

FINAL

**ENVIRONMENTAL ASSESSMENT FOR NEW
VETERINARY CLINIC AT
WRIGHT PATTERSON AIR FORCE BASE
DAYTON, OHIO**



U.S. AIR FORCE



Prepared For:

*U.S. Army Corps of Engineers
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and

**Civil Engineering Directorate
Wright Patterson Air Force Base, Ohio**

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FINDING OF NO SIGNIFICANT IMPACT FOR A NEW VETERINARY CLINIC AT WRIGHT-PATTERSON AIR FORCE BASE DAYTON, OHIO

Proposed Action: Wright-Patterson Air Force Base (WPAFB) is proposing the construction of a veterinary clinic on Communications Boulevard in Area A at WPAFB. A new veterinary clinic is needed due to the antiquated nature and size constraints of the existing veterinary facility.

The proposed project area is located in Greene County, Ohio, in the southwestern quadrant of Section 31, Township 3, Range 8. The proposed project area is bordered on the north by wooded land, on the east by Skeel Avenue, on the south by Communications Boulevard, and on the west by Battle Creek Road.

The new veterinary clinic would consist of a 2,500 square-foot facility and an associated parking area on an approximately one-acre footprint within the proposed project area. Activities associated with the construction of the facility would include site preparation, construction of the building and parking area, and landscaping.

Alternatives Analyzed: The following alternatives were analyzed in the attached Environmental Assessment:

- Alternative 1: Construct a new veterinary clinic adjoining the existing dog kennels on Mitchell Drive in Area C.
- Alternative 2: Construct a new veterinary clinic on Oak Street in the Kittyhawk Area. Due to the proposed re-routing of SR 444 through this area, this alternative was considered not feasible and removed from further analysis.
- No-action Alternative: Do not construct a new facility and continue to utilize the existing facility.

Environmental Impacts of the Proposed and Alternative Actions: The Environmental Assessment analyzed 14 resource areas for the proposed and alternative locations: soils, water resources, floodplains, biological resources (flora, fauna, threatened and endangered species, and critical habitats), air quality, noise, land use, facilities, socioeconomic conditions, cultural resources, hazardous materials and hazardous waste management, environmental justice, tanks, and health and safety. The analysis in the Environmental Assessment concludes that there will be no significant environmental impacts resulting from the proposed action or alternatives. This determination is based on the following:

1. There would be no significant adverse impacts on the flora, fauna, endangered species, or natural resources in the project areas.
2. There are no historic, archaeological, or cultural resources impacted by the proposed action.
3. There would be no adverse impacts to the social or economic structure of the adjacent communities. There are no impacts on low-income or minority populations.

Mitigation Measures: Mitigation measures to minimize the potential adverse impacts to the environment and human health are as follows:

- **Soils:** The proposed action would have short-term, minor impacts to soil during site preparation, excavation, and construction activities. Impacts would be minimized by implementing erosion and siltation controls.
- **Surface Water:** There would be potential minor impacts due to surface water runoff during construction activities and from surface runoff from the paved parking area. Impacts would be minimized during construction by implementing erosion control measures. Impacts from the parking area would be minimized by including stormwater controls in the design of the facility.
- **Flora:** There would be short-term minor impacts during site preparation/excavation activities due to loss of vegetation on the construction site. Long-term impacts would be negated because the site would be re-vegetated and landscaped.
- **Health and Safety:** There would be potential impacts to the health and safety of workers during the construction activities. Impacts would be minimized by adherence to health and safety standards.

Public Notice: A public notice was posted in the Dayton Daily News on 14 Aug 07 for a 10-day public comment period.

Finding of No Significant Impact: On the basis of the findings of the Environmental Assessment and after careful review of the potential impacts, I conclude that implementation of the proposed action, conducted in a manner consistent with applicable regulatory requirements, will not result in a significant impact on the quality of human health and safety or the environment. I also affirm that Wright-Patterson Air Force Base is committed to implementing the mitigation measures described herein for the proposed and alternative actions. Accordingly, the requirements of the National Environmental Policy Act, the Council on Environmental Quality Regulations, and 32 CFR 989 have been fulfilled and an environmental impact statement is not required and will not be prepared.



GARY K. JOHNSON
Director, Civil Engineer Directorate
88th Air Base Wing
Wright-Patterson Air Force Base

10 SEPT 07

DATE

ENVIRONMENTAL ASSESSMENT FOR NEW VETERINARY CLINIC AT WRIGHT PATTERSON AIR FORCE BASE DAYTON, OHIO

TABLE OF CONTENTS

List of Acronyms.....	vii
1 Introduction	1-1
1.1 Proposed Action	1-1
1.2 Need for the Action	1-1
1.3 Purpose of the Environmental Assessment	1-1
1.4 Scope of Analysis	1-1
1.5 Conclusions to be Made	1-3
2 Proposed Action and Alternatives.....	2-1
2.1 Summary of Proposed Action and Alternatives.....	2-1
2.2 Purpose and Need for the Proposed Action.....	2-1
2.3 Proposed Actions and Alternatives	2-1
2.3.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A	2-1
2.3.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C	2-2
2.3.3 Alternative 2: Construct the New Veterinary Clinic on Oak Street in Kittyhawk Area.....	2-2
2.3.4 No-Action Alternative	2-3
2.4 Regulatory Requirements	2-3
3 Affected Environment.....	3-1
3.1 Soils	3-1
3.2 Water Resources	3-1
3.2.1 Surface Water.....	3-1
3.2.2 Groundwater	3-2
3.2.3 Wetlands.....	3-3
3.2.4 Floodplains	3-3
3.3 Biological Resources	3-3
3.3.1 Flora	3-3
3.3.2 Fauna	3-4
3.3.3 Threatened and Endangered Species	3-4
3.3.3.1 Flora.....	3-4

