (<http://www.cityoflewisville.com/wcmsite/publishing.nsf/Content/Water+Information+Reports>)

4.7.1.2 Hydrogeology/Groundwater

Both alternative sites are located in the Edwards-Trinity aquifer system, which is the primary aquifer system in the area and consists of Cretaceous deposits of the Trinity Group (Terraine-EnSafe 8(a) Joint Venture 2008). Historically this aquifer provided most of the potable water to the area. As noted above, however, surface water is the primary source of potable water.

4.7.1.3 Floodplains

The Preferred Alternative site is located in a “Minimal Flood Hazard Area” and is outside of the 100 year floodplain. The Alternative 2 site is located in a “Moderate Flood Hazard Area” and is protected from the 100-year flood by a levee (Federal Emergency Management Agency (FEMA) 2008) (see Figure 4-5).

4.7.2 Consequences

Potential impacts to water resources, including surface water and groundwater are considered significant if the Proposed Action would:

- Irreversibly diminish water resource availability, quality, and beneficial uses;
- Reduce water availability or interfere with a potable supply or water habitat;
- Create or contribute to overdraft of groundwater or exceed a safe annual yield of water supply sources;
- Result in an adverse effect on water quality or an endangerment to public health by creating or worsening adverse health hazard conditions;
- Result in a threat or damage to unique hydrological characteristics; or
- Violate an established law or regulation that has been adopted to protect or manage water resources of an area.

Potential impacts that would be considered significant related to floodplain management include:

- Potential damage to structures located in the floodplain; and
- Changes to the extent, elevation, or other features of the floodplain as a result of flood protection measures or other structures being silted in or removed from the floodplain.

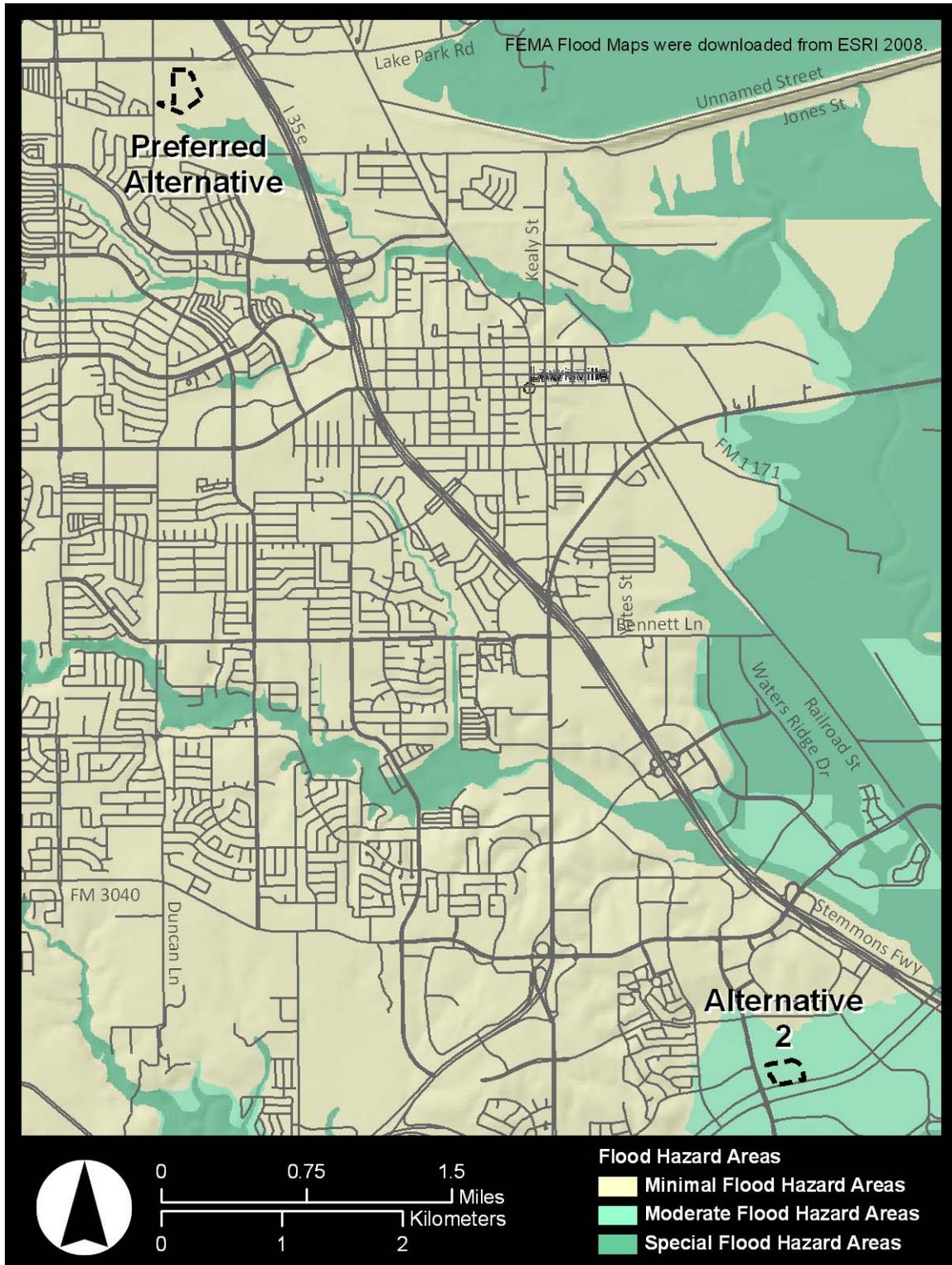


Figure 4-5. FEMA Floodplain Map of Both Alternative Sites

4.7.2.1 Alternative 1 – Preferred Alternative

Overall, potential impacts to water resources from the Preferred Alternative would not be significant. There would be no measurable reduction in surface water quality or availability. By capping the subsoil with impervious surfaces, the Preferred Alternative would reduce groundwater recharge locally over the long term by reducing the infiltration of precipitation (see Section 4.6.2.1). The Preferred Alternative would result in the addition of impervious surfaces in the area, however the amount is minimal. This reduction of groundwater recharge would not have a significant impact on regional groundwater supplies.

Construction of the proposed AFRC would disturb existing ground cover and increase the potential for soil erosion during the site preparation and construction phases. BMPs for erosion control, topsoil management, and revegetation would be required and stated in the construction contract, and therefore potential effects would not be significant. Erosion control during construction activities would be undertaken with the use of hay bales and silt fencing, as appropriate, to prevent the movement of soils into drainage ditches or low-lying areas, and could also include scheduling construction activities for periods of lowest rainfall.

Potential nonpoint source storm water impacts would not be significant with implementation of BMPs, and should be described in a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would be modified, as needed, to address site specific requirements and monitoring. Point discharges of wastewater are prohibited by existing National Pollutant Discharge Elimination System (NPDES) requirements under the Clean Water Act (CWA). Potential spills of petroleum, oils, and lubricants at the proposed site would have minor short term and long term adverse impacts on surface and groundwater, if uncontained. Spills would be mitigated using procedures identified in the Spill Prevention Control and Countermeasures (SPCC) plan to reduce potential impacts to surface water or groundwater.

Because the Proposed Action does not entail construction within the 100-year floodplain, there would be no impacts to floodplains from the Proposed Action, and there are no impacts to Proposed Action structures caused by building in a floodplain.

4.7.2.2 Alternative 2

Impacts anticipated to occur from Alternative 2 would be similar to those discussed under the Preferred Alternative.

4.7.2.3 No Action Alternative

Under the No Action Alternative, no changes or impacts would occur to water resources.

4.8 Biological Resources

4.8.1 Affected Environment

This section describes biological resources at the proposed Lewisville AFRC sites. It focuses on plant and animal species or habitat types that are typical or are an important element of the ecosystem, are of special category importance (of special interest due to societal concerns), or are protected under state or federal law or statute regulatory requirement. Vegetation is discussed first, followed by wildlife, sensitive species, and wetlands. The ROI for biological resources is the land within the Preferred Alternative and Alternative 2 project area.

4.8.1.1 Vegetation

Vegetation on the Preferred Alternative site consists of grass that is maintained on a regular basis. Vegetation on the Alternative 2 site is mostly grass that is maintained on a regular basis. The extreme eastern portion of the Alternative 2 site is forested with fairly mature trees including Bois D'Arc (*Maclura pomifera*), Post Oak (*Quercus stellata*), and hackberry (*Celtis laevigata*).

4.8.1.2 Wildlife

Wildlife at the Preferred Alternative and Alternative 2 sites is typical of the urban wildlife found in the region. The sites have a diversity of habitat and land use features that provide limited opportunity for wildlife. In addition, the amount of industrial and commercial activities as well as major thoroughfares immediately surrounding the area further limit this opportunity. The forested area on the eastern portion of the Alternative 2 site that extends to the north and east may provide some habitat for wildlife, however this is a small amount of area. Several small burrows were observed within the open, grassed area of the Alternative 2 site, however no individual species were observed during the on-site investigation.

Whitetailed deer (*Odocoileus virginianus*) are the largest wild animals that may pass through the sites. Other common species include red (*Vulpes vulpes*) or gray foxes (*Urocyon cinereoargenteus*), coyotes (*Canis latrans*), skunks (*Tamias striatus*), raccoons (*Procyon lotor*), cottontail rabbits (*Sylvilagus auduboni*), opossums (*Didelphis virginiana*), Eastern cottontail rabbits (*Sylvilagus floridanus*), and squirrels (*Sciurus* spp.).

4.8.1.3 Sensitive Species

Under Section 7 of the Endangered Species Act (ESA), the Army must ensure that any Army action authorized, funded, or carried out is not likely to jeopardize the continued existence of any threatened and endangered species or result in the destruction or adverse modification of critical habitats on the Lewisville AFRC site. In compliance with the ESA, informal consultation has been initiated with the U.S. Fish and Wildlife Service (USFWS) for the Preferred Alternative site, and a copy of the concurrence letter sent by the 90th RRC may be found in Appendix C. The Army is not aware of any resident

threatened or endangered species or species proposed for listing as threatened or endangered on the Preferred Alternative site of the proposed AFRC.

A Rare Resources Review application was submitted to the Texas Parks and Wildlife Department (TPWD) on January 19, 2009. A response is pending. These Rare Resources Review applications are also included in Appendix C.

4.8.1.4 Wetlands

Wetlands are defined by the USACE and the EPA based on the presence of wetland vegetation, wetland hydrology, and hydric soils with certain land area considerations. Wetlands and other surface water features, which may include intermittent and perennial streams, are generally considered “waters of the United States” by the USACE, and under their definition of “jurisdictional waters/features,” are protected under Section 404 of the CWA.

No formal delineation of wetlands has been performed on the Preferred Alternative site or the Alternative 2 site, although no jurisdictional wetlands on either site are recorded in the National Wetlands Inventory (NWI) (USFWS 1995) (Figure 4-6). Also, no wetlands were observed within the property boundaries during the on-site investigation.

4.8.2 Consequences

Potential impacts to biological resources are considered significant if the Proposed Action would:

- Affect a threatened or endangered species;
- Substantially diminish habitat for a plant or animal species;
- Substantially diminish a regionally or locally important plant or animal species;
- Interfere substantially with wildlife movement or reproductive behavior;
- Result in a substantial infusion of exotic plant or animal species; or
- Destroy, lose, or degrade jurisdictional wetlands (as defined by Section 404 of the CWA).

EO 11990, *Protection of Wetlands*, requires federal agencies to avoid actions, to the extent practicable, which would result in the location of facilities in wetlands.

4.8.2.1 Alternative 1 – Preferred Alternative

Overall, potential impacts to biological resources from the Preferred Alternative would not be significant. The Preferred Alternative would have no overall effect on biodiversity or regional plant and animal populations.

Construction of the proposed AFRC would cause short-term impacts on the vegetation surrounding construction sites, but over the long term, existing vegetation around the sites would be expected to remain the same. Irreversible commitments of resources would include a small loss of vegetation in those areas that would not be replanted (that



Figure 4-6. NWI Map of Both Alternative Sites

is, previously vegetated areas where buildings or pavement would be located). Any exposed soil resulting from the construction activities would be quickly stabilized with sod. BMPs for erosion control, topsoil management, and revegetation would be required and stated in the construction contract, and therefore potential effects would not be significant. The AFRC would be built on land that has already been disturbed (i.e. the area appears to have been stripped of topsoil and is currently being maintained; and some portions of the site were excavated for the installation of water and sewer lines), so there would not be any loss of native vegetation. Potential impacts to vegetation would not be significant.

Generally, projects located in previously disturbed or industrial land use areas have little or no effect on migratory bird species. However, all projects and their site locations should plan for and identify the possible presence of migratory bird species. If migratory bird species are encountered, protection from either disturbance or removal of their habitat would be evaluated and measures taken to mitigate any habitat loss or to protect the species. Other grassland birds that may utilize the property at various times may be affected. However, since most of the species inhabiting this area are transient, they would move to other similar habitat in the area.

Construction of the AFRC may affect on-site wildlife through the long-term direct loss of a relatively small amount of habitat and direct mortality of individuals occurring in construction zones. These facilities would result in the direct long-term loss of approximately 5.7 acres of very low productivity habitat for ground-dwelling or nesting species. Facility construction would result in loss of foraging and breeding habitat for some urban species. These transient species would move to other similar habitat within the area.

Post-construction impacts to wildlife from operation of the AFRC would not be significant. Species currently using the property are accustomed to humans and their activity, and would return to the site once construction activity and noise had abated.

Informal consultation was initiated with USFWS for potential impacts to federally listed species or designated critical habitat. The concurrence letter sent to USFWS is included in Appendix C.

No wetlands have been identified on the proposed site, therefore no impacts to wetlands are anticipated.

4.8.2.2 Alternative 2

Impacts to wildlife and vegetation anticipated to occur from Alternative 2 would be similar to those discussed under the Preferred Alternative. USFWS has not been consulted for the Alternative 2 site. If this site is selected, a more detailed analysis of wetlands would need to be conducted.

4.8.2.3 No Action Alternative

Under the No Action Alternative, no changes or impacts would occur to biological resources.

4.9 Cultural Resources

4.9.1 Affected Environment

Federal and military regulations, policies, and laws can apply to this property, including Sections 106 and 110 of the National Historic Preservation Act (NHPA), the Native American Graves Protection and Repatriation Act (NAGPRA) and the American Indian Religious Freedom Act (AIRFA).

This section describes the cultural resource conditions on the proposed Lewisville AFRC Preferred Alternative site. The prehistoric and historic background of the area is summarized first, followed by the status of cultural resource inventories and Section 106 consultations, and Native American resources. The prehistoric and historic information in Section 4.9.1.1 was taken from the Handbook of Texas Online (<http://www.tshaonline.org/handbook/online/>).

4.9.1.1 Prehistoric and Historic Background

The project area lies within the Prairie–Savanna Archeological Study Region of the Eastern Planning Region of Texas, as defined by the Texas Historical Commission (THC) (Kenmotsu and Perttula 1993). Cultural periods relevant to the current project area include Paleoindian (ca. 10,000–6500 B.C.), Archaic (ca. 6500 B.C.–A.D. 700), Woodland (290 B.C.–A.D. 700 in the southern part of the study region), Late Prehistoric (A.D. 700–1700), and Historic (post–A.D. 1700) (PBS&J 2008). Although archeological field surveys done under contract with the United States Army Corps of Engineers indicate some use of the area as early as the Middle Archaic Period (4,000 to 2,500 B.C.), only one county site, near Lewisville, has been deemed highly significant, and it is controversial. A Clovis point from the site was radiocarbon-dated at 37,000 B.C., but most other information contradicts the possibility that human beings inhabited the area that early. All other archeological work indicates nothing unique about prehistoric occupation of Denton County. There is no evidence that the county was the site of any large Indian villages in the Historic Period (1600–1800), although remains of many small transitory camps and small burial grounds have been found. Early Spanish and French explorers may also have trekked across the county, but documentation is lacking.

Anglo settlement began after William S. Peters, of Louisville, Kentucky, and several others, obtained a land grant from the Texas Congress in 1841. The land settled by their company, the Texian Land and Immigration Company, became known as the Peters colony. Their grant included all of the future Denton County, as well as parts or all of several other future counties. The earliest settlement in what became Denton County was in the southeastern section, near the site of present Hebron, and most of the early residents took up land in the Cross Timbers.

Although a few came from the lower South, most antebellum settlers in the area came from the upper South. In 1850, 40 percent gave Tennessee and Kentucky as their state of birth. Immigration from the upper South predominated because of the Kentucky-based Peters Company. The county was also limited to subsistence agriculture due to a lack of

water transportation. Consequently, there were only 106 slaves in the county in 1850; in 1860, eighty-seven slaveholders owned 251 slaves.

In the 1840s Denton County was the site of the Icarian colony, a French utopian settlement north of the site of present Justin. The Icarians gave up and left after a few months of sickness and disappointment and made virtually no lasting mark on the county. The same cannot be said of the German community of Blue Mound, on the prairie a few miles northwest of Denton. Descendants of many of the German families that began settling there in the 1870s were still among the residents of the community a century later. Most were from Saxony, via Illinois or Missouri.

In 1846, the Texas legislature formed Denton County out of what had been a much larger Fannin County. It was named for John Bunyan Denton, an eastern Fannin County Methodist preacher and lawyer, who was killed in a raid against Indians in northern Tarrant County on May 22, 1841. A county seat, named Pinckneyville, was located near the center of the county, at a spot about a mile southeast of the present center of Denton. Although county officials were elected in 1846, no courthouse was built, and less than two years later a site named Alton, three or four miles to the southeast, was made county seat. Because water was not readily available, in 1850 the legislature allowed Alton to be moved about two miles south to Alexander Cannon's homestead near Hickory Creek. A log courthouse, the first in the county, was built there. Alton soon had stores, residences, and a hotel and was a regular stage stop. In the summer of 1856, however, county residents voted to establish a new county seat near the center of the county on a 100-acre tract donated by Hiram Cisco, William Loving, and William Woodruff. The new town, named Denton, was established the next year, but was not incorporated as a city until 1866.

Denton County grew slowly until after the Civil War. In 1860 it had 4,780 residents, slightly more than 10,000 acres of improved land, and a few more than 20,000 cattle, 6,000 of which belonged to John S. Chisum, who began ranching in the northwestern part of the county in 1854. Almost all residents were still engaged in subsistence agriculture. Cotton ginned that year totaled only two bales. Growth was rapid, however, in the decade of the 1870s, when the population grew from 7,251 to 18,143. Many new residents began farms, and in 1880 almost 50 percent of the county was in cultivation.

