FINAL

United States Air Force

Environmental Assessment

Construction of Chapel Addition at Tinker AFB, Oklahoma

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Finding of No Practicable Alternatives (FONPA) for the Environmental Assessment for the Construction of an Addition to the Chapel at Tinker Air Force Base, Oklahoma

Introduction

Tinker Air Force Base (Tinker AFB, the base) has completed an environmental assessment (EA) to determine environmental and socio-economic impacts of construction of an addition to the base chapel that would enhance and complement current chapel services. The preferred location for the addition is adjacent to the existing chapel. This site was assessed and approved for a smaller addition in a 1997 EA, but the addition was never built. No other action alternatives were considered. The no-action alternative is continued operation of the base chapel without the addition. Descriptions of these alternatives are provided in the EA. This document assesses the alternatives to determine whether there exists a practicable alternative to construction of the addition to the chapel that would have less or no impacts to the floodplain of Crutcho Creek.

Consideration of Alternatives

Proposed Action

The proposed action has no identified negative environmental or socio-economic consequences other than encroachment on the floodplain of Crutcho Creek. The proposed location is within the Community Development Area of Tinker AFB. Within this part of the base, Crutcho Creek has been channelized to enhance flood conveyance, resulting in a floodway that is narrower than the floodplain. Crutcho Creek is no longer hydrologically connected with its historic floodplain. Several structures have been built within the historic floodplain. These structures and the proposed chapel addition location are outside the designated floodway for Crutcho Creek. As a result, should the proposed action be implemented, there would be no change in flood elevations upstream of the chapel and no reduction in flood conveyance downstream of the chapel.

Because the general area is already highly developed, there is no functional floodplain and the typical ecological functions of a natural floodplain do not occur. Implementation of the proposed project would result in placing a structure over less

than 0.005 percent of the total floodplain of Crutcho Creek. Total floodplain encroachment of all projects considered that would impact the floodplain of Crutcho Creek is less than 0.1 percent of the floodplain. There would be no significant increase in impervious surface area and surface runoff. Impacts to the floodplain would be minor and insignificant.

Action Alternative

The proposed action would enhance and complement existing services at the base chapel. Tinker AFB lacks sufficient personnel and fiscal resources to operate the base chapel and a chapel support building in separate locations, or to construct a new chapel in a different location. Therefore, an additional site for the addition is not considered a practicable alternative.

No-Action Alternative

The no-action alternative would continue existing use of the chapel without the addition. Because the current facilities are overburdened and cannot meet the existing demand for services, the no-action alternative is not a practicable alternative.

Finding of No Practicable Alternative

Based on the above information, including the analysis contained in the EA and taking into account the economic, environmental, and other pertinent factors analyzed in the EA, I find there are no practicable alternatives to construction in a floodplain for the proposed action. I further find that all practicable measures have been taken to minimize impacts to floodplains from activities associated with the proposed action.

Charles H Coolidge

CHARLES H. COOLIDGE, JR.
Lieutenant General, USAF
Vice Commander, AFMC

Executive Summary

Introduction

This environmental assessment (EA) evaluates the potential socio-economic and environmental impacts associated with proposed construction of a 4,000–square-foot addition to the chapel (building 5701) within the Community Development Area at Tinker Air Force Base (AFB), Oklahoma. No additional facilities would be constructed and no existing facilities would be demolished to construct the addition.

Alternatives Considered

Proposed Action

The proposed action evaluated in this EA is the preferred alternative. The proposed action is construction of a 4,000–square-foot addition to the Tinker AFB Chapel (building 5701). No action alternatives beyond the proposed action were considered in this analysis; only the proposed action and no-action alternative were analyzed.

No-Action Alternative

By definition, under the no-action alternative, a chapel addition would not be constructed. Not constructing the addition would result in continued operation of the chapel with excessive demands for use of its facilities.

Environmental, Social, and Economic Issues and Concerns

No significant environmental or socio-economic concerns have been identified for the proposed action or the no-action alternative in this EA. There are no impacts on any examined resources resulting from the no-action alternative.

Minor impacts to the floodplain would occur from the proposed action. The location for the proposed action is within the 100-year floodplain. Impacts to the floodplain are anticipated to be minor, as construction would be outside the designated floodway. There would be no decrease in flood transport and no increase in flood elevation upstream of the proposed project. Short-term construction-related impacts would occur from fugitive dust emissions and construction equipment noise, but these impacts would be relatively isolated, of short duration, and can be mitigated using standard construction practices. Minor stormwater impacts, primarily associated with erosion during construction, would be minimized using standard best management practices (BMPs) as defined in the *Tinker AFB Stormwater Pollution Prevention Plan*. Temporary noise and air quality impacts would be associated with the operation of heavy equipment and site work during construction of the facility. Potential impacts on adjacent land uses would be minimized by restricting construction activity to normal business hours. Beneficial short-term impacts may result from construction employment opportunities.

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Acronyms

ABW	Air Base Wing
AFB	Air Force Base
AFI	Air Force Instruction
BEA	Bureau of Economic Analysis
BMP	Best Management Practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EO	Executive Order
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
HVAC	heating, ventilation and air conditioning
IRP	Installation Restoration Program
IWTP	Water Treatment Plant
MAJCOM	Major Command
MSA	Metropolitan Statistical Area
MSL	mean sea level
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NPL	National Priorities List
OC-ALC	Oklahoma City Air Logistics Center
ODOC	Oklahoma Department of Commerce
ONHI	Oklahoma Natural Heritage Inventory
RCRA	Resource Conservation and Recovery Act
SHPO	State Historic Preservation Officer
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

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1.0 Purpose and Need

1.1 Purpose and Need for the Proposed Action

The proposed action includes the construction of 4,000-square-foot addition to building 5701 (base chapel). This addition has been proposed to accommodate the increased usage and demands placed on this facility. The need for the addition to the base chapel was documented in a 1998 Environmental Assessment (EA) with a Finding of No Significant Impact (FONSI) issued. That EA addressed an approximate 3,228-square-foot addition to the chapel, which was not constructed. The 1998 FONSI confirms the need for the chapel addition and, in the intervening years, demand and usage of the chapel has further increased. The continued increased demand on chapel services justifies increasing the size of the addition to a 4,000-square-foot addition (an approximately 800-square-foot increase over that assessed in the 1998 EA).

1.2 Location of the Proposed Action

The base chapel is located in the northwestern portion of Tinker AFB, Oklahoma. Figure 1-1 presents a regional location map for Tinker AFB. The proposed action is located within the Community Development Area of Tinker AFB. Figure 1-2 shows the location of the proposed project.

1.3 Scope of the Environmental Analysis

The National Environmental Policy Act (NEPA) requires federal agencies to consider environmental consequences in their decision-making process. The Council on Environmental Quality (CEQ) issued regulations to implement NEPA; these regulations include provisions for the content and procedural aspects of required environmental analysis. The Environmental Impact Analysis Process (EIAP, see Air Force Instruction [AFI] 32-7061) is the mechanism used by the Air Force to ensure that its decisions are made with a complete understanding of the potential environmental consequences. The CEQ regulations are used with AFI 32-7061 to determine the appropriate level of environmental documentation required for a specific proposed action.

This Abbreviated EA presents an assessment of the potential impacts of facility construction within the Community Development Area at Tinker AFB. Consistent with AFI 32-7061 and the CEQ regulations, the scope of analysis presented in this EA is defined by the potential range of environmental impacts that would result from implementation of the proposed action or the no-action alternative. Resources that have a potential for impacts or require regulatory consultation review were considered in more detail to provide the decision-makers with sufficient evidence and analysis for determining whether additional analysis is required pursuant to Title 40 of the Code of Federal Regulations, Part 1508.9 (40 CFR 1508.9).

1.3.1 Analyses Eliminated from Further Consideration

Resource areas examined in the 1998 Chapel Addition EA and determined not to be affected by the proposed action are generally excluded from analysis in this EA. Resource areas included are those where (1) the additional 800 square feet of space could result in a change in the earlier analysis, and (2) conditions have changed since the 1998 Chapel Addition EA. It has been determined that the following resource areas are excluded from further consideration in this document based on the 1998 Chapel Addition EA:

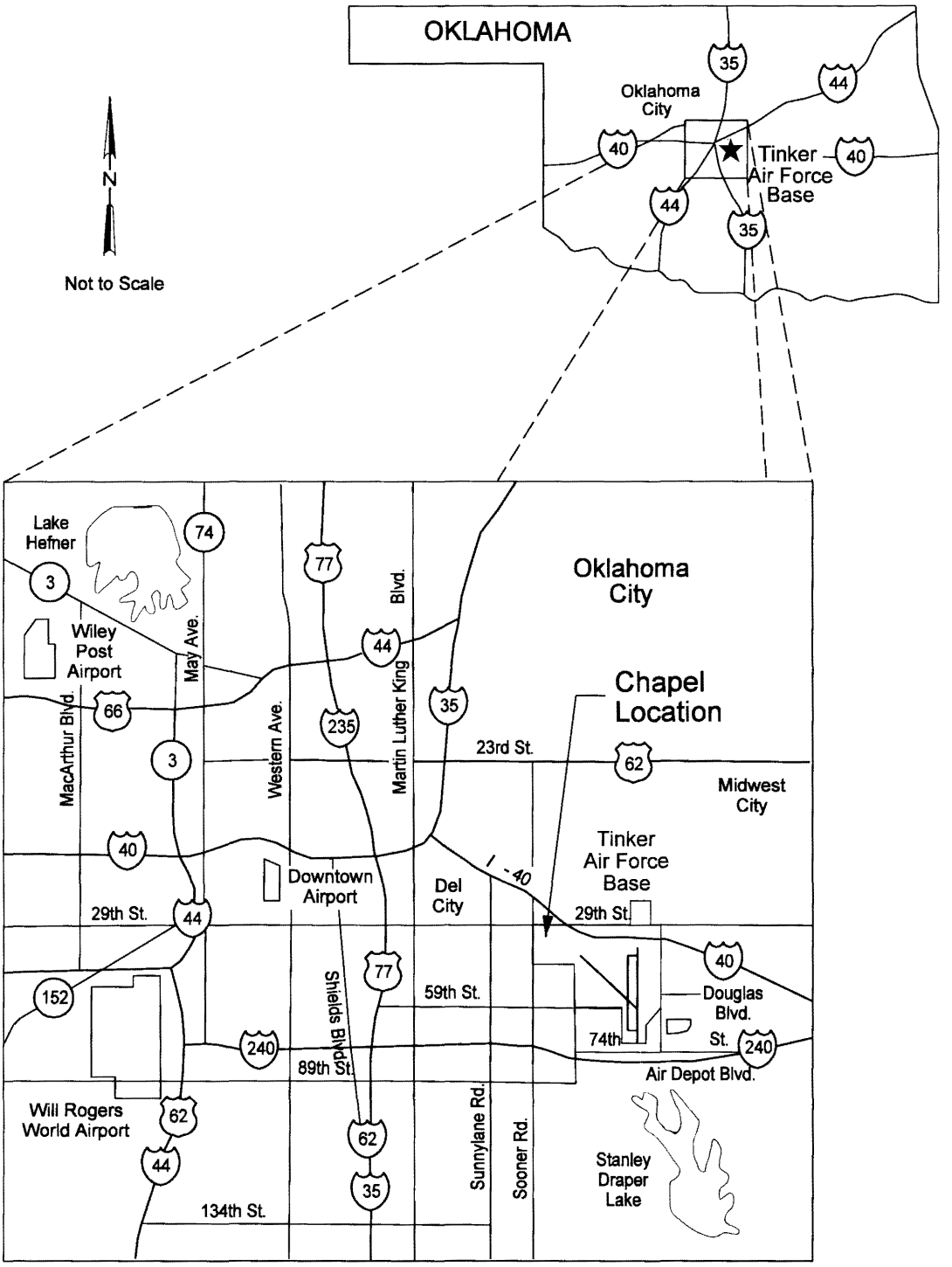
- Mission Objectives.
- Land Use.
- Aesthetics.
- Population and Community Facilities
- Environmental Justice and Protection of Children
- Cultural Resources
- Airfield Operations.
- Geology.
- Groundwater.
- Hazardous Materials, Contaminant Plumes, and Installation Restoration Program (IRP).
- Wetlands.