Railroads entered the county in the 1880s and had a great economic and demographic effect. Production of such subsistence crops as corn and vegetables declined, acreage in cotton and wheat increased rapidly, and the number of cattle grazing the prairies shrank substantially. Cotton acreage, 29,785 acres in 1880, peaked at 115,078 in 1920, but declined to insignificance in the 1980s. The Grand Prairie of Denton County was ideal for wheat culture, and between 1880 and 1900, wheat acreage increased by more than 80,000 acres. From 1890 to 1920 the county ranked either first or second in wheat production among the counties of the state, behind Collin County. Krum, a village near Denton, was reputed in 1900 to be the largest inland wheat market in the United States. Between 1880 and 1920 the number of beef cattle declined from 49,008 to 12,123, and 89 percent of county land was in cultivation at the latter date. Railroads also determined

town location up to the 1970s, when only one town of any size was not on one of the railroad lines built in the 1880s.

Although Denton County's railroads made the county a significant agricultural producer, they did not make it an important commercial or manufacturing center. Consequently, population expansion in the twentieth century, slow in response to agriculture after 1900, depended to a great extent on other forms of transportation and on higher education. The county's population growth and its economic and cultural life were much influenced by the location in Denton of two large state-supported universities. The University of North Texas, established as Texas Normal College in 1890, had an enrollment of more than 20,000 in 1993. At the same time, Texas Woman's University, which originated in 1903 as Girls' Industrial College, had an enrollment of about 5,000 at the Denton campus.

Rubber-tired transportation and, perhaps to a lesser extent, the location of Dallas-Fort Worth International Airport, played a large part in the growth of Denton County after 1940. During World War II the county began to serve noticeably as a bedroom area for Dallas-Fort Worth. Completion of Interstate Highway 35 in the 1950s increased commuting, and in the 1980s Interstate highways 35E and 35W forked in Denton. All of the towns and cities of the county had a significant commuter element, but the southeastern portion, growing most rapidly, was virtually an extension of Dallas-Fort Worth. Lewisville, The Colony, and the part of Carrollton in Denton County were all population centers because they were suburbs of Dallas. The population of Denton had also grown because of the city's proximity to Dallas and because of the growth of the University of North Texas and Texas Woman's University.

The county population grew from 47,432 in 1960 to 143,126 in 1980. Many new rural residents owned small spreads, and mobile homes vied with expensive, sprawling ranchhouses for space. Large horse ranches were scattered through the county; in 1983 horses brought in \$17,207,400, a significantly larger income than that from any other agricultural product. Newcomers and many older residents returned much of Denton County's rich cropland to pasture, and by the 1980s rural areas, almost depopulated by the rural-to-urban shift after World War II, had probably returned to their 1920s level in density of population.

4.9.1.2 Status of Cultural Resource Inventories and Section 106 Consultations

Preferred Alternative

A Phase I Cultural Resource Survey of this property was conducted on December 15, 2008 by PBS&J (PBS&J 2008). A total of eight shovel tests were excavated within the proposed project area in an effort to locate cultural resource sites, for an average density of 1.29 shovel tests per hectare (0.52 per acre), or one shovel test per 0.78 hectare (one per 1.9 acres). No prehistoric or historic artifacts or cultural features were found in any of the shovel tests or the surface investigation. Concurrence from the State Historic Preservation Office (SHPO) was received and is dated April 8, 2009 stating that no historic properties will be affected and that the project may proceed. A copy of this letter is included in Appendix C.

The Phase I Cultural Resources Survey included a records check in search of sites recorded within or close to the proposed project area. In addition, earlier maps of the project area were examined for the location of any early or mid-twentieth-century structures within the proposed project area. These maps included an 1897 map of Denton County (Office of Land Department, Texas & Pacific Railway Company 1879), a 1918 Denton County soils map (U.S. Department of Agriculture (USDA), Department of Soils 1918), and the 1960 U.S. Geological Survey (USGS) map of the area (USGS 1960).

The literature and records review conducted for the proposed Armed Forces Reserve Center, located in Lewisville, Denton County, Texas, revealed no previously recorded archeological sites within 300 meters (1,000 feet) of the proposed project area. Likewise, an examination of historical maps of the area showed no historic features or buildings within the project area during the late nineteenth and early twentieth centuries.

Alternative 2

On February 19, 2009, a review of the Texas Historical Commissions' Historic Site Atlas National Register Listings on-line database was conducted. At that time, no National Register of Historic Places (NRHP) properties or districts, or National Historic Landmarks were recorded on or within the APE of the Alternative 2 project location. No on-site survey was conducted and the review did not include an exhaustive search of recorded archeological sites or consultation with SHPO.

4.9.1.3 Native American Resources

No Native American concerns regarding the Proposed Action have been identified. A list of tribal organizations that were sent consultation letters and all responses received are included in Appendix C.

4.9.2 Consequences

Potential impacts to historic properties and/or archaeological resources are considered significant if the Proposed Action would:

- Physically destroy, damage, or alter all or part of the property;
- Physically destroy, damage, alter or remove items from archaeological contexts without a proper mitigation plan;
- Isolate the property from or alter the character of the property's setting when that character contributes to the property's qualification for the NRHP;
- Introduce visual, audible, or atmospheric elements that are out of character with the property or alter its setting;
- Neglect a property resulting in its deterioration or destruction; or
- Transfer, lease, or sell the property (36 CFR 800.9[b]) without a proper preservation plan.

4.9.2.1 Alternative 1 – Preferred Alternative

No significant negative impacts to architectural resources would be likely as a result of implementation of the proposed action. No buildings listed, eligible for listing, or potentially eligible for listing on the NRHP occur in the project area.

No significant negative impacts to archaeological resources would be likely as a result of implementation of the proposed action. A Phase I cultural resources investigation of the 15.3 acre project area was conducted in December 2008. All shovel tests were negative for cultural material and no resources were found that were potentially eligible for the National Register. Concurrence from the State Historic Preservation Office (SHPO) was received and is dated April 8, 2009 stating that no historic properties will be affected and that the project may proceed. A copy of this letter is included in Appendix C.

If, during construction, any potential historic or archaeological resource is uncovered or inadvertent discoveries are made of Native American human remains and associated funerary objects, sacred objects, or objects of cultural patrimony, the Cultural Resources Manager for the 90th RRC would be contacted, in accordance with typical standard operating procedure for the accidental discovery of archaeological resources or Native American artifacts.

If the federally recognized tribes contacted in connection with this undertaking respond and raise concerns regarding issues of importance to the respective tribes, the 90th RRC will address these concerns as soon as possible.

4.9.2.2 Alternative 2

Should this site location be selected, a Phase I Cultural Resources Survey and consultation with SHPO would need to be conducted.

4.9.2.3 No Action Alternative

Under the No Action Alternative, no changes or impacts would occur to cultural and archaeological resources.

4.10 Socioeconomics

4.10.1 Affected Environment

The region of influence (ROI) is the geographic area within which the majority of potential impacts to socioeconomic resources would be concentrated. The ROI for the proposed action is a one-county area, Denton County, in the State of Texas. The proposed action includes the relocation of the U. S. Army Reserve 90th Muchert Service Center in Dallas, TX to a new AFRC in Lewisville, TX. All of the facilities from which the units would be relocated from are located within the ROI. As a result, the proposed action would not change the number of persons in the ROI.

This section describes the existing socioeconomic conditions for Denton County, Texas. Socioeconomic factors include economic development, demographics, housing, and environmental justice.

Denton County is one of 254 counties in Texas. It is part of the Dallas-Fort Worth-Arlington, TX Metropolitan Statistical Areas (MSA). Denton County's 2006 population of 586,582 ranked 9th in the state.

4.10.1.1 Economic Development

Employment

Earnings of persons employed in Denton increased from \$8,049,466* in 2005 to \$8,828,264* in 2006, an increase of 9.7 percent. The 2005-2006 state change was 8.3 percent and the national change was 5.7 percent. The average annual growth rate from the 1996 estimate of \$3,299,843* to the 2006 estimate was 10.3 percent. The average annual growth rate for the state was 7.0 percent and for the nation was 5.5 percent.

Total full- and part-time employment in Denton County, TX increased between 1994 and 2006 by 93,878 jobs (Bureau of Economic Analysis [BEA], 2008). Among the industrial sectors, the greatest numeric and percent increase in employment took place in the services sector where the share of total non-farm employment in the region increased. Substantial increases in employment and share also occurred in the retail trade sector.

Employment in the federal government increased numerically over the period from over 42,900 jobs in 1990 to 46,500 in 2008. However, its share of total non-farm employment remained relatively stable at between 10 percent and 12 percent. The major employers (with more than 500 employees) in Denton County, TX are presented in Table 4-1.

Table 4-3. Major Employers In The Lewisville Area

Employer	Number of Employees
Vista Ridge Mall	2,000
LISD	1,803
Centex Home Equity	1,253
Wal-Mart	1,013
EMC Mortgage Company	950
Lewisville Medical Center	836
SYSCO Foods	632
Xerox, Corp.	522
Texas Waste Management	520

Source: City of Lewisville, Office of Economic Development

Unemployment

Over the period from 1990 through 2008, unemployment rates for Denton County, TX have generally been lower than those in the State of Texas and those of the nation as a whole (Bureau of Labor Statistics (BLS) 2008). From a high level in 1991/92, rates have

*All income estimates are in thousands of dollars, not adjusted for inflation.

ranged between 1.6 and 5.8 percent throughout the researched period. Through 2006 to the present, the rates have climbed from an average of 4.0 percent to 5.0 percent (Economagic.com)

Regional Income and Earnings

Personal income in Denton County in 2006 totaled over \$22,161. The majority of this income (over 60 percent) was derived from earnings, with an additional 30 percent attributable to transfer payments (such as income maintenance, unemployment insurance, and retirement). The remaining contribution was derived from dividends, interest, and rents. Per capita income stood at \$37,529 for the ROE area. The percent of change of personal income from 2005-2006 increased by 9.9 percent (BEA 2008, <http://www.bea.gov/regional/reis/action.cfm>).

Population

Denton County, TX has experienced population gains (U.S. Census Bureau 2006) every year since 1990. The population in July 2008 was 636,557. The population of the county is projected to increase by 7.0% by 2025, compared to the 9.2% projected growth for the state as a whole. The on-post population of Lewisville Reserve Training Center includes military personnel assigned to the post and civilian personnel employed at the post.

4.10.1.2 Housing

The total number of housing units in Denton County in 2008 was 168,069 (NCTCOG, 2008; <http://www.nctcog.org/ris/demographics/housing.asp>). Of this total, 10.7 percent were vacant and of the occupied units, 53.9 percent were owner-occupied, with the remaining 46.1 percent renter-occupied. Of the occupied housing units in the ROI, fewer than 63 percent are single family detached structures (U.S. Census Bureau 2008).

4.10.1.3 Environmental Justice

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (1994), directs federal agencies to identify and address disproportionately high adverse human health and environmental effects on minority populations and low income populations.

4.10.1.4 Protection of Children

The 90th RRC follows the guidelines as specified for the protection of children as indicated in EO 13045 (1997), Protection of Children from Environmental Health Risks and Safety Risk. This EO requires that federal agencies shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children and ensure that policies, programs, and standards address disproportionate risks to children that result from environmental health or safety risks.

4.10.2 Consequences

Potential socioeconomic impacts are considered significant if the Proposed Action would cause:

- Substantial gains or losses in population and/or employment; or
- Disequilibrium in the housing market, such as severe housing shortages or surpluses, resulting in substantial property value changes.

Potential environmental justice impacts are considered significant if the Proposed Action would cause disproportionate effects on low-income and/or minority populations, or children.

4.10.2.1 Alternative 1 – Preferred Alternative

The Economic Impact Forecast System (EIFS) model was used to estimate the economic effects of the proposed action and the results are compared to rational threshold values (RTVs) as a means of evaluating the significance of these effects in relation to the regional economy. RTVs are positive and negative percent changes in sales volume, income, employment, and population that represent an acceptable range around the maximum historic fluctuations that have occurred within the ROI over the period 1969 through 2000. The EIFS model report, which contains the model inputs, outputs, and significance measures, is provided as Appendix D.

Economic Development

Construction Phase

In terms of personnel, the proposed action involves the relocation of approximately 6 full time U.S. Army Reserve (USAR) personnel and up to 80 reservists, to Lewisville Reserve Training Center from other existing facilities in the ROI. Construction of the Lewisville AFRC Complex under the proposed action is expected to last approximately 22 months (June 2009 to March 2011) and cost \$22 Million for the Preferred Alternative (Department of Defense Form 1391, July 25, 2007). In the short term, expenditures in the local economy for goods and services and direct employment associated with construction would increase sales volume, employment, and income in the ROI. The economic benefits would be temporary, lasting only for the duration of the construction period. It is assumed that capital expenditures for construction of the proposed Lewisville AFRC Complex would be spread annually over the 22 month construction period in proportion to the respective duration in each calendar year.

The forecast employment and income effects associated with the proposed construction activity for each year are minimal. The greatest effect would occur in fall 2009 and in 2010 when total employment in the ROI would increase by 204. These jobs would be comprised of 68 direct construction jobs and 137 secondary jobs associated with the procurement of (a) goods, materials, and services and (b) spending (personal consumption expenditures) by the construction workers.

Suppliers in the ROI would experience a short-term increase in the sale of construction-related materials and provision of services. It is anticipated that the construction workers required by the proposed action would be available in the regional workforce.

Estimates of both the direct and secondary effects of construction activities and the induced effects in related industrial sectors that would be affected by construction expenditures and employment in 2010 when effects would be most evident are minimal. The percentage increase in sales volume, income, and employment are relatively minor and fall within the range of historical fluctuations in those economic parameters, as represented by the RTVs for the region. Short-term minor beneficial effects to the regional economy can be expected from the construction activities required to implement the proposed action.

Operations Phase

There would be no measureable change in long-term employment because the proposed action involves the relocation of existing personnel within the ROI. The facilities from which the units would be relocated would experience decreases in maintenance and repair expenditures. It is anticipated that maintenance and repair expenditures for the proposed Lewisville AFRC would not exceed those for the existing facilities and negligible long-term impacts are anticipated.

Population and Housing

The workforce required during the construction phase of the proposed action would be available within the region and no in-migration of construction workers would occur. Thus, no increase in population is anticipated and potential impacts to housing and other community resources would not occur.

Environmental Justice and Protection of Children

The proposed action would be confined to Lewisville AFRC. Construction and operation of the proposed Lewisville AFRC Complex would not result in conflicting impacts associated with air quality, noise, groundwater, surface water, or hazardous materials and wastes. Safety measures to protect pedestrians, including children, would be implemented during construction. As a result, minorities, low-income residents, and children living in proximity to Lewisville AFRC would not be disproportionately impacted by the proposed action. This analysis is considered valid regardless of the total number or percentage of minorities, low-income residents, or children that live in proximity to the area, or the distance of their residences from the area. For these reasons, the proposed action would have no effect on environmental justice or protection of children.

4.10.2.2 Alternative 2

Impacts anticipated to occur from Alternative 2 would be similar to those discussed under the Preferred Alternative, as the ROI is the same for both alternatives.

4.10.2.3 No Action Alternative

Under the No Action Alternative there would be no changes to existing socioeconomic conditions within the ROI.

4.11 Transportation

4.11.1 Affected Environment

This section describes the general traffic conditions within the ROI in terms of access and circulation. The ROI for transportation is defined as the Preferred Alternative and Alternative 2 sites and the immediate vicinity.

4.11.1.1 Roadways and Traffic

The Preferred Alternative site is located less than ¼-mile west of the intersection of Interstate 35 and FM 407 (Justin Road). The primary access to the site is along Summit Avenue, which intersects with FM 407 less than 300 feet to the north of the property. Summit Avenue is a four-lane divided roadway that runs north to south. Justin Road is a four-lane thoroughfare that runs east to west to the north of the property.

Alternative 2 is located less than 500 feet northeast of the intersection of Highway 121 and MacArthur Boulevard and is less than 1 mile southwest of the intersection of Interstate 35 and Highway 121.

4.11.1.2 Public Transportation

The Denton County Transportation Authority (DCTA) offers several public transportation services in the Greater Lewisville and Denton area. These services include Commuter Express, a regional commuter service into downtown Dallas with transfer service onto Dallas Area Rapid Transit (DART); Connect, a fixed route service in the area; as well as Access, a response/paratransit service in Denton, Lewisville, Highland Village, Hickory Creek and Corinth (DCTA 2009). There is a Park & Ride located directly across Justin Road to the north of the Preferred Alternative site. This Park & Ride offers the Commuter Express service and the nearest Connect stop is located less than a mile to the west at Justin and Garden Ridge Road. The Dallas-Fort Worth International Airport is located approximately 10 miles to the south and Dallas Love Field is located approximately 20 miles to the southeast of the Preferred Alternative site. The nearest Connect stop to the Alternative 2 site is less than 1 mile to the north at Vista Ridge Mall. DCTA also plans to construct a new 21-mile regional rail service called the A-Train that will connect to DART. Construction is slated to begin in May 2009 with a proposed opening date of December 2010. One of the five proposed rail stations will be located near the Preferred Alternative site, approximately 1 mile to the north, at Garden Ridge Boulevard and I-35.

4.11.2 Consequences

Potential impacts to transportation are considered significant if the Proposed Action would:

- Disrupt or improve current transportation patterns and systems;
- Deteriorate or improve existing levels of service;
- Change existing levels of safety; and
- Disrupt and deteriorate current installation activities.

4.11.2.1 Alternative 1 – Preferred Alternative

Overall, potential transportation impacts from the Preferred Alternative would not be significant, and would have little to no long-term impacts.

During the construction phases of the Proposed Action, a temporary increase in vehicular traffic into and out of the Preferred Alternative site is expected, including the use of heavy equipment. With the construction of new POV parking areas, it is projected that the existing infrastructure at the proposed Lewisville AFRC site and the surrounding area would be able to accommodate the increase of 6 full-time employees during the week. As a reserve facility, training personnel reporting for reserve duty primarily access the site on drill weekends once a month. However, not all personnel report for duty on the same weekend; rather drill weekends are spread over an entire month. Justin Road and Summit Avenue would be congested during peak ingress/egress to the site during weekend duty, but this impact would be temporary in duration.