1.3.2 Analyses Carried Forward

The long-term issues of primary concern in this EA are impacts on natural resources, socioeconomic issues, infrastructure, cultural resources, and cumulative impacts. The resources analyzed in more detail in this EA include topography and soils, air quality, noise, surface water, aquatic resources, economic resources, utilities, solid waste, and transportation.

1.4 Applicable Regulatory Requirements and Coordination

Tinker AFB completed an EA for the construction of a collocated club at Tinker AFB, Oklahoma (Tinker AFB, August 2002). The proposed action in this analysis is subject to the same requirements for regulatory compliance and coordination. The description of applicable regulatory requirements and coordination from the Collocated Club EA is hereby incorporated by reference.



Source: Adapted from Rand McNally Atlas, 1991

FIGURE 1-1
Regional Location of Tinker Air Force Base
Addition to Chapel
Tinker AFB, Oklahoma

CH2MHILL

G//PROJECTS/160801 TINKER AFB/CHAPEL
21-AUGUST-2002

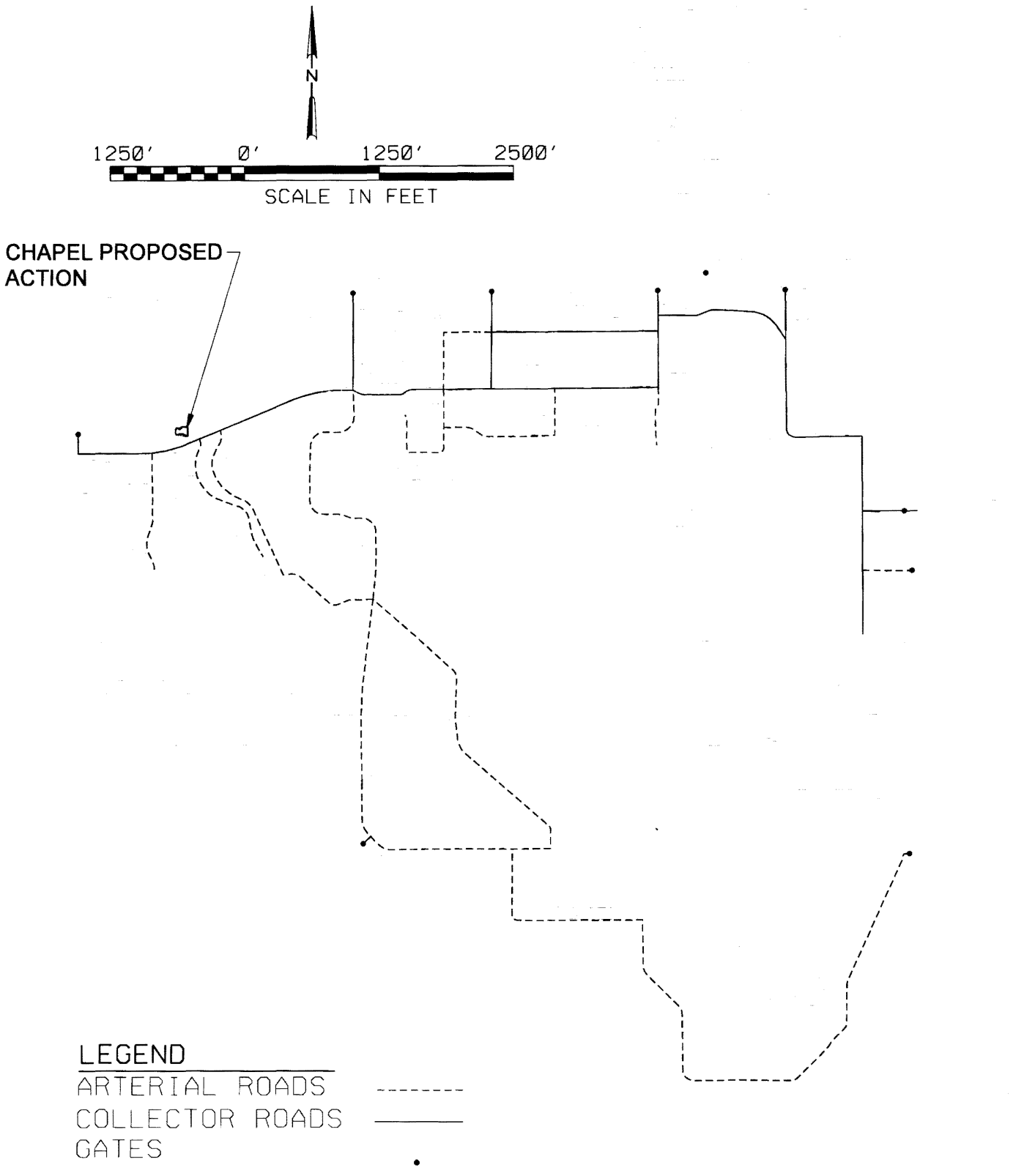


FIGURE 1-2
Location of Proposed Action
Addition to Chapel
Tinker AFB, Oklahoma

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21-AUGUST-2002

2.0 Description of the Proposed Action and Alternatives

2.1 Introduction

This section describes the proposed action, the no-action alternative, and the reasons that no additional action alternatives were carried forward for consideration. Tinker AFB has identified a need to construct a 4,000-square-foot addition to the chapel (building 5701).

2.2 History of the Formulation of Alternatives

NEPA and AFI 32-7061 require consideration of reasonable alternatives to the proposed action. Only alternatives that will reasonably meet the defined need for the proposed action require detailed analysis in this EA.

The proposed action is construction of a 4,000-square-foot addition to the base chapel (building 5701). No additional construction and no demolition of existing structures would result from the proposed action. The proposed action will enhance and complement services currently provided at the base chapel. Tinker AFB lacks the fiscal resources to construct and operate a chapel annex at a different location or construct a new chapel at a location outside the floodplain. These reasons coupled with the reasoning of the FONSI issued for the 1998 Chapel Addition EA, indicate there are no other practicable locations for the addition except adjacent to the existing chapel and no other way to meet the project purpose within the fiscal constraints of the base. Additionally, the increase of 800 square feet in the size of the previously approved addition was determined not to warrant consideration of other action alternatives.