4.11.2.2 Alternative 2

Impacts anticipated to occur from Alternative 2 would be similar to those discussed under the Preferred Alternative.

4.11.2.3 No Action Alternative

Under the No Action Alternative, there would be no changes to the existing transportation infrastructure at the alternative sites or in surrounding areas.

4.12 Utilities

4.12.1 Affected Environment

This section describes existing utilities at the proposed Lewisville AFRC sites. In general, the utility systems are classified as distribution and collection systems including water, wastewater system, and energy sources. Communication systems and solid waste disposal are also discussed in this section. The ROI for utilities is defined as utility services at the Lewisville AFRC sites and the associated public utility service providers. Local municipal and commercial utility entities provide all major utilities (water, sewer, natural gas, electricity, and communications) at the proposed Lewisville AFRC sites.

4.12.1.1 Potable Water Supply

Potable water can be defined as water fit for drinking, being free from contamination and not containing a sufficient quantity of saline material to be regarded as a mineral water. There are no drinking water or irrigation supply wells located on either property. There is a water main that crosses the Preferred Alternative site on the south side as well as a fire hydrant. There is also a 12-inch water line along Justin Road and Summit Avenue. No utility lines were observed on the Alternative 2 site, however, there is a fire hydrant located on this site. All water for both alternative sites is provided by the City of Lewisville. The sources of the municipal water that would be used at both alternative sites are from Lake Lewisville, Lake Grapevine, Lake Ray Roberts, Lake Ray Hubbard,

and Lake Tawakoni (City of Lewisville, 2009; City of Dallas, 2006). The City of Lewisville has a total system capacity of 30.4 million gallons per day (MGD), of which 18 MGD is produced at the Water Treatment Plant. The Water Treatment Plant recently underwent an expansion to increase the treatment capacity from 15 MGD to 18 MGD. An additional 12.4 MGD is available for purchase from Dallas Water Utilities. Lewisville currently has an annual average daily consumption of 13.25 MGD.

4.12.1.2 Wastewater System

There is currently a sewer line that crosses the southern portion of the Preferred Alternative site. There is also a 10-inch sewer line along Summit Avenue. There appear to be no sewer lines that currently exist on the Alternative 2 site although sewer lines are nearby and can be connected to it. Wastewater collection and treatment is provided by the City of Lewisville. The City of Lewisville's Wastewater Treatment Plant is designed and permitted to handle a wastewater capacity of 12 MGD. The average daily flow of treated effluent for 2008 was 7.8 MGD (approximately 2/3 of total capacity).

4.12.1.3 Storm Water System

The majority of the storm water at the property is captured through infiltration. There are, however, three storm water inlets along Summit Avenue. A stormwater pollution and prevention plan (SWPPP) will be prepared to meet TCEQ requirements. The proposed site would be permitted for stormwater regulations as required by the TCEQ.

4.12.1.4 Energy Sources

The properties have access to both electricity and natural gas. Electricity is provided by Ameren and natural gas is provided by First Choice Power (plus 11 alternative providers are available).

4.12.1.5 Communication

The AFRC utilizes an Alcotel system for its communications services. Alcotel is associated with Avaya. The system is maintained by Cyber, Inc., Peachtree City, Georgia under contract with the U.S. Army Reserve Command in Atlanta.

4.12.1.6 Solid Waste

Solid waste disposal would be accomplished by contract with Waste Management.

4.12.2 Consequences

Effects on infrastructure are considered in terms of increases in demands on systems and the ability of existing systems to meet those demands. Potential effects to the environment could occur if the existing systems are insufficient to handle the increased demands requiring construction and operation of a new system that may affect the environment. Utility demands include both construction and operations usage. Utility demands during the operations of the Proposed Action are based on the facility square footage and personnel requirements.

4.12.2.1 Alternative 1 – Preferred Alternative

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 Muchert Army Reserve Center, located approximately 25 miles away. As indicated above, there is sufficient capacity with both supply and treatment systems to accommodate the proposed construction and operation of the AFRC.

Since the site is greater than 1 acre, a Stormwater Discharge Permit for General Construction would be required prior to construction. This permit would require that a SWPPP and Notice of Intent be prepared and filed with the EPA through the TCEQ. The SWPPP would identify BMPs that are required to be implemented to control stormwater erosion and runoff from the site and sedimentation into downstream areas. Upon completion of the construction activities, all disturbed areas that are not going to be landscaped and routinely maintained should be reseeded with native vegetation.

Overall, potential impacts to utilities from the Preferred Alternative would not be significant. Under the Preferred Alternative, irretrievable commitments of resources would occur from the consumptive use of electrical energy and fuel during the construction and operations phases.

4.12.2.2 Alternative 2

Impacts anticipated to occur from Alternative 2 would be similar to those discussed under the Preferred Alternative.

4.12.2.3 No Action Alternative

Under the No Action Alternative, no changes to utilities would occur at the site.

4.13 Hazardous and Toxic Substances

4.13.1 Affected Environment

This section describes the existing conditions of hazardous and toxic substances at each alternative site. Management of hazardous materials and hazardous wastes are discussed as well as site clean-up. The ROI is defined as the Preferred Alternative and Alternative 2 sites.

For purposes of this EA, hazardous materials are those regulated under federal, state, DoD, and Army regulations. Hazardous materials are required to be handled, managed, treated, or stored properly by trained personnel under the following regulations: Occupational Safety and Health Administration (OSHA) Hazardous Communication, 29 CFR 1900.1200 and 29 CFR 1926.59; and Department of Transportation Hazardous Materials, 49 CFR 172.101; EPA, 40 CFR 260 et seq. (OSHA 2006).

Preferred Alternative

An Environmental Condition of Property (ECP) Report (Terraine-Ensafe 8(a) Joint Venture 2009) was prepared for the Preferred Alternative site. The following information was extrapolated from that report.

The adjacent property to the west is the Verizon Service Center (Verizon), which was formerly occupied by GTE. The GTE site was a Leaking Petroleum Storage Tank (LPST) site (ID 104621). In 1992, GTE removed one 8,000-gallon gasoline and one 4,000-gallon diesel fuel underground storage tank (UST). Subsequent site assessment activities indicated that soil and groundwater were impacted with no apparent threat to receptors. The site was closed by the TCEQ and final concurrence was issued in 1995 (Terraine-Ensafe 8(a) Joint Venture 2009).

Verizon currently operates a UST system approximately 100 feet from the west Property boundary at a higher elevation. Based on TCEQ files, the current UST system is at the same location as the closed Leaking USTs. Storm water flows across the concrete surface of the Verizon site and discharges at a low point onto the Property. During the site visit conducted for the ECP, water appeared to be seeping from under the concrete surface of the Verizon site at the stormwater discharge point onto the Property, forming a puddle approximately 10 feet wide by 20 feet long by several inches deep and saturating the surrounding ground. Due to the former LPST at the Verizon site, the proximity of the current UST system to the Property boundary, and apparent water discharging onto the Property at a point topographically downgradient from the USTs, the likelihood that petroleum products have migrated into the ground, groundwater, or surface water on the Property is considered a REC. While the ECP indicates a REC exists for the site due to the adjacent Verizon Service Center site to the west, the former LPST at the Verizon site was closed in 1995 with concurrence from TCEQ (Terraine-Ensafe 8(a) Joint Venture 2009).

Alternative 2

The property appears to be vacant, open grassland with no structures. No ECP has been conducted for this property.

4.13.2 Consequences

Potential impacts to hazardous materials and hazardous waste management are considered significant if the Proposed Action would:

- Result in noncompliance with applicable federal and state regulations; or
- Increase the amounts of generated or procured hazardous materials beyond current permitted capacities or management capabilities.

4.13.2.1 Alternative 1 – Preferred Alternative

The proposed AFRC would consist primarily of training and office space as well as administrative service areas. There would be minimal use of hazardous materials, such

as janitorial products and printing supplies. Any hazardous materials will be handled and stored in accordance with applicable regulations and label precautions. The addition of privately owned vehicles would result in a negligible increase in the chance of leaks and spills.

Due to the minimal use of hazardous materials and minimal waste generation in this proposed facility, there would be negligible, long-term, adverse impacts related to hazardous or toxic substances from the proposed facility's operation.

4.13.2.2 Alternative 2

Impacts anticipated to occur from Alternative 2 would be similar to those discussed under the Preferred Alternative. If this site is selected, an ECP study will need to be conducted in order to determine potential RECs in connection with the property.

4.13.2.3 No Action Alternative

Under the No Action Alternative, no changes to hazardous and toxic substances management would occur.

4.14 Cumulative Effects Summary

Cumulative effects are those environmental impacts that result from the incremental effects of other past, present, or reasonably foreseeable future actions when combined with the Proposed Action. CEQ regulations stipulate that the cumulative effects analysis within an EA consider the potential environmental impacts resulting from the “incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such actions” (40 CFR 1508.7). Cumulative impacts can result from individually minor, but collectively substantial, actions undertaken over a period of time by various agencies (federal, state, and local) or individuals.

The scope of the cumulative effect analysis involves evaluating impacts to environmental resources by geographic extent of the effects and the time frame in which the effects are expected to occur. Past, present, and reasonably foreseeable actions are identified first, followed by the cumulative effects that could result from these actions when combined with the Proposed Action.

4.14.1 Past, Present, and Reasonably Foreseeable Actions

The geographic area analyzed for cumulative impacts includes both the proposed Lewisville AFRC alternatives and approximately 1 mile surrounding the site. No past, present, or reasonably foreseeable future projects were identified on the Preferred Alternative site or Alternative 2 site. The only reasonably foreseeable actions identified within the 1-mile radius of the Preferred Alternative is the development of the Renovo Rehabilitation Hospital across Summit Avenue to the east/southeast and there is a potential for commercial or light industrial businesses coming into the area. The Renovo Rehabilitation Hospital is still in the initial planning stages. Texas Department of Transportation (TXDOT) is in the planning stage of a project that will involve

improvements along I-35 from I-685 to U.S. 380. This will entail improvements of the interchange at I-35 and Justin Road (FM407). Construction is slated to begin in 2011 or 2012 (TXDOT, 2009). There is one specific foreseeable action identified within the 1-mile radius of Alternative 2. A Hampton Inn will be developed approximately 0.5-mile to the northeast at Lake Vista Drive and Vista Ridge Drive.

4.14.2 Cumulative Effects

Environmental effects for all resources potentially affected by the Proposed Action when combined with the identified reasonably foreseeable projects are discussed below.

4.14.2.1 Land Use

The Proposed Action would not cause any incremental impacts to land use when combined with the future projects in the vicinity of the Preferred Alternative, because these projects would occur on land that is already zoned for light industrial. The area already has a mixed-use composition with commercial, light industrial, and residential. Alternative 2 would not present conflicts or nonconformance with current local or state land use or zoning designations, therefore no cumulative impacts would be anticipated when combined with future projects in the vicinity.

4.14.2.2 Aesthetics and Visual Resources

Construction of the AFRC at either site would cause incremental impacts to aesthetics and visual resources when combined with the future development projects if construction occurred simultaneously. These impacts would be temporary and would not be significant.

4.14.2.3 Air Quality

As mentioned previously, emissions associated with construction activities for the Proposed Action would be insignificant and well below *de minimis* levels. If the construction periods overlapped, the Proposed Action would cause short-term incremental impacts to air quality when combined with the construction, demolition, or renovation aspects of the future projects listed in Section 4.14.1. Construction, renovation, or demolition may cause increased short-term external combustion in air emissions from heavy equipment usage. These impacts would be temporary impacts and would not be significant. Proper and routine maintenance of vehicles and other equipment would be implemented to ensure that emissions are within the design standards of all construction equipment.

4.14.2.4 Noise

The Proposed Action would cause short-term incremental impacts to noise when combined with the construction aspects of the future projects listed in Section 4.14.1 if construction occurred simultaneously. These impacts would be temporary, and cumulative effects to noise would not be significant.

4.14.2.5 Geology and Soils

The Proposed Action would cause minor, long-term incremental impacts to geology and soils when combined with the future projects listed in Section 4.14.1 through the addition of impervious surfaces to the general vicinity of the Lewisville AFRC. Incremental impacts would result in the reduction of infiltration of precipitation into the soil; however, the cumulative effects to geology and soils would not be significant.

4.14.2.6 Water Resources

The Proposed Action would cause minor, long-term incremental impacts to water resources when combined with the future projects listed in Section 4.14.1 through the addition of impervious surfaces to the general vicinity of the Lewisville AFRC. BMPs during construction and operation of the facilities would reduce these impacts during most occasions.

4.14.2.7 Biological Resources

The Proposed Action would cause minor, long-term incremental impacts to biological resources when combined with the future projects listed in Section 4.14.1 by removing vegetation and causing the direct loss of plant and wildlife habitats in the general vicinity of the Lewisville AFRC. However, these projects together would not substantially diminish the quality or quantity of habitat for plants or animals, nor would they substantially diminish regional or local populations of plant or animal species. Cumulative effects to biological resources would therefore not be significant.

4.14.2.8 Cultural Resources

No impacts to cultural resources would occur as a result of the proposed action; therefore, cumulative effects to cultural resources would not be significant. Ground disturbance due to the Proposed Action and the future projects would involve the potential for discovery of or impact to previously unrecorded cultural artifacts. Strict adherence to a standard operating procedure (SOP) regarding the inadvertent discovery of archaeological resources would minimize the possibility of adverse impacts.

4.14.2.9 Socioeconomics

The Proposed Action may cause short-term incremental impacts to socioeconomics when combined with the future projects listed in Section 4.14.1. Beneficial short-term impacts would result from construction activities due to an increase in employment and economic development.

The Proposed Action when combined with projects listed in Section 4.14.1 would have short- and long-term beneficial effects on the regional economy in terms of employment, income, and business sales.

4.14.2.10 Transportation

The Proposed Action may cause incremental impacts to transportation when combined with the future projects listed in Section 4.14.1. Short-term incremental impacts would result from increases in vehicular traffic from construction activities. Traffic within the

area as well as demands on transportation infrastructure would be increased, especially on weekends. The additional traffic from the Proposed Action and the future projects would have long-term cumulative conflicting impacts in the area. However, planned roadway improvements and traffic reduction programs implemented by the DCTA and TXDOT would lower the adverse impacts of road congestion.

4.14.2.11 Utilities

The Proposed Action may cause short-term incremental impacts to utilities when combined with the future projects listed in Section 4.14.1. Incremental impacts would result from construction solid waste. Solid waste produced by these projects would be shipped to a municipal landfill and would not be expected to cause adverse impacts to the landfill. Long-term incremental impacts would result from use of additional capacity of water and wastewater systems. It is anticipated that there is sufficient capacity with both supply and treatment systems to accommodate the Proposed Action and future projects (discussed in Section 4.14.1), therefore, cumulative impacts to utilities are not anticipated to be significant.

4.14.2.12 Hazardous and Toxic Substances

The Proposed Action may cause short-term incremental impacts from the use of hazardous and toxic substances during construction when combined with the future projects listed in Section 4.14.1. Incremental impacts would also result from increased waste from heavy construction equipment (i.e. hydraulic fluid), addition of POVs, and/or cleaners or solvents. However, overall cumulative impacts from hazardous and toxic substances would not be significant.

4.15 Mitigation Summary

Mitigation measures are measures that are integral to an alternative to reduce impacts. No mitigation measures are required for the Preferred Alternative discussed in this EA because resulting impacts are not significant. If the Alternative 2 site is selected, additional studies would need to be conducted, and mitigation may be required.

5.0 FINDINGS AND CONCLUSIONS

Direct, indirect, and cumulative impacts of the Preferred Alternative, Alternative 2, and the No Action Alternative have been considered. No significant adverse impacts were identified for the Preferred Alternative. If the Alternative 2 site is selected, additional surveys would need to be conducted.

Therefore, the issuance of a FNSI is warranted, and preparation of an environmental impact statement is not required.

6.0 LIST OF PREPARERS

PBS&J
7406 Fullerton Street, Suite 350
Jacksonville, Florida 32256

Name	Contribution	Experience
Dalton, Amy	Primary Author	8
Epps, Carissa	Document Specialist	8
Fitzgibbons, Kim	Project Manager, QA/QC Review, Author	13
Furman, Brad	GIS Analyst	3
Smith, Nancy	Economist	22

7.0 DISTRIBUTION LIST

The following agencies were notified that the Final EA is available for public review:

USFWS, Arlington, Texas Ecological Field Office
SHPO, Texas Historical Commission, Austin, Texas
TCEQ, Austin, Texas
TPWD, Austin, Texas

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9.0 ACRONYM LIST

µg/m ³	micrograms per cubic meter
ACSIM	Assistant Chief of Staff for Installation Management
AFRC	Armed Forces Reserve Center
AIRFA	American Indian Religious Freedom Act
APE	Area of Potential Effects
ARNG	Army National Guard
ASIV	Available Site Identification and Validation Report
AST	Above Ground Storage Tank
AT/FP	Anti-terrorism/Force Protection
BEA	Bureau of Economic Analysis
BLS	Bureau of Labor Statistics
BMP	best management practice
BRAC	Base Realignment and Closure
CAIR	Clean Air Interstate Rule
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DART	Dallas Area Rapid Transit
DCTA	Denton County Transportation Authority
DERCs	Discreet Emissions Reductions Credits
DoD	U.S. Department of Defense
EA	environmental assessment
ECM	Erosion Control Measure
ECP	Environmental Condition of Property
EIFS	Economic Impact Forecast System
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EPAct05	Energy Policy Act of 2005
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FNSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
GTE	General Telephone and Electronics
HUC	Hydrologic Unit Code
HVAC	heating, ventilation, and air conditioning
LPST	Leaking Petroleum Storage Tank
LULC	Land Use/Land Cover
MGD	Million Gallons per Day

Final Environmental Assessment

MSL	mean sea level
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NCTCOG	North Central Texas Council of Governments
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NOA	Notice of Availability
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O ₃	ozone
OMS	Organizational Maintenance Shop
OSHA	Occupational Safety and Health Administration
Pb	lead
PM _{2.5}	particulate matter with an aerodynamic size less than or equal to 2.5 microns
PM ₁₀	particulate matter with an aerodynamic size less than or equal to 10 microns
POVs	privately-owned vehicles
ppm	parts per million
PSD	Prevention of Significant Deterioration
REC	Recognized Environmental Conditions
ROI	region of influence
RRC	Regional Readiness Command
RTC	Regional Transportation Council
RTV	rational threshold value
SDD	Sustainable Design and Development
SH	State Highway
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO ₂	sulfur dioxide
SOP	standard operating procedure
SPCC	Spill Prevention, Control, and Countermeasures
SSR	Site Survey Report
SWPPP	Storm Water Pollution Prevention Plan
TCEQ	Texas Commission on Environmental Quality
TERP	Texas Emissions Reduction Plan
THC	Texas Historical Commission
TPWD	Texas Parks and Wildlife Department
Tpy	tons per year
USACE	U.S. Army Corps of Engineers

Final Environmental Assessment

USARC	U.S. Army Reserve Center
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
VOC	volatile organic compound

APPENDICES

**Appendix A
Photographs**



Photo 1. Looking west across Alternative 2 site.



Photo 2. Looking east across Alternative 2 site.



Photo 3. Looking southeast across Alternative 2 site (Highway 121 on right side of photo).



Photo 4. Looking east within forested area on eastern portion of Alternative 2 site.



Photo 5. Looking northwest across Alternative 2 site.



Photo 6. Small animal burrow on Alternative 2 site. Several of these were observed.



Photo 1. Looking south across Preferred Alternative site with power line ROW in distance.



Photo 2. Looking south along eastern property boundary and Summit Avenue (Preferred Alternative).



Photo 3. Looking across northwest portion of Preferred Alternative site toward Verizon building.



Photo 4. Looking southwest across southwestern portion of Preferred Alternative site.



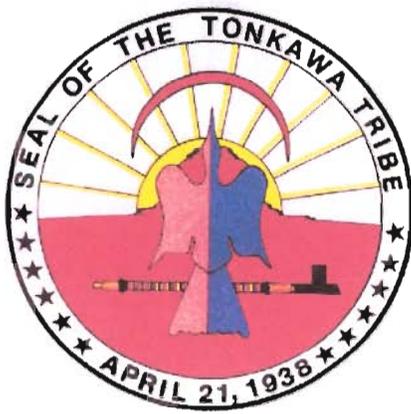
Photo 5. Looking north across Preferred Alternative site.



Photo 6. Looking east along intermittent stream channel south of property boundary (Preferred Alternative).

**Appendix B
Site Configuration**

**Appendix C
Agency Coordination**



TONKAWA TRIBE OF OKLAHOMA
TONKAWA TRIBAL COUNCIL

• 1 RUSH BUFFALO ROAD, TONKAWA, OKLAHOMA 74653 •
• PHONE (580) 628-2561 • FAX: (580) 628-3375 •
WEB SITE: www.tonkawatribe.com

Commander, 90th Regional Readiness Command
ATTN: Environmental Office
8000 Camp Robinson Road
North Little Rock, AR 72118-2205

Date: March 09, 2009

Dear Mr. Philip L. Hanrahan:

In response to the letter from your office dated February 23rd, 2009 regarding potential environmental impacts to cultural resources that may result from the closure of the Muchert U.S. Army Reserve Center (ARC) in Dallas, Texas and relocation of the units to a new Armed Forces Reserve Center (AFRC) in Lewisville, Texas. Concerning the cultural resources consultation during the NEPA process we submit the following: The Tonkawa Tribe has no specifically designated historical or cultural sites identified in the above listed project area therefore our participation in the consultation process is unnecessary at this time. However if any human remains, funerary objects, or other evidence of historical or cultural significance is inadvertently discovered then the Tonkawa Tribe would certainly be interested in proper disposition thereof.

We appreciate notification by your office of the many projects on-going, and as always the Tonkawa Tribe is willing to work with your representatives in any manner to uphold the provisions of NAGPRA to the extent of our capability.

Respectfully,

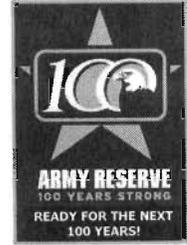
NAGPRA Representative

Concurrence:

Tonkawa Tribe Business Committee



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 22, 2009

Reply to the Attention of the Environmental Office

Mr. Don Patterson
President
Tonkawa Tribe of Oklahoma
P.O. Box 70
Tonkawa, OK 74653

Dear Mr. Patterson:

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). The BRAC Commission has recommended the closure of the Muchert U.S. Army Reserve Center (ARC) in Dallas, Texas and relocation of the units to a new Armed Forces Reserve Center (AFRC) in Lewisville, Texas. The City of Lewisville is in Denton County, Texas. The new facility shall have the capability to accommodate Texas National Guard units from the following Texas Army National Guard Readiness Centers: Denton, Irving, and Denison, Texas, if the state decides to relocate these National Guard units.

The Preferred Alternative site consists of 15.3 acres and is located southwest of the intersection of Justin Road (FM 407) and Summit Avenue in Lewisville, TX (Figure 1 and Figure 2). The site has historically been undeveloped or used for agricultural purposes. The site is currently grass that is maintained on a regular basis. The area in the vicinity of the Preferred Alternative site consists of mixed-use properties including undeveloped land, Quick Trip Convenience Store 942, and a strip shopping center across FM 407 (Justin Rd.) to the north; and undeveloped land to the south (beyond which are an intermittent stream and the Atchison Topeka and Santa Fe Railroad line). To the west are Verizon Service Center (abutting the property), McGee Street, then residential properties. To the east is Summit Avenue, vacant land zoned commercial, and I-35.

The U.S. Army Corps of Engineers (USACE), Mobile District, has contracted with PBS&J, Inc. to complete environmental studies of the AFRC site in compliance with the National Environmental Protection Act (NEPA). PBS&J has completed a cultural resource study of this site in accordance with NEPA and Section 106 of the National Historic Preservation Act

(NHPA). All shovel tests performed on the project site were negative for cultural material. These surveys will be discussed in detail in the EA.

This notification is an invitation for your Tribe to participate in the cultural resources consultation during the NEPA process. 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 your Tribe, or members of your Tribe, have any concerns or comments about the project area, please contact Mr. James Wheeler II, phone: (501) 771-7992, at your earliest convenience.

Sincerely,

A handwritten signature in cursive script, appearing to read "Philip L. Hanrahan".

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

Enclosures

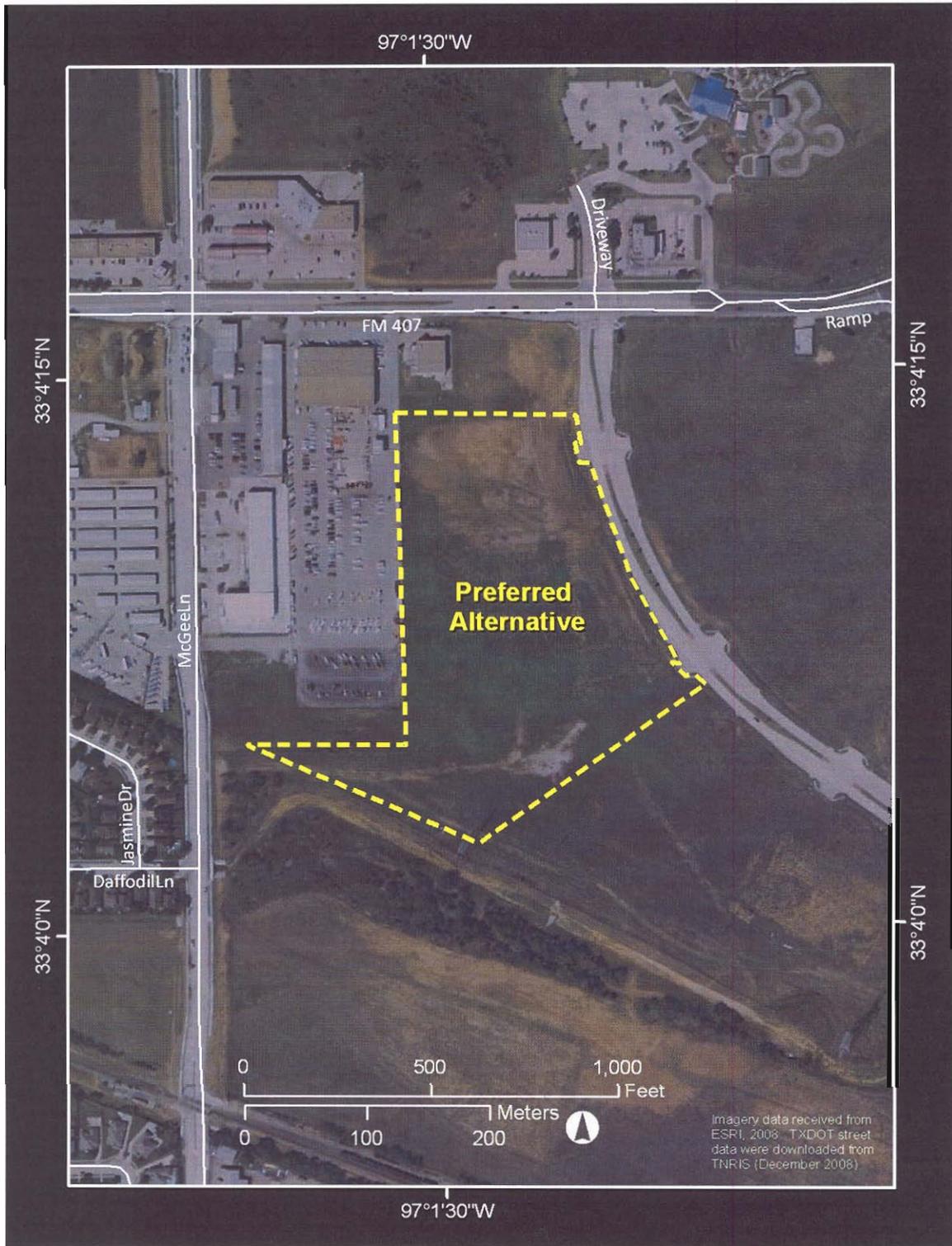
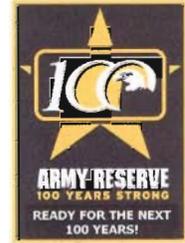


Figure 2. Preferred Alternative Location Map



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



February 18, 2009

Reply to the Attention of the Environmental Office

F. Lawrence Oaks
State Historic Preservation Officer
Texas Historical Commission
P.O. Box 12276
Austin, Texas 78711-2276

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). The BRAC Commission has recommended the closure of the Muchert U.S. Army Reserve Center (ARC) in Dallas, Texas and relocation of the units to a new Armed Forces Reserve Center (AFRC) in Lewisville, Texas. The City of Lewisville is in Denton County, Texas. The new facility shall have the capability to accommodate Texas National Guard units from the following Texas Army National Guard Readiness Centers: Denton, Irving, and Denison, Texas, if the state decides to relocate these National Guard units.

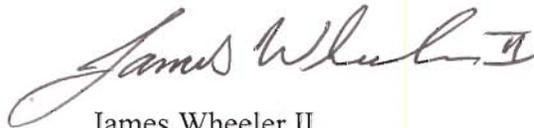
An Environmental Assessment (EA) is being conducted to determine the potential impacts of construction of the new AFRC. The Preferred Alternative site discussed in the EA consists of 15.3 acres and is located southwest of the intersection of Justin Road (FM 407) and Summit Avenue in Lewisville, TX (Figure 1 and Figure 2). The site has historically been undeveloped or used for agricultural purposes. The site is currently grass that is maintained on a regular basis. The area in the vicinity of the Preferred Alternative site consists of mixed-use properties including undeveloped land, Quick Trip Convenience Store 942, and a strip shopping center across FM 407 (Justin Rd.) to the north; and undeveloped land to the south (beyond which are an intermittent stream and the Atchison Topeka and Santa Fe Railroad line). To the west are Verizon Service Center (abutting the property), McGee Lane, then residential properties. To the east are Summit Avenue, vacant land zoned commercial, and I-35.

The USACE, Mobile District, has contracted with PBS&J, Inc. to complete environmental studies of the proposed AFRC sites in compliance with the National Environmental Protection Act (NEPA). PBS&J has completed a Phase I cultural resource study of the Preferred Alternative site. All shovel tests performed on the Preferred Alternative site were negative for

cultural material. This survey will be discussed in detail in the EA. We request concurrence from the SHPO that the proposed action would not impact cultural resources.

In order to sufficiently address key project issues while maintaining the project schedule, we are requesting that you provide a written response to this letter within 30 calendar days of receipt. If you have questions or concerns about this project, please do not hesitate to call me at (501) 771-7992.

Sincerely,

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

James Wheeler II
Chief, Environmental Division
90th RRC

Enclosures

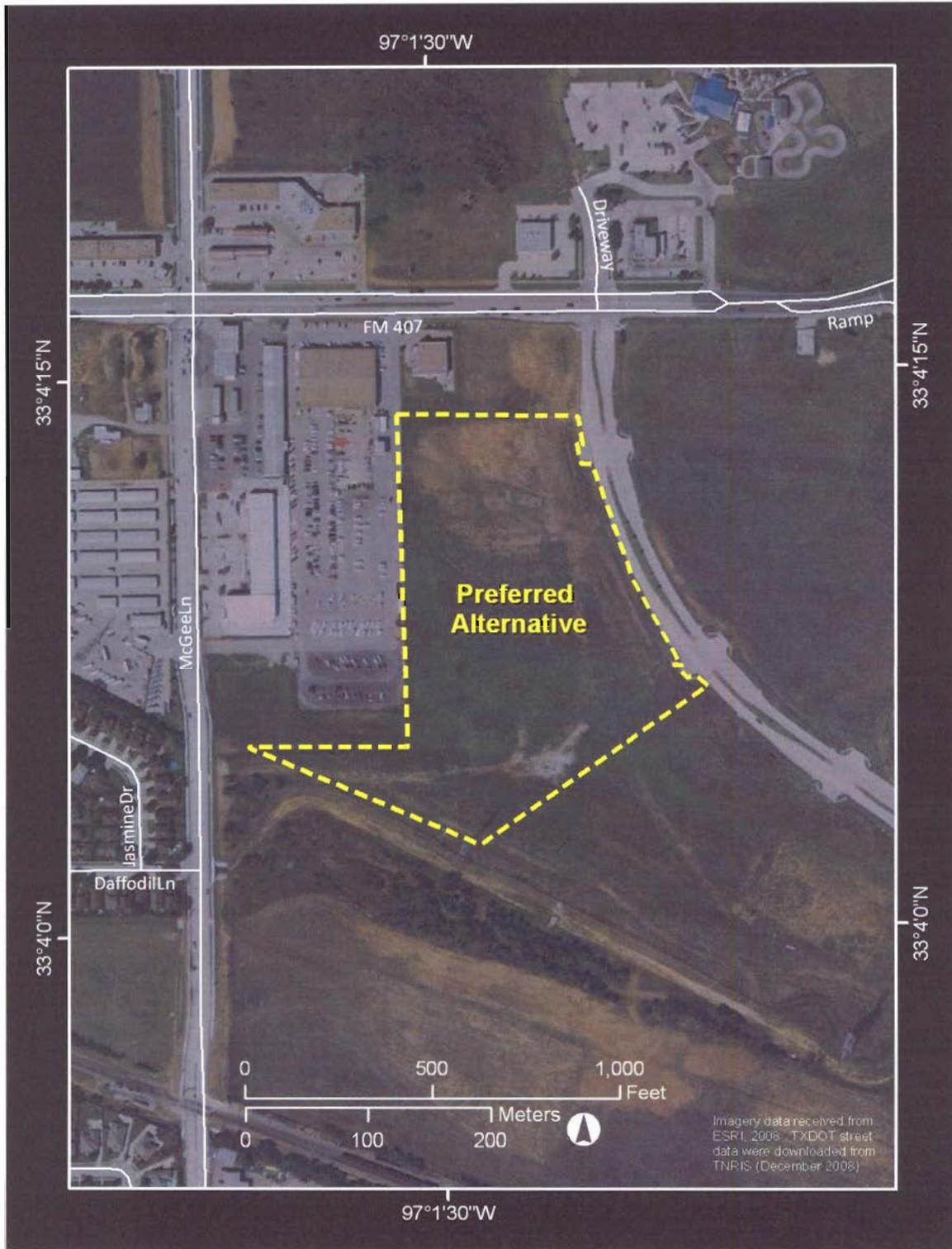


Figure 2. Preferred Alternative Location Map



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



February 18, 2009

Reply to the Attention of the Environmental Office

Betty Thompson
Texas Commission on Environmental Quality
P.O. Box 13087 MC 203
Austin, Texas 78711-3087

Dear Ms. Thompson:

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). The BRAC Commission has recommended the closure of the Muchert U.S. Army Reserve Center (ARC) in Dallas, Texas and relocation of the units to a new Armed Forces Reserve Center (AFRC) in Lewisville, Denton County, Texas. The new facility shall have the capability to accommodate Texas National Guard units from the following Texas Army National Guard Readiness Centers: Denton, Irving, and Denison, Texas, if the state decides to relocate these National Guard units.

The Preferred Alternative site consists of 15.3 acres and is located southwest of the intersection of Justin Road (FM 407) and Summit Avenue in Lewisville, TX (Figure 1 and Figure 2). The site has historically been undeveloped or used for agricultural purposes. The site is currently grass that is maintained on a regular basis. The area in the vicinity of the Preferred Alternative site consists of mixed-use properties including undeveloped land, Quick Trip Convenience Store 942, and a strip shopping center across FM 407 (Justin Rd.) to the north; and undeveloped land to the south (beyond which are an intermittent stream and the Atchison Topeka and Santa Fe Railroad line). To the west are Verizon Service Center (abutting the property), McGee Lane, then residential properties. To the east are Summit Avenue, vacant land zoned commercial, and I-35.

The USACE, Mobile District, has contracted with PBS&J, Inc. to complete environmental studies of the proposed AFRC site in compliance with the National Environmental Policy Act (NEPA). PBS&J has completed a Phase I cultural resource study of the Preferred Alternative site. All shovel tests performed on the Preferred Alternative site were negative for cultural material. This survey will be discussed in detail in the EA. Based on the information available, we do not anticipate that the project would impact any state or federally listed species or critical

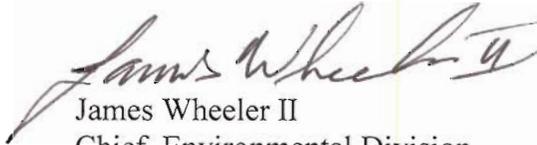
habitat. We are currently coordinating with Texas Parks and Wildlife, U.S. Fish and Wildlife Service, the State Historic Preservation Office and five tribal entities.