2.3 Proposed Action

The proposed action includes construction of a 4,000–square-foot addition to the base chapel (building 5701). This addition would contain:

- 160 additional seats
- Baptistery
- Sacristy room
- Multi-faith room
- Bride's room
- Chaplain office
- Choir room
- Blessed sacrament rooms

In addition, landscaping and 15 additional parking spaces would be included in the proposed project. No additional construction and no demolition of other existing structures

would result as a consequence of the proposed action. The proposed action is designated the "preferred alternative" for this analysis.

2.4 No-Action Alternative

By definition, the no-action alternative is a continuation of existing conditions. Therefore, for this EA, the no-action alternative is continued use of the base chapel without expansion.

2.5 Comparison Matrix of the Environmental Effects

Table 2-1 summarizes the environmental and socio-economic effects of the proposed action and the no-action alternative for resource areas considered for further evaluation in this document. Section 4 of this EA provides more detailed information on the effects of each alternative for the resource areas examined in this document.

TABLE 2-1
Comparative Impact Summary of Analyses Considered for Chapel Addition

Resource Area	Preferred Alternative	No-Action Alternative
Topography and Soils	Minor impacts to soils from construction. No impacts to topography or geology. Erosion control BMPs to be used. No long-term impacts.	No impacts.
Noise	Minor construction-related noise events. No long-term noise sources added. Construction-related activities near residential areas or other sensitive receptors usually restricted to daytime hours. Construction-related noise temporary and of short duration and not considered to be significant.	No impacts.
Air Quality	Minor construction-related fugitive dust emissions require appropriate control BMPs. Use of natural gas compressors or HVAC units requires coordination with Tinker Air Quality staff.	No impacts.
Surface Water	According to the recently revised U.S. Army Corps of Engineers (USACE) floodplain map, the proposed building location is outside the floodway. Potential minor short-term impacts from construction. Erosion control BMPs to be used to avoid runoff into storm drains.	No impacts.
Biological Resources	No impacts as site is landscaped and located in an urban/industrial vegetation area. Potential minor impacts to Crutcho Creek from construction. Erosion control BMPs to be used to avoid runoff.	No impacts.
Employment	Beneficial impact from short-term construction employment. No long-term impacts as no staff changes would result.	No impacts.
Income	Beneficial impact from additional short-term construction spending. No long-term impacts as no additional expenditures are proposed.	No impacts.
Utilities	No significant adverse impact as additional demand within existing capacity of the base infrastructure.	No impacts.
Transportation	No impact, project would not appreciably alter traffic volume or flow patterns on-base. Construction may result in temporary transportation impacts related to material deliveries. No parking impacts.	No impacts.

3.0 Affected Environment

The affected environment has been fully characterized in the Collocated Club EA and the 1998 Chapel Addition EA. These earlier characterizations are hereby incorporated by reference.

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4.0 Environmental Consequences

4.1 Introduction

The primary purpose of an EA is to identify potential impacts of a major federal action on the environment. Identification of potential impacts in this EA included consideration of both the context and the degree of the impact. Where feasible, distinctions are made between short-term, long-term, negligible, and adverse impacts. A negligible impact may be inconsequential or be unlikely to occur; an adverse impact would have negative consequences. If the current condition of a resource is improved or an undesirable impact is lessened, the impact is considered beneficial. Finally, a "no impact" determination is made when the proposed action does not noticeably affect a given resource. Where appropriate, cumulative impacts are discussed. Cumulative impacts are those likely to occur over a long period of time or as a result of combining the expected impacts of two or more unrelated actions. This section presents the potential environmental consequences at the project site.

4.2 Effects of Alternatives on the Affected Environment

4.2.1 Topography and Soils

Topography

Preferred Alternative

Construction of the preferred alternative within the Community Development Area would require minimal site preparation activities (grading and excavation). The site is immediately adjacent to building 5701. Construction of the preferred alternative would not significantly alter the existing topography or change overall drainage patterns near building 5701. Therefore, no significant adverse impacts to topography are anticipated.

No-Action Alternative

Under the no-action alternative, no grading or excavation activities would occur and no impact to area topography would occur.

Soils

Preferred Alternative

Construction of the chapel addition would cause soil disturbance during site preparation and construction. Underground utilities or existing process lines may need to be relocated during the work. During soil disturbance activities, the potential exists for small-scale soil loss due to stormwater runoff. Construction contractors would use BMPs to contain and minimize soil loss. BMPs would include, but are not limited to, silt fences, hay bales, and establishment of cover vegetation after construction. Impacts to soils from the preferred alternative would not be significant because onsite soils have been heavily disturbed historically, construction activities would be temporary, and the use of BMPs would minimize erosion.

No-Action Alternative

Under the no-action alternative, no construction activities would occur; therefore, there would be no impact to soils.

4.2.2 Air Quality

Preferred Alternative

The preferred alternative would result in short-term localized emissions from construction vehicles and fugitive dust. Impacts would be temporary and are not considered significant. BMPs would be used to control fugitive dust, as needed, during construction. Dust control BMPs may include, but are not limited to, spray misting from water trucks. The new facility may include air compressors and heating, ventilation, and air conditioning (HVAC) systems powered by natural gas. If so, coordination with the Tinker AFB Environmental Management Directorate will occur to ensure that regulatory requirements are evaluated and the appropriate permits are obtained, if required.

No-Action Alternative

Under the no-action alternative, the existing facilities would continue to be used, resulting in no impact to air quality.

4.2.3 Noise

Preferred Alternative

Construction equipment would increase noise levels intermittently and could create a temporary nuisance for people living nearby. The impact would be short-term and not significant because of its temporary nature. Construction activities would generally be restricted to normal working hours at Tinker AFB. Noise impacts to sensitive receptors would be minimized by limiting noise-generating activities to daytime hours and, if complaints are received, by using additional noise control measures. Construction would not involve the addition of new noise sources. As such, no long-term impact to the noise environment would occur. Table 4-1 summarizes the noise levels generated by heavy equipment typically used during construction of highways, which produces noise levels similar to those that would be generated during construction of the proposed project.