As part of the early coordination and NEPA scoping process, we are identifying key issues that will need to be addressed as part of this study. Please provide your comments relative to the following three topics:

- Specific issues or geographic areas of concern, based on your expertise or regulatory jurisdiction.
- Available technical information regarding these issues.
- Mitigation or permitting requirements that may be necessary for project implementation.

In order to sufficiently address key project issues while maintaining the project schedule, we are requesting that you provide a written response to this letter within 30 calendar days of receipt. If you have questions or concerns about this project, please do not hesitate to call me at (501) 771-7992.

Sincerely,



James Wheeler II
Chief, Environmental Division
90th RRC

Enclosures

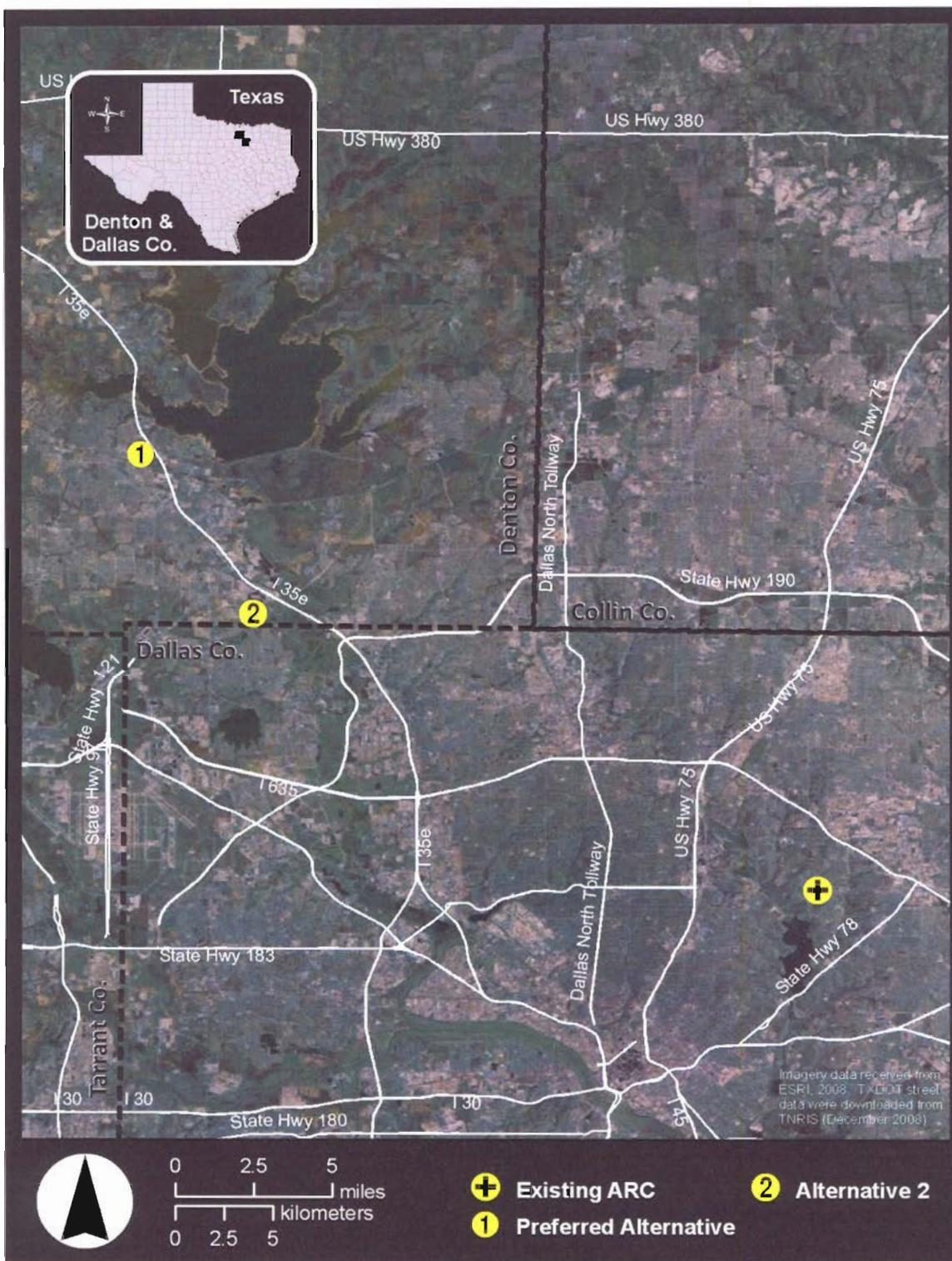


Figure 1. Regional Location Map, Lewisville, Texas

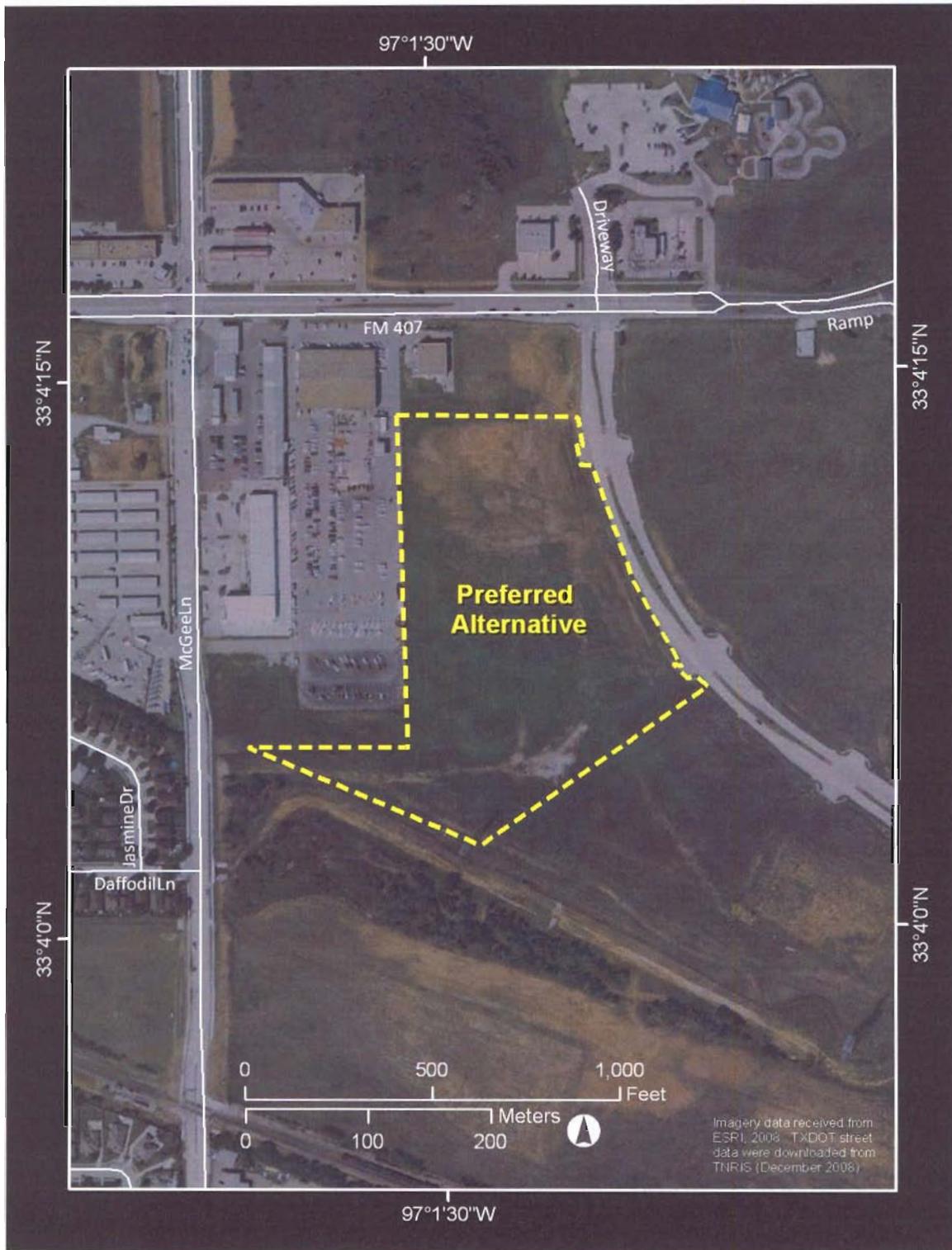


Figure 2. Preferred Alternative Location Map



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



February 22, 2009

Reply to the Attention of the Environmental Office

Mr. Robert Cast
Tribal Historic Preservation Officer
Caddo Nation
P.O. Box 487
Binger, OK 73009

Dear Mr. Cast:

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). The BRAC Commission has recommended the closure of the Muchert U.S. Army Reserve Center (ARC) in Dallas, Texas and relocation of the units to a new Armed Forces Reserve Center (AFRC) in Lewisville, Texas. The City of Lewisville is in Denton County, Texas. The new facility shall have the capability to accommodate Texas National Guard units from the following Texas Army National Guard Readiness Centers: Denton, Irving, and Denison, Texas, if the state decides to relocate these National Guard units.

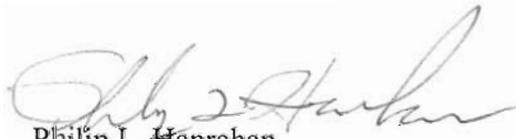
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The U.S. Army Corps of Engineers (USACE), Mobile District, has contracted with PBS&J, Inc. to complete environmental studies of the AFRC site in compliance with the National Environmental Protection Act (NEPA). PBS&J has completed a cultural resource study of this site in accordance with NEPA and Section 106 of the National Historic Preservation Act

(NHPA). All shovel tests performed on the project site were negative for cultural material. These surveys will be discussed in detail in the EA.

This notification is an invitation for your Tribe to participate in the cultural resources consultation during the NEPA process. 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 your Tribe, or members of your Tribe, have any concerns or comments about the project area, please contact Mr. James Wheeler II, phone: (501) 771-7992, at your earliest convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "Philip L. Hanrahan". The signature is fluid and cursive, with a large initial "P" and "H".

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

Enclosures

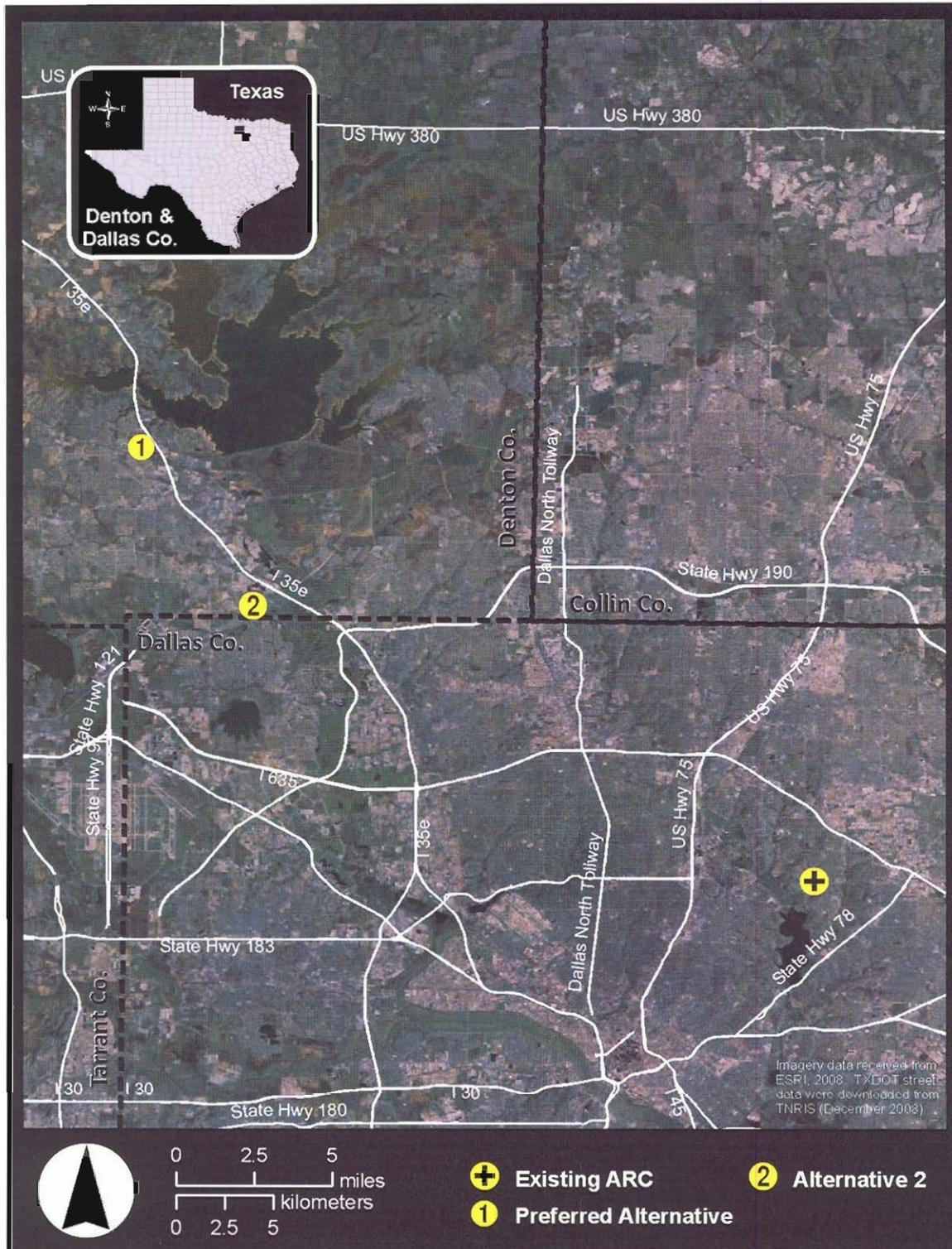


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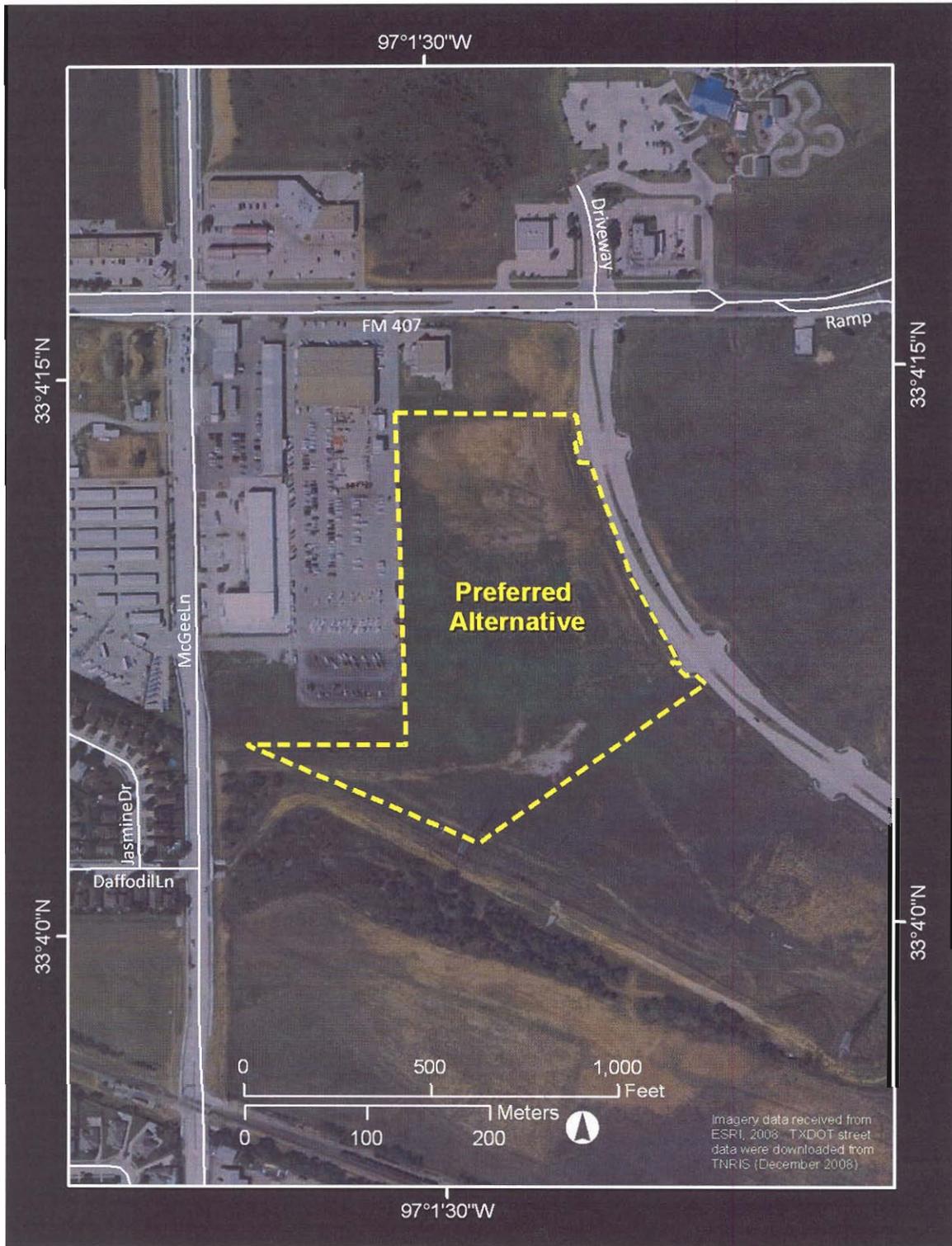
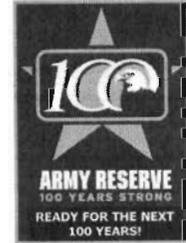


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8000 CAMP ROBINSON ROAD
NORTH LITTLE ROCK, ARKANSAS 72118-2205



February 22, 2009

Reply to the Attention of the Environmental Office

Ms. Ruth Toahty
Tribal Historic Preservation Officer
Comanche Indian Tribe of Oklahoma
P.O. Box 908
Lawton, OK 73052

Dear Ms. Toahty:

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). The BRAC Commission has recommended the closure of the Muchert U.S. Army Reserve Center (ARC) in Dallas, Texas and relocation of the units to a new Armed Forces Reserve Center (AFRC) in Lewisville, Texas. The City of Lewisville is in Denton County, Texas. The new facility shall have the capability to accommodate Texas National Guard units from the following Texas Army National Guard Readiness Centers: Denton, Irving, and Denison, Texas, if the state decides to relocate these National Guard units.