Use of the chapel addition would not significantly increase noise levels in the area as no activities are proposed that would create an additional source of noise.

No-Action Alternative

Under the no-action alternative, the existing facilities would continue to be used, resulting in no impact to existing noise levels on-base.

TABLE 4-1
Estimated Peak Hours of Construction Noise

Construction Phase	Equipment	Noise Level at 25 feet (dBA-Leq)	Noise Level at 50 feet (dBA-Leq)
Clearing and grubbing	Bulldozer, backhoe	95	89
Foundation	Backhoe, loader	94	88
Superstructure	Crane, loader	95	89
Base preparation	Trucks, bulldozer	97	91

Source: U.S. Department of Transportation. 1977. Highway Construction Noise: Measurement, Prediction, and Mitigation.

4.2.4 Surface Water

Preferred Alternative

The chapel addition would be located within the floodplain of Crutcho Creek as the chapel is in the floodplain. According to the USACE floodplain map (revised 2002)1, the proposed location for the preferred alternative would be outside the designated floodway for Crutcho Creek. Construction of the addition will not result in reduced flood transport or changes to flood elevations upstream of the site because it will not constrict the floodway. Encroachment by the proposed addition would be less than 0.02 percent of the floodplain. In conjunction with other projects planned near the chapel that would encroach on the floodplain (religious education building addition, Collocated Club), total floodplain encroachment would be less than 0.1 percent of the floodplain with no floodway encroachment. As the total encroachment is small and there would be no decrease in flood transport and no increase in flood elevation upstream of the proposed project, impacts to the floodplain are anticipated to be insignificant.

Runoff from areas disturbed during construction has the potential to increase turbidity, siltation, and sedimentation to receiving streams and drainage ponds. BMPs, as presented in *Tinker AFB Stormwater Pollution Prevention Plan,* would be implemented to minimize impacts. Post-construction volume of stormwater would increase slightly from current conditions because the amount of impervious surface would increase. This minor increase, however, is not considered a significant adverse impact. Because construction would comply with existing stormwater design regulations, no long-term impacts to surface waters are anticipated.

No-Action Alternative

Under the no-action alternative, the existing facilities would continue to be used, resulting in no impact to surface waters.

[1] USACE floodplain map was revised in May 2002. This map has not been formally adopted and is not yet available for reproduction.

4.2.5 Biological Resources

Preferred Alternative

The preferred alternative site is a landscaped area among other developed areas. No known critical habitats or wetlands have been identified in this area. As a result, construction of the preferred alternative would have no impact on terrestrial biota or threatened or endangered species. Runoff from construction activities has the potential to impact aquatic resources on Tinker AFB. Stormwater runoff would be managed using BMPs, as presented in the *Tinker AFB Stormwater Pollution Prevention Plan*, to minimize potential adverse effects on aquatic biota.

No-Action Alternative

Under the no-action alternative, the existing facilities would continue to be used, resulting in no impacts to biological resources.

4.2.6 Utilities and Solid Waste

Preferred Alternative

Construction of the preferred alternative would have little impact on utilities, such as electricity and natural gas used for heating/cooling and lighting. Because present utility consumption is approximately 60 percent of total capacity, the minor increased demand for the chapel addition can be accommodated easily by the base utility capacity and is not a significant impact. Because no new personnel are being added, any additional restroom facilities would not result in a net addition to potable water use or domestic wastewater generation. Construction of the new facility may involve the location, removal, and replacement of existing underground utilities. This would result in temporary localized utility disruptions. Such impacts are not considered significant, however, and would result in upgrades through new infrastructure.

Construction of the preferred alternative would have no effect on solid waste handling, because the proposed facility is to accommodate existing workload levels and does not represent an increase in existing industrial workloads. All solid waste handling would comply with the recycling consent procurement requirements of EO 13101, Section 6002 of RCRA.

No-Action Alternative

Under the no-action alternative, the existing facilities would continue to be used at current utility demand levels, resulting in no impacts to existing utilities or solid waste handling abilities.

4.2.7 Economic Resources

Employment

Preferred Alternative

The economic effects of the preferred alternative would result from change in the demand for goods and services in the local economy. Primary effects would be caused by expendi-

tures, employment, salaries, and population directly related to the proposed action. Secondary effects would result from the process of spending and re-spending, and the relationship between production of goods and services and the commodities that are produced.

Implementation of the preferred alternative would not have a significant impact on the total labor force, employment, or unemployment in the Tinker AFB area because the estimated number of jobs generated during construction is less than 1 percent of the total employment at Tinker AFB. In addition, there would be no long-term impact on Tinker AFB employment levels because the preferred alternative does not require additional staff.

No-Action Alternative

The no-action alternative involves the continuation of the present conditions with no new construction spending to meet facility deficiencies. As such, no impact to employment would occur and there would be no long-term change in employment associated with staff additions.

Income

Preferred Alternative

Because no increase in personnel is part of the preferred alternative, economic effects of the action would be limited to the temporary effects of construction. Construction employment associated with the preferred alternative would be temporary and minor, so there would be no appreciable effect on income generated in the local economy.

Expenditures for construction-related materials and supplies would have a small short-term beneficial effect on the economy of the area. Businesses near Tinker AFB, such as gas stations and fast-food restaurants, generally benefit from additional sales to construction workers.

No-Action Alternative

Under the no-action alternative, no construction-related income would be generated and there would be no change to income levels. Therefore, no impact to income would occur under the no-action alternative.

Installation Contribution to the Local Economy

Preferred Alternative

The annual construction costs associated with the preferred alternative are less than 1 percent of Tinker AFB's annual overall impact on the economy, with the associated labor costs also being less than 1 percent of Tinker AFB's total payroll. The total payroll at Tinker AFB would be unaffected by the preferred alternative because it does not call for an increase or reduction in personnel.

No-Action Alternative

Because there would be no construction or employment change under the no-action alternative, there would be no impact to the base's contribution to the economy.

4.2.8 Transportation

Preferred Alternative

The preferred alternative would not result in an increase in personnel assigned to Tinker AFB. Construction impacts may result in temporary transportation impacts as road access is briefly interrupted for construction deliveries. Addition of 15 parking spaces would improve localized parking but would not significantly affect parking on Tinker AFB.

No-Action Alternative

Under the no-action alternative, the existing facilities would continue to be used, resulting in no impact to transportation.

4.2.9 Summary of Potential Mitigation Actions

No long-term significant adverse effects were identified. As a result, no mitigation measures are planned. Temporary erosion and runoff potential during construction would be controlled through the use of BMPs, and appropriate BMPs would be used to control fugitive dust emissions. The State Historic Preservation Officer (SHPO) would be contacted in accordance with existing Tinker AFB policies if subsurface archaeological remains are discovered during construction.

4.3 Unavoidable Adverse Environmental Effects

No unavoidable adverse environmental effects from the implementation of either the preferred alternative or the no-action alternative have been identified through this EA.

4.4 Compatibility with Objectives of Federal, Regional, State, and Local Land Use Plans and Policies

The preferred alternative is compatible with Tinker AFB plans and policies and would not interfere with mission objectives of any tenant organizations. The preferred alternative would result in the construction of a 4,000-square-foot addition to the base chapel within an already developed area that is compatible with surrounding land uses. The preferred alternative is compatible with the *General Plan* (Tinker AFB, 2000b) and is not contrary to existing federal, regional, state, or local land use plans or policies.

4.5 Relationship Between the Short-Term Use of the Environment and Long-Term Productivity

The preferred alternative would not affect the long-term productivity of the environment; no significant environmental impacts or depletion of natural resources have been identified through this EA.

4.6 Irreversible and Irretrievable Commitment of Resources

The preferred alternative would represent a commitment of fiscal resources during the construction process. No irreversible or irretrievable commitment of natural resources has been identified through this EA.

4.7 Cumulative Environmental Consequences

The CEQ regulations implementing NEPA require agencies to consider the potential for cumulative impacts of the action alternatives. "Cumulative impact" is defined in 40 CFR 1508.7 as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions... Cumulative impacts can result from individually minor but collectively significant factors taking place over time."

At present, Tinker AFB has three planned projects within the floodplain of Crutcho Creek (religious education building addition, chapel addition, and construction of a Collocated Club). In total, these projects would encroach upon less than 0.1 percent of the floodplain, which would not constitute a significant cumulative impact to the floodplain. No additional environmental impacts from the proposed action have been identified through this EA. Therefore, no cumulative impacts to natural environmental resources are anticipated from the interaction of the proposed action with other projects either on-base or in the region.

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5.0 List of Preparers

5.1 Tinker AFB, Oklahoma

Timothy T. Taylor: EIAP Program Manager and Cultural Resource Program Manager responsible for Cultural Resources and NEPA compliance at Tinker AFB. Mr. Taylor has a B.A. degree in Liberal Studies from Rose State College. He has 6 years of experience working as the Cultural Resource Program Manager and 1 year experience working as the EIAP Program Manager. Other experience includes 3 years of experience working in the Air Quality Program, 4 years working in the Asbestos and Lead-based Paint Program, and 6 years working as a Bio-environmental Engineering Technician in the USAF.

5.2 CH2M HILL

Dr. Howard Saxion: Deputy Program Manager and senior environmental scientist responsible for technical senior review. Dr. Saxion holds Ph.D. and M.S. degrees in environmental sciences from the University of Texas at Dallas, and a B.S. degree in biology from the University of Texas at Arlington. He has more than 20 years of experience in the preparation of NEPA documents, including environmental impact statements, air quality and noise impact assessments, regulatory compliance, and hazardous waste investigations. He is a Qualified Environmental Professional.

Richard Reaves: Environmental scientist responsible for overall project evaluation and document preparation. Dr. Reaves has 9 years of experience in NEPA, permitting, biological inventories, and natural resource assessment. He has a B.S. degree in wildlife ecology and resource management from the University of Wyoming and a Ph.D. in wetland ecology from Purdue University.

Kira Zender, AICP: Project Manager and environmental planner responsible for preparation of this EA. Ms. Zender has over 8 years of experience in land use and environmental planning. She has an M.A. in Urban and Regional Planning from Michigan State University and a B.A. in Urban Studies from New College/University of South Florida.

Ed Griggs: Engineering technician responsible for CAD technical support and design and development of drawing packages with Microstation and AutoCad. Mr. Griggs has more than 18 years of experience in military, domestic, and civil planning services. His experience includes AutoCad versions 2002, Microstation V8 and GIS Erdas Imagine.

David Dunagan: Publications specialist and technical editor responsible for editing and producing project deliverables. He has more than 24 years of experience in technical editing and document production for a wide range of public and private sector clients. Mr. Dunagan holds an M.A. in English from the University of Florida.

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6.0 List of Agencies and Persons Consulted or Provided Copies of the EA

- 29 May 2002, CH2M HILL received background information from the following personnel:
  - Tim Taylor/OC-ALC/EMCS
  - Scott Bowen/OC-ALC/EMPE
  - LouAnna Munkres –72 ABW/CECRP
- 30 July 2002, CH2M HILL staff contacted the Oklahoma Department of Wildlife Conservation, USFWS, and ONHI to solicit comments concerning protected species.
- 30 July 2002, CH2M HILL staff contacted the Oklahoma SHPO to solicit comments concerning cultural resources for the EA.

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7.0 Literature Cited

Bureau of Economic Analysis (BEA). 1999. Local Area Personal Income and Per Capita Personal Income. Accessed from BEA Regional Accounts Data internet site (http://www.bea.doc.gov/bea/regional/data.htm) by D. Reilly/CH2M HILL, June 1999.

Bureau of Economic Analysis (BEA). 1997. Regional Economic Information System 1969-1995 (CD-ROM). U.S. Department of Commerce, Economics and Statistics Administration.

Oklahoma Department of Commerce. 2002. Community Profiles: General Information for Oklahoma City, Del City, and Midwest City. Accessed from ODOC Internet site (http://www.odoc.state.ok.us).

Stevens, J. Sanderson and Lorenzini, Michele A. December 2000. Phase I Archaeological Survey, Mapping and Recordation Report, Tinker AFB, Oklahoma City, OK.