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The U.S. Army Corps of Engineers (USACE), Mobile District, has contracted with PBS&J, Inc. to complete environmental studies of the AFRC site in compliance with the National Environmental Protection Act (NEPA). PBS&J has completed a cultural resource study of this site in accordance with NEPA and Section 106 of the National Historic Preservation Act

(NHPA). All shovel tests performed on the project site were negative for cultural material. These surveys will be discussed in detail in the EA.

This notification is an invitation for your Tribe to participate in the cultural resources consultation during the NEPA process. 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 your Tribe, or members of your Tribe, have any concerns or comments about the project area, please contact Mr. James Wheeler II, phone: (501) 771-7992, at your earliest convenience.

Sincerely,

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

Enclosures

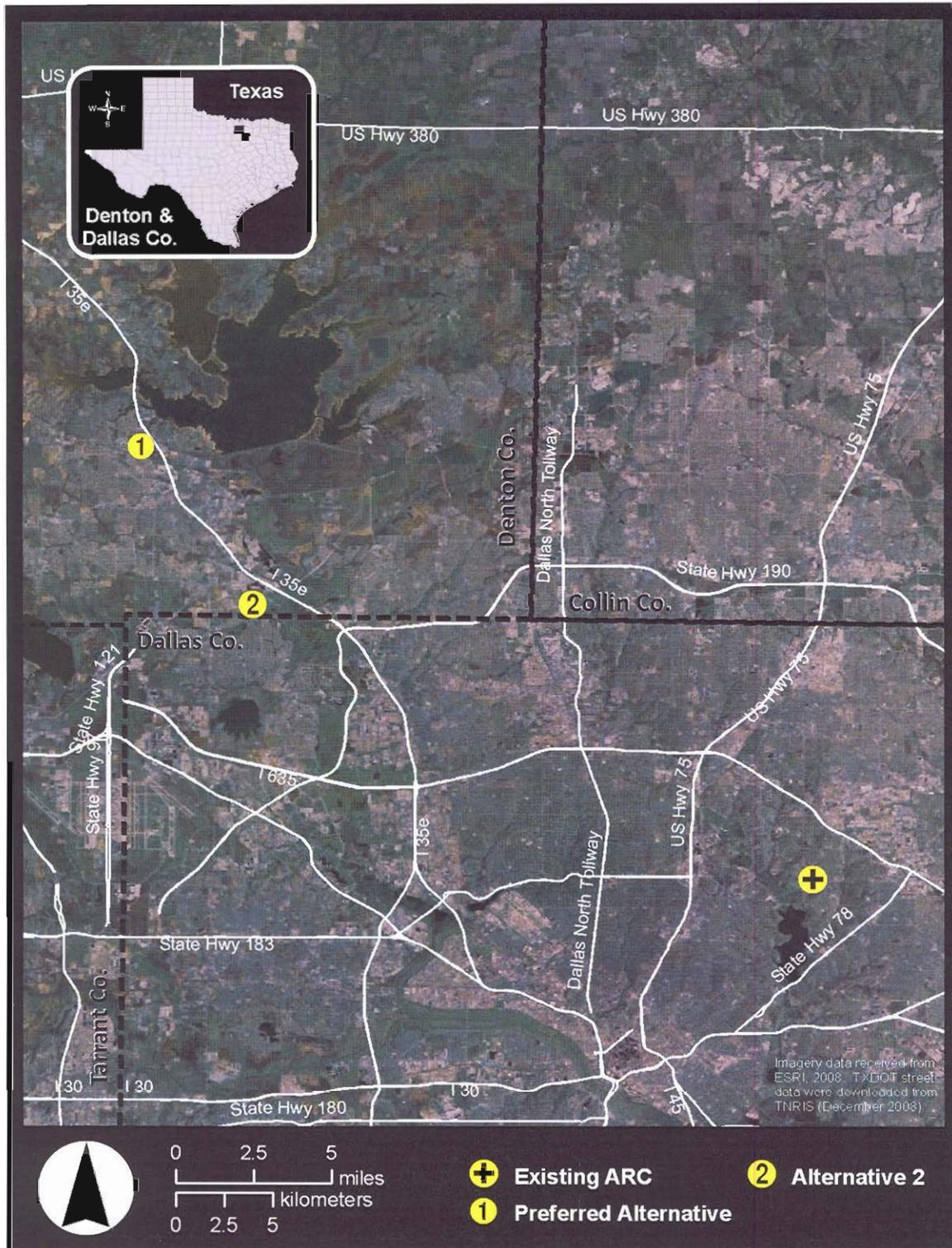


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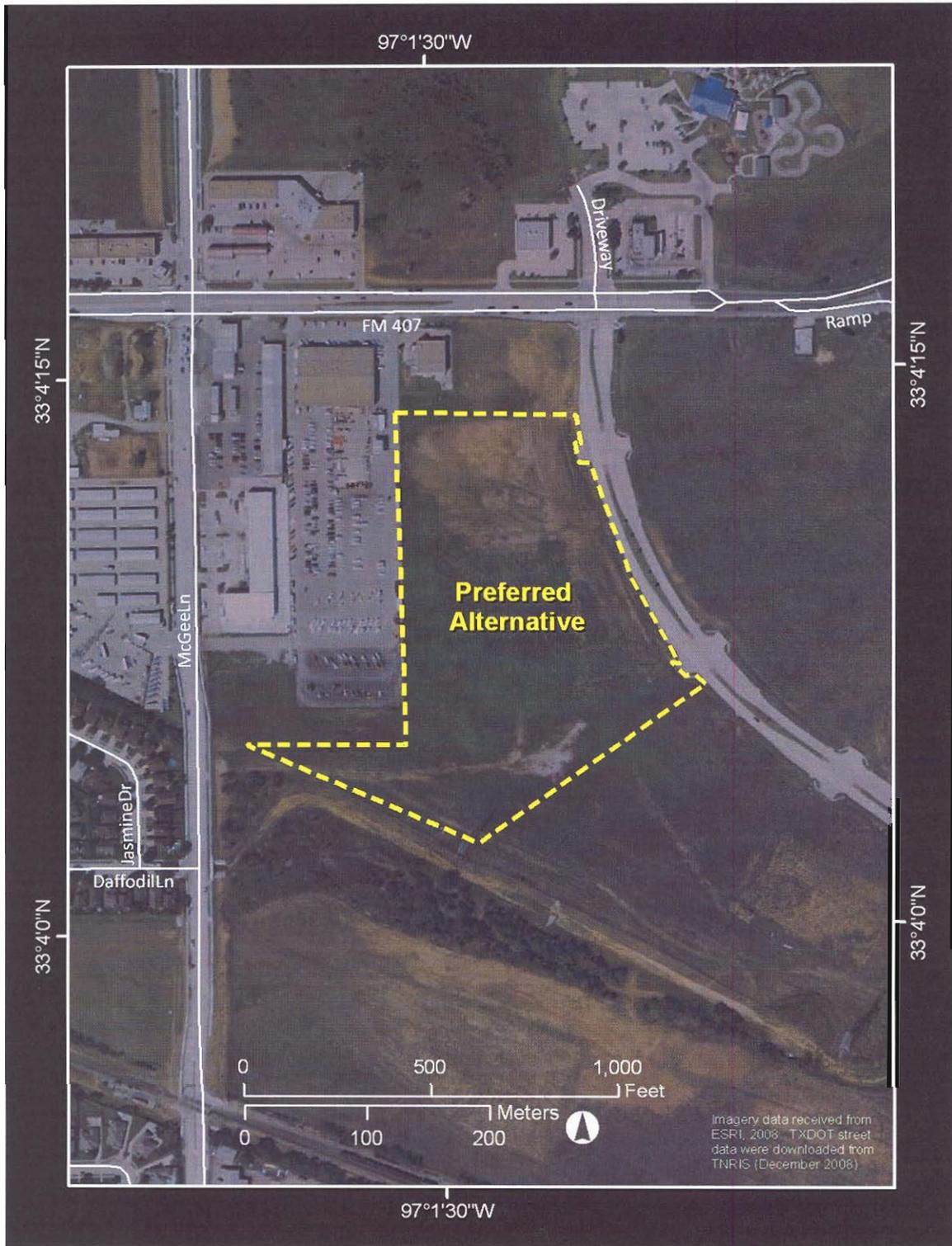


Figure 2. Preferred Alternative Location Map



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

February 22, 2009

Reply to the Attention of the Environmental Office

Ms. Jame L. Eskew
Tribal Historic Preservation Officer
Kiowa Tribe of Oklahoma
P.O. Box 369
Carnegie, OK 73015

Dear Ms. Eskew:

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). The BRAC Commission has recommended the closure of the Muchert U.S. Army Reserve Center (ARC) in Dallas, Texas and relocation of the units to a new Armed Forces Reserve Center (AFRC) in Lewisville, Texas. The City of Lewisville is in Denton County, Texas. The new facility shall have the capability to accommodate Texas National Guard units from the following Texas Army National Guard Readiness Centers: Denton, Irving, and Denison, Texas, if the state decides to relocate these National Guard units.

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NORTH LITTLE ROCK, ARKANSAS 72118-2205



February 22, 2009

Reply to the Attention of the Environmental Office

Mr. Stratford Williams
Wichita Tribe
Wichita Executive Committee
P.O. Box 729
Anadarko, OK 73005

Dear Mr. Williams:

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). The BRAC Commission has recommended the closure of the Muchert U.S. Army Reserve Center (ARC) in Dallas, Texas and relocation of the units to a new Armed Forces Reserve Center (AFRC) in Lewisville, Texas. The City of Lewisville is in Denton County, Texas. The new facility shall have the capability to accommodate Texas National Guard units from the following Texas Army National Guard Readiness Centers: Denton, Irving, and Denison, Texas, if the state decides to relocate these National Guard units.

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(NHPA). All shovel tests performed on the project site were negative for cultural material. These surveys will be discussed in detail in the EA.

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Sincerely,

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

Enclosures

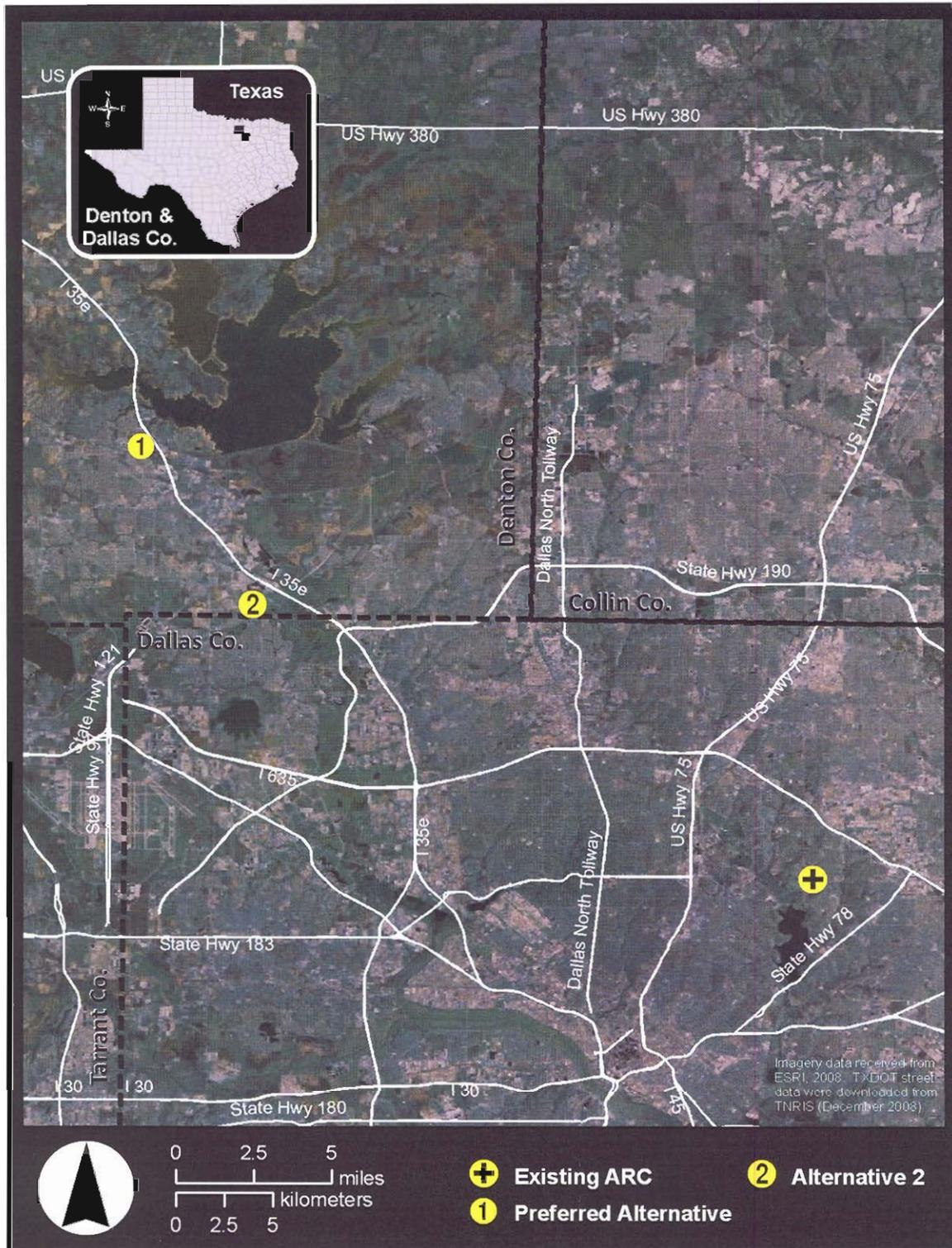


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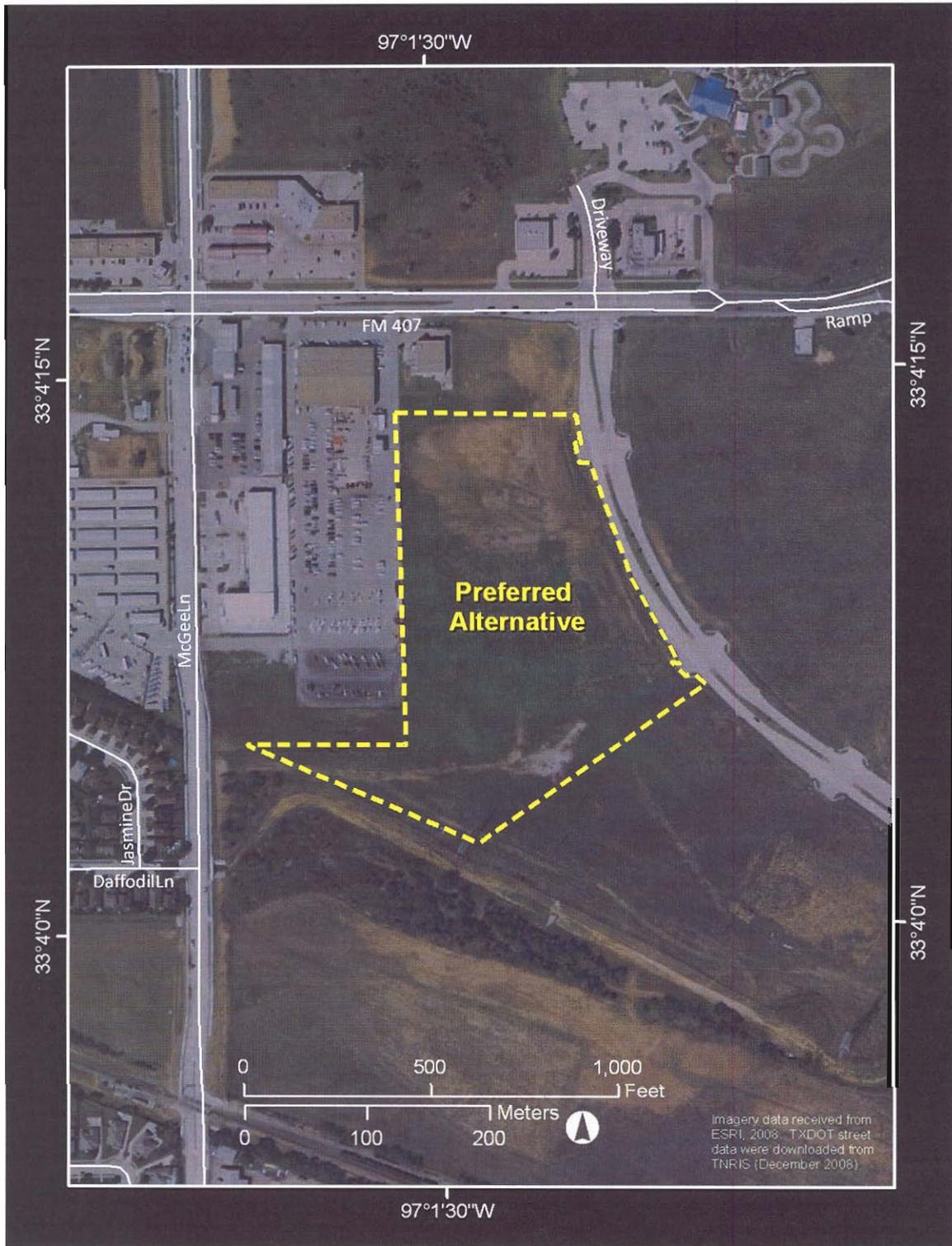