Tinker AFB. 2000a. *Programmatic EA for Demolition Activities at Tinker AFB.*

Tinker AFB. 2000b. *Tinker AFB General Plan.*

Tinker AFB. July 2000. *Tinker AFB Natural Resources Management Plan.*

Tinker AFB. August 2002. Construction of Collocated Club at Tinker AFB, Oklahoma, OK.

Tinker AFB Historic Properties Survey of 93 structures and 1,000 acres located in Township 11 North, Range 2 West Southern Tall Grass Prairie and Cross Timbers Region 5 Oklahoma County, Oklahoma. April 1992. Prepared for Woolpert Consultants Dayton, Ohio, by Klinger and Smith Historic Preservation Associates, P.O. Box 1064, Fayetteville, Arkansas 72702.

Tinker AFB. July 1997. *Tinker AFB Spill Prevention and Emergency Response Plan for Hazardous and Extremely Hazardous Substances.* OC-ALC/EM.

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CH2M HILL
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Fax 770.604.9183

CH2MHILL

July 30, 2002

171183.A1.01

Ian Butler
Oklahoma Natural Heritage Inventory Program
111 East Chesapeake Street
Norman, Oklahoma 73019-0575

Subject: Environmental Assessment for Addition to the Chapel (Building 5701) and Addition to the Chapel Annex (Building 5715) Located in the Community Development Area of Tinker Air Force Base.

Dear Mr. Butler:

CH2M HILL is currently preparing an Environmental Assessment (EA) for Tinker Air Force Base (AFB) in Oklahoma City. The EA is being prepared for an addition to the chapel (Building 5701) and a classroom addition to the chapel annex (Building 5715). Building 5701 was completed in 1960 and building 5715 was completed in 1967. Please note that in 1998 Tinker AFB proposed an addition to building 5701; however, there was not enough funding to build.

The proposed project includes the following components:

- Construction of a 4,000 square foot (372 square meters) addition to the Tinker Air Force Base chapel facility, which is located within a 100-year floodplain.
- Construction of a 1,395 square foot (130 square meters) classroom addition to the Tinker Air Force Base chapel annex.

A map of the proposed project site is enclosed for your review. There are no practicable alternatives to the proposed actions because the additions must occur to the existing facilities. Please review the attached location map and provide any comments regarding the project. Please direct all letter correspondence to my attention at:

CH2M HILL
115 Perimeter Center Place, NE, Ste. 700
Atlanta, GA 30346

If you require additional information on the project, please contact me at (770) 604-9182, ext. 270. Thank you for accommodating this request.

Sincerely,

CH2M HILL

Rich Reaves
Environmental Scientist

ATL\Tinker NatHert Chapel.Classroom.doc
Enc\ Location map

Oklahoma Biological Survey *Oklahoma Natural Heritage Inventory*

OKLAHOMA BIOLOGICAL SURVEY
111 E. Chesapeake Street
Norman, Oklahoma 73019-0575, USA
(405) 325-1985
FAX: (405) 325-7702

Rich Reaves
CH2MHILL
115 Perimeter Center Place NE
Suite 700
Atlanta, GA 30346

Monday, August 12, 2002

OBS Ref.: 2002-306-BUS-REA

Re: Addition to Chapel (Bldg. 5701) and Chapel Annex (Bldg. 5715)

Dear Mr. Reaves,

This letter is in response to your request for information on the presence of endangered species or other elements of biological significance at the referenced site. We have reviewed the information currently in the Natural Heritage Inventory database and have found no records of elements at the location you describe.

Because the database is only as complete as the information that has been collected, we cannot say with certainty whether or not a given site harbors rare species or ecological communities. In addition, the Oklahoma Biological Survey has no regulatory authority for endangered species and cannot say whether a project is or is not compliant with state or federal laws. Endangered species regulatory authorities in Oklahoma are the U.S. Fish and Wildlife Service office in Tulsa (918-581-7458) and the Oklahoma Department of Wildlife Conservation in Oklahoma City (405-521-4619). These offices also may have site specific information of which we are unaware.

Sincerely,

for Ian Butler
Biological Data Coordinator

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Fax 770.604.9183

CH2MHILL

July 30, 2002

171183.A1.01

Ron Suttles
Oklahoma Department of Wildlife Conservation
1801 N. Lincoln Blvd.
Oklahoma City, OK 73105

Subject: Environmental Assessment for Addition to the Chapel (Building 5701) and Addition to the Chapel Annex (Building 5715) Located in the Community Development Area of Tinker Air Force Base.

Dear Mr. Suttles:

CH2M HILL is currently preparing an Environmental Assessment (EA) for Tinker Air Force Base (AFB) in Oklahoma City. The EA is being prepared for an addition to the chapel (Building 5701) and a classroom addition to the chapel annex (Building 5715). Building 5701 was completed in 1960 and building 5715 was completed in 1967. Please note that in 1998 Tinker AFB proposed an addition to building 5701; however, there was not enough funding to build.

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115 Perimeter Center Place, NE, Ste. 700
Atlanta, GA 30346

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Sincerely,

CH2M HILL

Rich Reaves
Environmental Scientist

ATL\Tinker ODWC Chapel.Classroom.doc
Enc\ Location map

OKLAHOMA

FRANK KEATING, GOVERNOR
GREG D. DUFFY, DIRECTOR

DEPARTMENT OF WILDLIFE CONSERVATION

1801 N. Lincoln P.O. Box 53465 Oklahoma City, OK 73152 PH. 521-3851

August 9, 2002

Rich Reaves
CH2M
115 Perimeter Center Place, NE, Suite 700
Atlanta, GA 30346

Dear Mr. Reaves,

This responds to your letter of July 30, 2002 requesting information regarding the possible presence of state threatened or endangered species as well as any environmental impact for the following:

Project: Construction of Additions to Tinker Air Force Base

Location: Tinker Air Force Base, Oklahoma City, Oklahoma

Please understand that due to time and personnel constraints this Department has not conducted an actual field survey of the proposed site. Therefore, we are unable to provide site-specific information. We have reviewed the information provided for this project against our current records of state endangered and threatened species. Our records are compatible with the Oklahoma Natural Heritage Inventory and it appears that no state listed species would be affected.

Please be sure to contact the US Fish and Wildlife Service's Tulsa office (918-581-7458) to determine if any federally-listed species will be affected. For additional information concerning sensitive species, we recommend that you contact the Oklahoma Natural Heritage Inventory, 111 East Chesapeake, Norman, Oklahoma 73019.

Thank you for the opportunity to comment. If we can be of further assistance, please contact our Natural Resources Section at 405-521-4616.

Sincerely,

Thomas Heuer
Natural Resources Biologist

CH2M HILL
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Tel 770.604.9095
Fax 770.604.9183

CH2MHILL

July 30, 2002

171183.A1.01

Ken Frazier
Ecological Services
U.S. Fish and Wildlife Service
222 South Houston, Suite A
Tulsa, OK 74127-8909

Subject: Environmental Assessment for Addition to the Chapel (Building 5701) and Addition to the Chapel Annex (Building 5715) Located in the Community Development Area of Tinker Air Force Base.

Dear Mr. Frazier:

CH2M HILL is currently preparing an Environmental Assessment (EA) for Tinker Air Force Base (AFB) in Oklahoma City. The EA is being prepared for an addition to the chapel (Building 5701) and a classroom addition to the chapel annex (Building 5715). Building 5701 was completed in 1960 and building 5715 was completed in 1967. Please note that in 1998 Tinker AFB proposed an addition to building 5701; however, there was not enough funding to build.

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CH2M HILL
115 Perimeter Center Place, NE, Ste. 700
Atlanta, GA 30346

If you require additional information on the project, please contact me at (770) 604-9182, ext. 270. Thank you for accommodating this request.

Sincerely,

CH2M HILL

Rich Reaves
Environmental Scientist

ATL\Tinker USFWS Chapel.Classroom.doc
Enc\ Location map

02-14-02-I-0967

KC
HD

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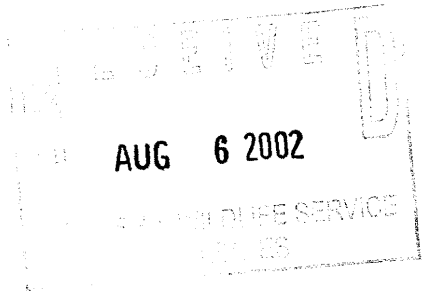
CH2MHILL

July 30, 2002

AUG 9 REC'D

171183.A1.01



Ken Frazier
Ecological Services
U.S. Fish and Wildlife Service
222 South Houston, Suite A
Tulsa, OK 74127-8909

Subject: Environmental Assessment for Addition to the Chapel (Building 5701) and Addition to the Chapel Annex (Building 5715) Located in the Community Development Area of Tinker Air Force Base.

Dear Mr. Frazier:

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NO EFFECT FINDING
The described action will have no effect on listed species, wetlands, or other important wildlife resources.
Date 8/29/02
Consultation # 2-14-02-0970
Approved by
U.S. FISH and WILDLIFE SERVICE, TULSA, OK

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July 30, 2002

171183.A1.01

Melvena Heisch
State Historic Preservation Office
2704 Villa Prom, Shepherd Mall
Oklahoma City, OK 73107

Subject: Environmental Assessment for Addition to the Chapel (Building 5701) and Addition to the Chapel Annex (Building 5715) Located in the Community Development Area of Tinker Air Force Base.

Dear Ms. Heisch:

CH2M HILL is currently preparing an Environmental Assessment (EA) for Tinker Air Force Base (AFB) in Oklahoma City. The EA is being prepared for an addition to the chapel (Building 5701) and a classroom addition to the chapel annex (Building 5715). Building 5701 was completed in 1960 and building 5715 was completed in 1967. Please note that in 1998 Tinker AFB proposed an addition to building 5701; however, there was not enough funding to build.

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CH2M HILL
115 Perimeter Center Place, NE, Ste. 700
Atlanta, GA 30346

If you require additional information on the project, please contact me at (770) 604-9182, ext. 270. Thank you for accommodating this request.

Sincerely,

CH2M HILL

Rich Reaves
Environmental Scientist

ATL\Tinker SHPO Chapel.Classroom.doc
Enc\ Location map

Oklahoma Historical Society

Founded May 27, 1893

State Historic Preservation Office • 2704 Villa Prom • Shepherd Mall • Oklahoma City, OK 73107-2441
Telephone 405/521-6249 • Fax 405/947-2918

August 26, 2002

Mr. Rich Reaves
Environmental Scientist
CH2M Hill
115 Perimeter Center Place NE Suite 700
Atlanta, GA 30346

RE: File #2290-02; Tinker Chapel and Annex Project, Buildings #5701 and #5715

Dear Mr. Reaves:

We have received and reviewed the documentation concerning the referenced project in Oklahoma County. Additionally, we have examined the information contained in the Oklahoma Landmarks Inventory (OLI) files and other materials on historic resources available in our office. We find that there are no historic properties affected by the referenced project.

Thank you for the opportunity to comment on this project. We look forward to working with you in the future.

Should further correspondence pertaining to this project be necessary, the above underlined file number must be referenced. If you have any questions, please contact Mr. Jim Gabbert, Architectural Historian, at 405/522-4478. Thank you.

Sincerely,

Melvena Heisch
Deputy State Historic
Preservation Officer

MH:bh

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CH2MHILL

July 30, 2002

171183.A1.01

Robert Brooks
State Archaelogist
Oklahoma Archaelogical Survey
University of Oklahoma
111 East Chesapeake
Room 102
Norman, OK 73019-5111

Subject: Environmental Assessment for Addition to the Chapel (Building 5701) and Addition to the Chapel Annex (Building 5715) Located in the Community Development Area of Tinker Air Force Base.

Dear Mr. Brooks:

CH2M HILL is currently preparing an Environmental Assessment (EA) for Tinker Air Force Base (AFB) in Oklahoma City. The EA is being prepared for an addition to the chapel (Building 5701) and a classroom addition to the chapel annex (Building 5715). Building 5701 was completed in 1960 and building 5715 was completed in 1967. Please note that in 1998 Tinker AFB proposed an addition to building 5701; however, there was not enough funding to build.

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Atlanta, GA 30346

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Sincerely,

CH2M HILL

Rich Reaves
Environmental Scientist

ATL\Tinker Arch Chapel.Classroom.doc
Enc\ Location map