Figure 2. Preferred Alternative Location Map

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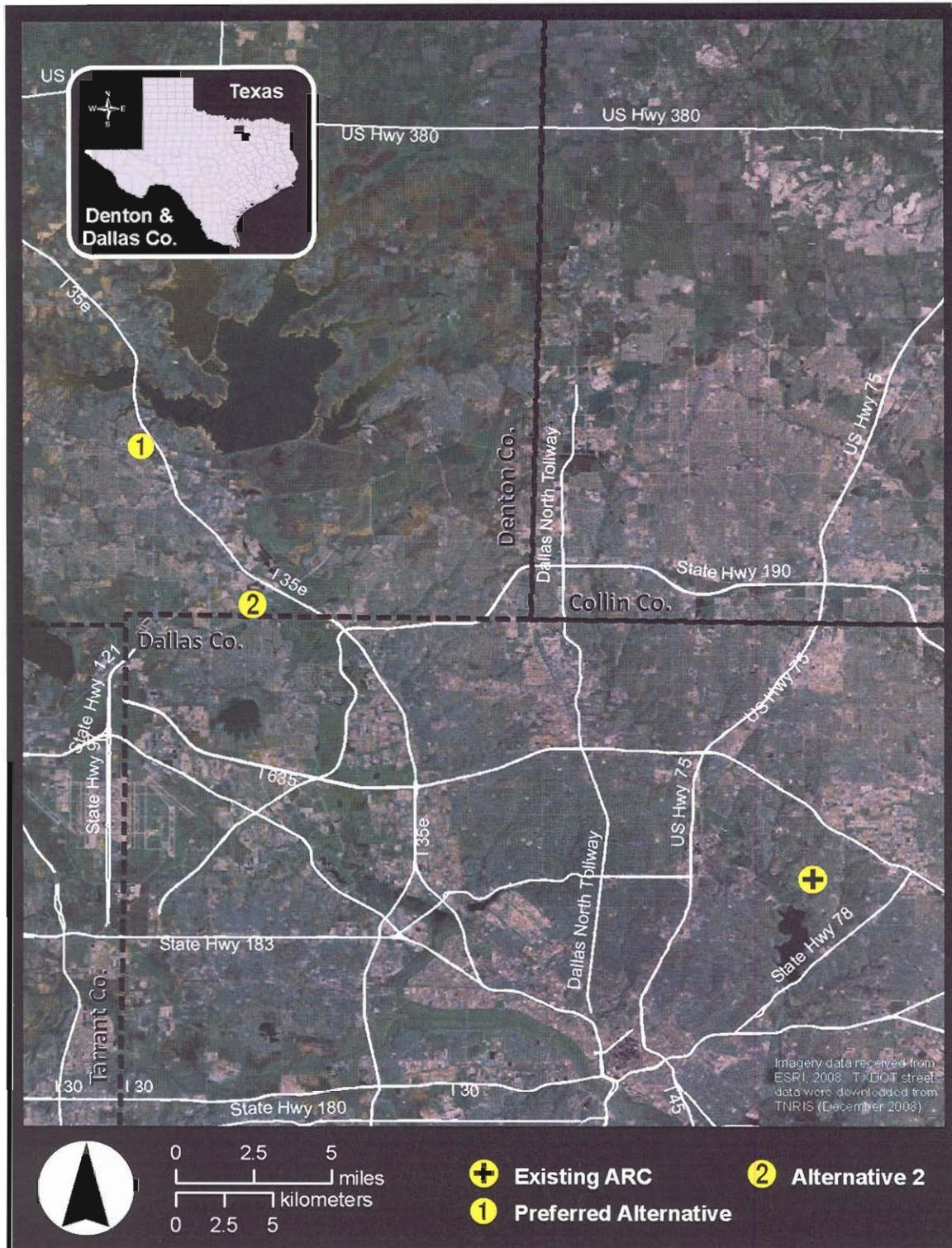


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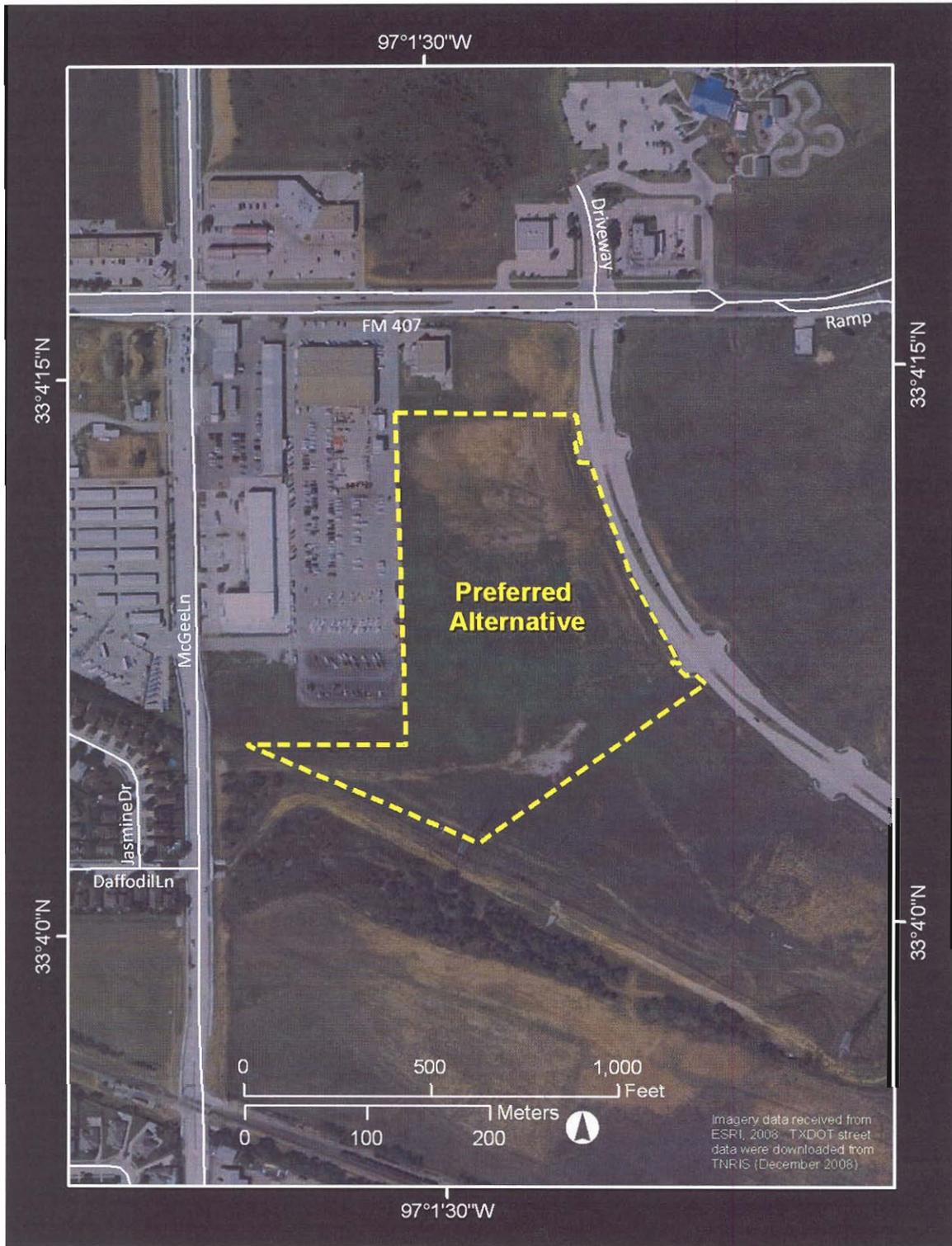


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CAPTAIN MAURICE L. BRITT UNITED STATES ARMY RESERVE CENTER
8000 CAMP ROBINSON ROAD
NORTH LITTLE ROCK, ARKANSAS 72118-2205



February 18, 2009

Reply to the Attention of the Environmental Office

USFWS
RECEIVED

FEB 23 2009

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

ECOLOGICAL SERVICES
ARLINGTON, TEXAS

Dear Mr. Cloud:

The Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended, implements recommendations made during the fall of 2005, by the Defense Base Closure and Realignment Commission (BRAC Commission). The BRAC Commission has recommended the closure of the Muchert U.S. Army Reserve Center (ARC) in Dallas, Texas and relocation of the units to a new Armed Forces Reserve Center (AFRC) in Lewisville, Texas. The City of Lewisville is in Denton County, Texas. The new facility shall have the capability to accommodate Texas National Guard units from the following Texas Army National Guard Readiness Centers: Denton, Irving, and Denison, Texas, if the state decides to relocate these National Guard units.

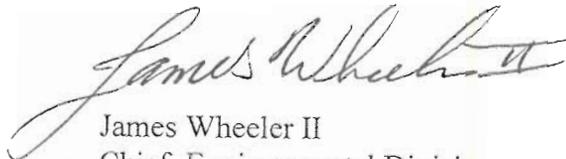
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In accordance with the National Environmental Policy Act (NEPA), Endangered Species Act, Fish and Wildlife Coordination Act, and other regulations, an evaluation of potential effects (both beneficial and adverse) associated with implementing this action is required. Based on the

information available, we do not anticipate that the project would impact any state or federally listed species or critical habitat. We seek concurrence from the USFWS that the proposed action would not impact listed threatened or endangered species or critical habitat.

Please provide your input within 30 calendar days of receipt of this letter. If you have questions or concerns about this project, please do not hesitate to call me at (501) 771-7992.

Sincerely,



James Wheeler II
Chief, Environmental Division
90th RRC

Enclosures

Your letter indicates you have determined that the proposed action would have no effect on federally listed species. Therefore, no action is required from this office.

Date 3-11-09

Consultation # 21420-2009-TA-0157

Approved by:



Thomas J. Cloud, Jr., Field Supervisor

U.S. FISH & WILDLIFE SERVICE, ARLINGTON, TEXAS

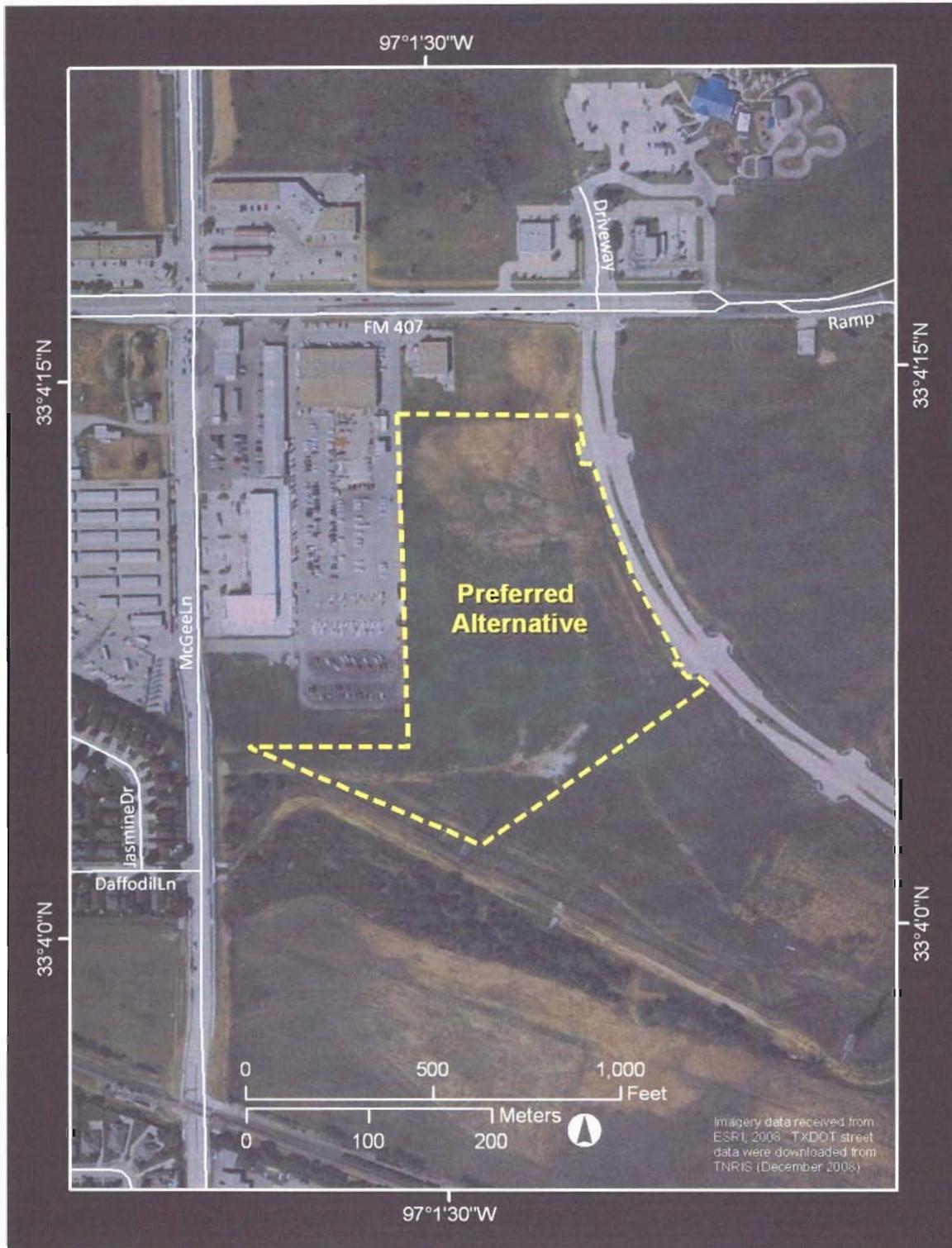


Figure 2. Preferred Alternative Location Map



Life's better outside.™

Commissioners

Peter M. Holt
Chairman
San Antonio

T. Dan Friedkin
Vice-Chairman
Houston

Mark E. Bivins
Amarillo

J. Robert Brown
El Paso

Ralph H. Duggins
Fort Worth

Antonio Falcon, M.D.
Rio Grande City

Karen J. Hixon
San Antonio

Margaret Martin
Boerne

John D. Parker
Lufkin

Lee M. Bass
Chairman-Emeritus
Fort Worth

Carter P. Smith
Executive Director

May 5, 2009

Ms. Amy Dalton
PBS&J Inc.
7406 Fullerton Street, Suite 350
Jacksonville, FL 32256

RE: Proposed Lewisville Armed Forces Reserve Center, Denton County

Dear Ms. Dalton:

Texas Parks and Wildlife Department (TPWD) received your review request, dated February 3, 2009, on behalf of the Armed Forces Reserve (AFR), for impacts to rare, threatened, endangered species and other natural resources within or near the above referenced project. TPWD staff has reviewed the information provided and offers the following comments concerning this project.

Project Description

The proposed project entails development of a Reserve Center consisting of a building and parking lot on 5.78 acres. The project provided two alternative site locations, though no site layouts. Both sites are located in heavily developed areas in Lewisville. Site 1 is bordered to the south by a narrow drainage with an adjacent grassy area; on the east side (across Summit Avenue) there is also a grassy area. Site 2 borders a wooded area to the east.

Vegetation

Vegetation on Site 1 is described as mown grass. Site 2 primarily consists of mown grass except for an area of less than 1.5 acres of wooded habitat along its east border, including Post oak (*Quercus stellata*), Bois d'arc (*Maclura pomifera*), and Hackberry (*Celtis* spp.).

Recommendations: Consistent with the federal Executive Order on Invasive Species, TPWD recommends the AFR consider the effects of the project with regards to invasive and native species. The Executive Order on Invasive Species, #13112, directs federal agencies to minimize the impacts that invasive plants and animals cause.

TPWD recommends that the AFR take precautions during and after the project to minimize removal of native vegetation, specifically with regard to the forested areas on Site 2; and landscape the facility on either alternative location with only native plants. Native landscaping will reduce the potential for invasive non-native weed establishment while avoiding the inadvertent introduction of an aggressive non-native plants. Although invasive species may persist in the surrounding area, landscaping with native vegetation will provide the natural plant community a better chance at reestablishing along this area after construction activities are completed.

Rare and Protected Resources

TPWD collects information to track the locations of rare species, special examples of natural plant communities, and significant ecological features for assisting in the conservation of these resources. The collected information is maintained in the Texas Natural Diversity Database (TXNDD). Although it is based on the best data available to TPWD regarding rare species, the TXNDD does not provide a definitive statement as to the presence, absence or condition of special species, natural communities, or other significant features within your project area. The TXNDD does not include a representative inventory of rare resources in the state. Absence of information in an area, or for any given species, does not imply that rare species are absent from that area. These data are not inclusive and cannot be used as presence/absence data.

Currently, TPWD has no records mapped for either specific site location. The nearest record in the area is an undated specimen record for the species of concern, Texas garter snake (*Thamnophis sirtalis annectens*) for the general location of Lake Dallas. The town of Lake Dallas is about 3 miles north of Site 1, across the Hickory Creek Branch arm of Lewisville Lake. Based on the project description, suitable habitat may be present and if present, the Texas garter snake could potentially be impacted. This snake is threatened and declining due to habitat loss, but also due to direct harassment and attack.

Recommendations: TPWD recommends the AFR ensure that workers are aware that the Texas garter snake is not poisonous and is in need of conservation. It should not be harmed if encountered during construction activities. If this snake is encountered, it should be allowed to retreat to a safe area, away from the active construction area, and into adjacent habitat. This snake will exit an area if provided an opportunity.

Migratory Bird Treaty Act

Most native bird species may not be disturbed and must be dealt with in a manner consistent with the Migratory Bird Treaty Act of 1918 (MBTA). The MBTA implicitly prohibits intentional and unintentional take of nearly all native birds, their nests, eggs or young. The MBTA also prohibits harassment of nesting birds and young during the breeding season. The MBTA program authorizes take under a U.S. Fish and Wildlife Service (USFWS) permit only for specific purposes, such as scientific collecting, rehabilitation, migratory game birds and waterfowl, and depredation. Additional information regarding the MBTA may be obtained through the USFWS Region 2 Migratory Bird Permit Office at (505) 248-7882.

Recommendations: As a general rule, TPWD recommends excluding clearing activities during the general bird nesting season, March through August, to avoid adverse impacts to this group, including ground nesting species. Nests cannot be removed until eggs are hatched and young have fledged.

Surface Water

The unnamed creek along the south side of Site 1 is an intermittent drainage. The wooded area adjacent to the east side of Site 2 runs adjacent to a man-made channelized drainage on its north and east sides. Section 404 of the Clean Water Act establishes a federal program to regulate the discharge of dredged and fill material into the waters of the U.S., including wetlands. The U.S. Army Corps of Engineers and the Environmental Protection Agency are responsible for regulating water resources under this act.

Recommendations: TPWD recommends the construction plans incorporate a storm water pollution prevention plan to protect the waterways from sedimentation and other pollution coming from construction activities. Construction and development activities should occur in such a manner to prevent or minimize damage to the stream from high sediment loads that are frequently associated with residential, commercial, and industrial developments.

The addition of the building, sidewalks, and parking lot will add impermeable surface acreage to the already heavily urbanized general area. This will increase the amount of precipitation from and rate of runoff the surrounding drainages receive. While the sites may have standard drainage ditches and may or may not plan for detention ponds, these measures only partially

Ms. Amy Dalton
Page Four
May 5, 2009

mitigate for the increase in surface run off and do not mitigate for wildlife habitat loss.

Recommendations: TPWD recommends the project design incorporate a wildlife-friendly drainage design. Such a design should mimic the natural drainage features to slow the water runoff, while also addressing the loss of habitat. Loss of habitat should be mitigated by providing vital habitat features, including space and native plants that provide food and cover to support urban wildlife displaced by the development.

TPWD recommends the use of pavers, pervious asphalt, and pervious concrete to reduce runoff in the parking lot and sidewalks. Pavers and other pervious surface covers, will allow more water to absorb into the groundwater system and less stormwater run off, while still providing a functional hard surface.

TPWD appreciates the opportunity to provide comments regarding potential adverse impacts on natural resources. Please contact me if you have any questions or need additional assistance at (512) 389-8021.

Sincerely,



Celeste Brancel, Rare Resources Assessment Biologist
Wildlife Habitat Assessment Program
Wildlife Division

CB:gg.13778



An employee-owned company

Dr. Maynard Cliff
Senior Archeologist
PBS&J
18383 Preston Road, Suite 110
Dallas, Texas 75252-5490



March 6, 2009

Mr. William Martin
Texas Historical Commission
1511 Colorado Street
Austin, Texas 78701

Re: Project review under Section 106 of the National Historic Preservation Act of 1966.

Draft Report—*Phase I Cultural Resources Survey for the Proposed Armed Forces Reserve Center, Lewisville, Texas.*
FY 2009 Base Realignment and Closure Army Reserve Construction Project Number 64467.
PBS&J Job No. 100005087.

Dear Bill:

Acting on behalf of the U.S. Army Corps of Engineers, Mobile District, PBS&J hereby submits the above-referenced draft survey report for your review. The investigations were conducted as part of an Environmental Assessment for a Base Realignment and Closure (BRAC) Action at Lewisville, Denton County, Texas. The draft report was submitted electronically for review to the Mobile District on 25 February 2009 (see attached e-mail). The Mobile District concurred with the findings of the report on 26 February 2009 (see 2nd attached e-mail), and requested that PHS&J submit the draft report to THC for comment on 6 March 2009 (see 3rd attached e-mail).

The project area is located approximately 328 feet south of the juncture of Justin Road and Summit Avenue on the west side of Summit Avenue, in Lewisville, and covers approximately 15.3 acres. A file search showed that the project area contained no known cultural resource sites, and the pedestrian survey with eight shovel tests recorded no new cultural resource sites. Based on these results, it is recommended that the proposed construction site of the Armed Forces Reserve Center in Lewisville be allowed to proceed without any further consultation with the Texas Historical Commission.

Please call me if you require any additional information regarding this project. Thank you for your prompt attention to this matter.

Sincerely,

Maynard B. Cliff, Ph.D.
Senior Archaeologist
972-818-7275, Ext 3136

encl.

cc: John Fulmer, PBS&J, Austin
Kimberly Fitzgibbons, PBS&J, Jacksonville
David Pugh, Archeologist, U.S. Army Corps of Engineers, Mobile District

**NO HISTORIC
PROPERTIES AFFECTED
PROJECT MAY PROCEED**

By William A. Martin
for F. Lawrence Oaks
State Historic Preservation Officer
Date 4/8/09
Track# _____

**DRAFT REPORT
ACCEPTABLE**

Please submit 20 final report copies

by William A. Martin
for F. Lawrence Oaks
State Historic Preservation Officer
Date 4/8/09
Track# _____

Tribal List

Caddo	Cast, Robert	THPO-Director	Tribal Historic Preservation Officer-Director/Caddo Nation/PO BOX 487/Binger OK 73009. PHONE:405-656-2901 X245
Comanche Indian Tribe of Oklah	Toahty, Ruth	THPO	PO Box 908/Lawton OK 73052/ PHONE:405-49204988
KIOWA TRIBE OF OK	ESKEW, Jamie MS	THPO	PO BOX 369/Carnegie OK 73015/ PHONE: 580-754-2300 X370
Tonkawa Tribe of Indians of Oklahoma	Patterson, Don	President	PO Box 70/Tonkawa, OK 74653/PHONE:580-628-2561
Wichita Tribe	Williams, Stratford	THPO	PO Box 729/Aizardarltto, OK 73005/PHONE:405-247-2425

**Appendix D
EIFS Model**

Economic Impact Forecast System

US Army Corps of Engineers
Mobile District

EIFS REPORT

PROJECT NAME

Lewisville AFRC

STUDY AREA

48121 Denton, TX

FORECAST INPUT

Change In Local Expenditures	\$22,000,000
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 Militart Living On-post	0

FORECAST OUTPUT

Employment Multiplier	3.02
Income Multiplier	3.02
Sales Volume - Direct	\$14,715,230
Sales Volume - Induced	\$29,724,770
Sales Volume - Total	\$44,440,000 0.41%
Income - Direct	\$2,663,586
Income - Induced)	\$5,380,444
Income - Total(place of work)	\$8,044,030 0.09%
Employment - Direct	68
Employment - Induced	137
Employment - Total	204 0.14%
Local Population	0
Local Off-base Population	0 0%

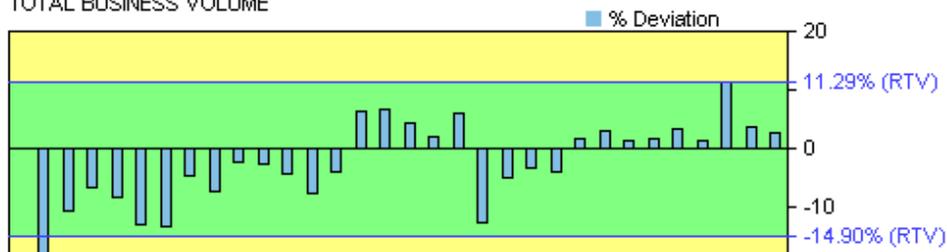
RTV SUMMARY

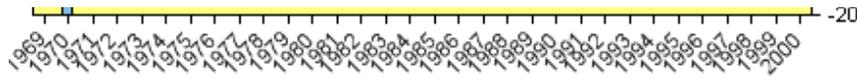
	Sales Volume	Income	Employment	Population
Positive RTV	11.29 %	7.12 %	5.39 %	3.56 %
Negative RTV	-14.9 %	-18.63 %	-9.8 %	-5.57 %

RTV DETAILED

SALES VOLUME

TOTAL BUSINESS VOLUME



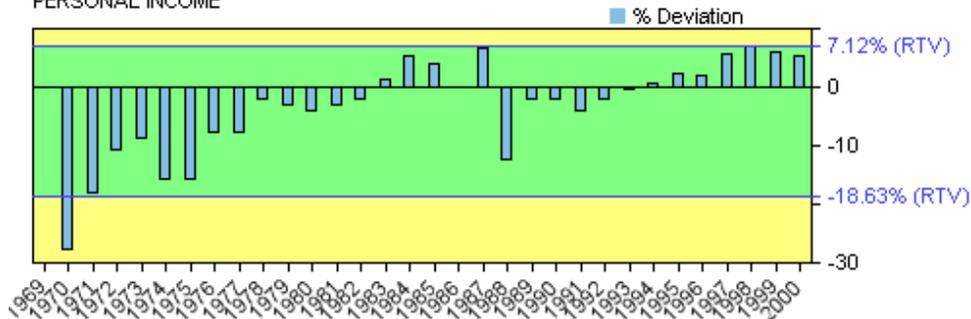


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Year	Value	Adj_Value	Change	Deviation	%Deviation
1969	128530	561676	0	0	0
1970	137896	569510	7834	-113149	-19.87
1971	157366	623169	53659	-67324	-10.8
1972	182111	697485	74316	-46667	-6.69
1973	209426	756028	58543	-62440	-8.26
1974	238766	775990	19962	-101021	-13.02
1975	265271	790508	14518	-106465	-13.47
1976	308826	870889	80382	-40601	-4.66
1977	350441	925164	54275	-66708	-7.21
1978	415118	1021190	96026	-24957	-2.44
1979	504040	1113928	92738	-28245	-2.54
1980	609333	1182106	68178	-52805	-4.47
1981	686703	1208597	26491	-94492	-7.82
1982	771215	1280217	71620	-49363	-3.86
1983	929140	1495915	215699	94716	6.33
1984	1124872	1732303	236387	115404	6.66
1985	1298179	1934287	201984	81001	4.19
1986	1434078	2093754	159467	38484	1.84
1987	1522185	2359387	265633	144650	6.13
1988	1618143	2200675	-158712	-279695	-12.71
1989	1713289	2210143	9468	-111515	-5.05
1990	1836073	2258370	48227	-72756	-3.22
1991	1939686	2288829	30460	-90523	-3.96
1992	2150740	2451844	163014	42031	1.71
1993	2389575	2652428	200585	79602	3
1994	2598632	2806523	154094	33111	1.18
1995	2832452	2974074	167552	46569	1.57
1996	3134978	3197678	223603	102620	3.21
1997	3360422	3360422	162744	41761	1.24
1998	4004709	3924615	564193	443210	11.29
1999	4373374	4198439	273824	152841	3.64
2000	4766809	4433132	234693	113710	2.57

INCOME

PERSONAL INCOME

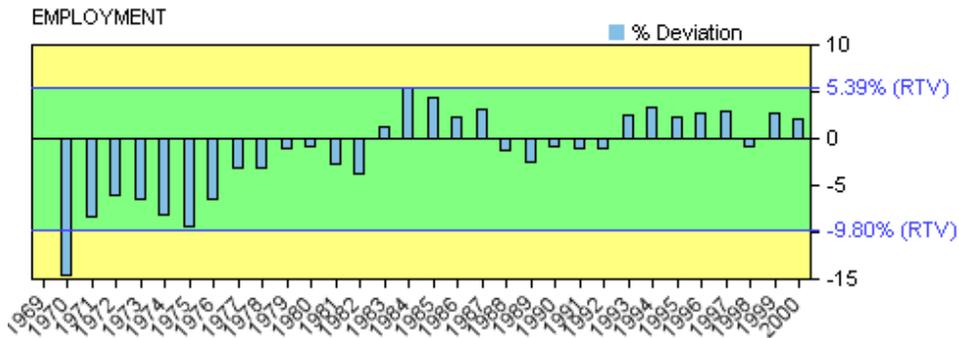


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Year	Value	Adj_Value	Change	Deviation	%Deviation
1969	241802	1056675	0	0	0
1970	268791	1110107	53432	-308741	-27.81
1971	315100	1240144	120057	-224114	-17.04

1971	313193	1248104	138057	-224110	-17.90
1972	379366	1452972	204807	-157366	-10.83
1973	462098	1668174	215202	-146971	-8.81
1974	539533	1753482	85309	-276864	-15.79
1975	613544	1828361	74879	-287294	-15.71
1976	721737	2035298	206937	-155236	-7.63
1977	843842	2227743	192445	-169728	-7.62
1978	1033761	2543052	315309	-46864	-1.84
1979	1275358	2818541	275489	-86684	-3.08
1980	1575363	3056204	237663	-124510	-4.07
1981	1882879	3313867	257663	-104510	-3.15
1982	2170546	3603106	289239	-72934	-2.02
1983	2494774	4016586	413480	51307	1.28
1984	3004254	4626551	609965	247792	5.36
1985	3482321	5188658	562107	199934	3.85
1986	3799138	5546742	358083	-4090	-0.07
1987	4077658	6320370	773628	411455	6.51
1988	4376961	5952667	-367703	-729876	-12.26
1989	4798320	6189833	237166	-125007	-2.02
1990	5225423	6427270	237438	-124735	-1.94
1991	5532946	6528876	101606	-260567	-3.99
1992	5920232	6749064	220188	-141985	-2.1
1993	6374606	7075813	326748	-35425	-0.5
1994	6934774	7489556	413743	51570	0.69
1995	7644597	8026826	537270	175097	2.18
1996	8389826	8557622	530796	168623	1.97
1997	9445413	9445413	887791	525618	5.56
1998	10774933	10559435	1114022	751849	7.12
1999	12086815	11603342	1043908	681735	5.88
2000	13598082	12646216	1042874	680701	5.38

EMPLOYMENT

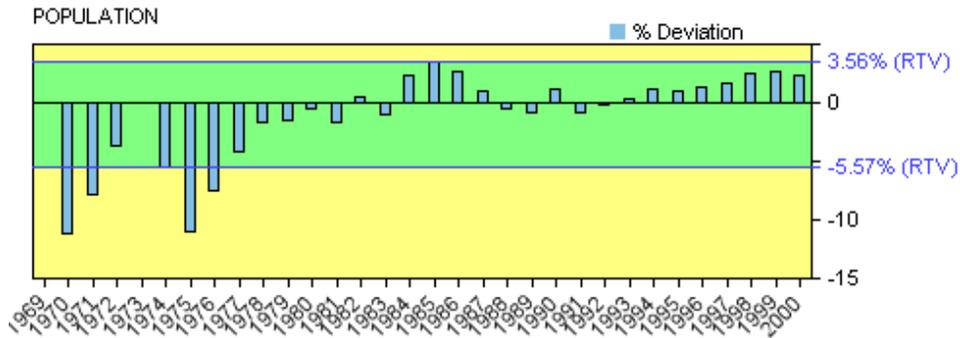


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Year	Value	Change	Deviation	%Deviation
1969	25910	0	0	0
1970	26388	478	-3861	-14.63
1971	28358	1970	-2369	-8.35
1972	30862	2504	-1835	-5.95
1973	33090	2228	-2111	-6.38
1974	34617	1527	-2812	-8.12
1975	35589	972	-3367	-9.46
1976	37485	1896	-2443	-6.52
1977	40572	3087	-1252	-3.09

1978	43536	2964	-1375	-3.16
1979	47408	3872	-467	-0.99
1980	51303	3895	-444	-0.87
1981	54127	2824	-1515	-2.8
1982	56362	2235	-2104	-3.73
1983	61533	5171	832	1.35
1984	69626	8093	3754	5.39
1985	77278	7652	3313	4.29
1986	83551	6273	1934	2.31
1987	90776	7225	2886	3.18
1988	93886	3110	-1229	-1.31
1989	95902	2016	-2323	-2.42
1990	99355	3453	-886	-0.89
1991	102727	3372	-967	-0.94
1992	105907	3180	-1159	-1.09
1993	113037	7130	2791	2.47
1994	121505	8468	4129	3.4
1995	128919	7414	3075	2.39
1996	136870	7951	3612	2.64
1997	145525	8655	4316	2.97
1998	148526	3001	-1338	-0.9
1999	157153	8627	4288	2.73
2000	164755	7602	3263	1.98

POPULATION



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Year	Value	Change	Deviation	%Deviation
1969	73326	0	0	0
1970	76253	2927	-8488	-11.13
1971	81310	5057	-6358	-7.82
1972	89483	8173	-3242	-3.62
1973	100975	11492	77	0.08
1974	106562	5587	-5828	-5.47
1975	106294	-268	-11683	-10.99
1976	109433	3139	-8276	-7.56
1977	115981	6548	-4867	-4.2
1978	125404	9423	-1992	-1.59
1979	134824	9420	-1995	-1.48
1980	145451	10627	-788	-0.54
1981	154322	8871	-2544	-1.65
1982	166463	12141	726	0.44
1983	176180	9717	-1698	-0.96
1984	192176	15996	4581	2.38

1985	211105	18929	7514	3.56
1986	228790	17685	6270	2.74
1987	242476	13686	2271	0.94
1988	252657	10181	-1234	-0.49
1989	261883	9226	-2189	-0.84
1990	276436	14553	3138	1.14
1991	285653	9217	-2198	-0.77
1992	296370	10717	-698	-0.24
1993	308753	12383	968	0.31
1994	323996	15243	3828	1.18
1995	338819	14823	3408	1.01
1996	354915	16096	4681	1.32
1997	372612	17697	6282	1.69
1998	394019	21407	9992	2.54
1999	416622	22603	11188	2.69
2000	438591	21969	10554	2.41

***** End of Report *****

**Appendix E
Construction Emissions Calculation Table**

Estimated Emissions Summary - Construction Equipment

Construction Equipment	Operating Assumptions				Emission Factor (grams/hp-hr) ⁽¹⁾					
	Days per Year	Hours per Day	Horsepower	Fuel Type	VOC	PM ₁₀	PM _{2.5}	CO	NO _x	SO ₂
Dump Truck	30	12	340	Diesel	0.188746	0.260461	0.252647	1.479926	3.582966	0.750636
Excavator	30	12	463	Diesel	0.220727	0.278424	0.270071	1.720666	4.175838	0.750498
Bulldozer	30	12	324	Diesel	0.242536	0.29477	0.285927	1.856528	4.448779	0.750403
Front End Loader	30	12	215	Diesel	1.007494	0.697718	0.676787	3.850929	6.305264	0.872665
Crane	180	12	275	Diesel	0.304127	0.249639	0.24215	0.906902	4.376704	0.742034
Backhoe	180	12	92	Gasoline	2.710447	0.06965	0.064078	85.58172	3.513341	0.152951

(1) Emission Factor from NONROAD Emissions Model

Construction Equipment	Estimated Emissions (tons per year)					
	VOC	PM ₁₀	PM _{2.5}	CO	NO _x	SO ₂
Dump Truck	0.025	0.035	0.034	0.200	0.483	0.101
Excavator	0.041	0.051	0.050	0.316	0.767	0.138
Bulldozer	0.031	0.038	0.037	0.239	0.572	0.096
Front End Loader	0.086	0.060	0.058	0.329	0.538	0.074
Crane	0.199	0.163	0.159	0.594	2.866	0.486
Backhoe	0.594	0.015	0.014	18.747	0.770	0.034
Total Emissions	0.98	0.36	0.35	20.42	6.00	0.93

Construction Equipment	Total Estimated Emissions - 18 Month Construction Duration					
	VOC	PM₁₀	PM_{2.5}	CO	NO_x	SO₂
Dump Truck	0.038	0.053	0.051	0.300	0.725	0.152
Excavator	0.061	0.077	0.074	0.474	1.151	0.207
Bulldozer	0.047	0.057	0.055	0.358	0.858	0.145
Front End Loader	0.129	0.089	0.087	0.493	0.807	0.112
Crane	0.299	0.245	0.238	0.891	4.299	0.729
Backhoe	0.891	0.023	0.021	28.120	1.154	0.050
Total Emissions	1.46	0.54	0.53	30.64	8.99	1.39