	3.3.3.2 Fauna	3-4
	3.3.4 Critical Habitat	3-5
	3.3.5 Agency Correspondence	3-5
3.4	Air Quality	3-5
3.5	Noise.....	3-6
3.6	Land Use	3-7
3.7	Facilities.....	3-8
	3.7.1 Transportation.....	3-8
	3.7.1.1 Highways and Roads	3-8
	3.7.1.2 Railroads.....	3-8
	3.7.1.3 Airports.....	3-8
	3.7.2 Public Utilities	3-8
	3.7.2.1 Potable Water and Waste Water Management	3-8
	3.7.2.2 Electricity and Natural Gas	3-9
3.8	Socioeconomic Conditions.....	3-9
	3.8.1 Population and Social Demographics.....	3-9
	3.8.2 Economic Activity and Employment.....	3-10
	3.8.3 Environmental Justice.....	3-11
	3.8.4 Community Services.....	3-12
3.9	Cultural Resources	3-12
	3.9.1 Coordination with the National Historic Preservation Act	3-12
	3.9.2 Cultural Resources at WPAFB	3-13
3.10	Hazardous Materials and Hazardous Waste Management.....	3-13
	3.10.1 Hazardous Materials Management.....	3-13
	3.10.2 Installation Restoration Program Sites	3-13
3.11	Tanks	3-14
3.12	Health and Safety	3-14
4	Potential Environmental Impacts and Consequences	4-1
4.1	Soils	4-1
	4.1.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A.....	4-1
	4.1.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C	4-1
	4.1.3 No-Action Alternative	4-1
4.2	Water Resources	4-2
	4.2.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A.....	4-2
	4.2.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C	4-2
	4.2.3 No-Action Alternative	4-2
4.3	Floodplains	4-2
	4.3.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A.....	4-3
	4.3.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C	4-3

4.3.3	No-Action Alternative	4-3
4.4	Biological Resources	4-3
4.4.1	Flora	4-3
4.4.1.1	Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A	4-3
4.4.1.2	Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C	4-4
4.4.1.3	No-Action Alternative	4-4
4.4.2	Fauna	4-4
4.4.2.1	Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A	4-4
4.4.2.2	Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C	4-4
4.4.2.3	No-Action Alternative	4-4
4.4.3	Threatened and Endangered Species	4-4
4.4.3.1	Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A	4-5
4.4.3.2	Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C	4-5
4.4.3.3	No-Action Alternative	4-5
4.4.4	Critical Habitats	4-6
4.4.4.1	Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A	4-6
4.4.4.2	Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C	4-6
4.4.4.3	No-Action Alternative	4-6
4.5	Air Quality	4-6
4.5.1	Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A	4-6
4.5.2	Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C	4-6
4.5.3	No-Action Alternative	4-6
4.6	Noise	4-7
4.6.1	Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A	4-7
4.6.2	Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C	4-8
4.6.3	No-Action Alternative	4-8
4.7	Land Use	4-9
4.7.1	Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A	4-9
4.7.2	Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C	4-9
4.7.3	No-Action Alternative	4-9
4.8	Facilities	4-9
4.8.1	Transportation	4-9

4.8.1.1	Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A	4-9
4.8.1.2	Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C.....	4-10
4.8.1.3	No-Action Alternative	4-10
4.8.2	Public Utilities	4-10
4.8.2.1	Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A	4-10
4.8.2.2	Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C.....	4-10
4.8.2.3	No-Action Alternative	4-10
4.9	Socioeconomic Conditions.....	4-10
4.9.1	Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A.....	4-10
4.9.2	Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C	4-11
4.9.3	No-Action Alternative	4-11
4.10	Cultural Resources	4-11
4.10.1	Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A.....	4-11
4.10.2	Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C	4-12
4.10.3	No-Action Alternative	4-12
4.11	Hazardous Materials and Hazardous Waste Management.....	4-12
4.11.1	Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A.....	4-12
4.11.2	Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C	4-15
4.11.3	No-Action Alternative	4-16
4.12	Environmental Justice.....	4-16
4.12.1	Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A.....	4-16
4.12.2	Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C	4-16
4.12.3	No-Action Alternative	4-17
4.13	Tanks.....	4-17
4.13.1	Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A.....	4-17
4.13.1.1	USTs.....	4-17
4.13.1.2	ASTs.....	4-18
4.13.2	Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C	4-18
4.13.2.1	USTs.....	4-18
4.13.2.2	ASTs.....	4-18
4.13.3	No-Action Alternative	4-18
4.13.3.1	USTs.....	4-18
4.13.3.2	ASTs.....	4-19

4.14	Health and Safety	4-19
4.14.1	Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A	4-19
4.14.2	Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C	4-19
4.14.3	No-Action Alternative	4-20
4.15	Cumulative Effects	4-20
4.15.1	Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A	4-21
4.15.2	Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C	4-21
4.15.3	No-Action Alternative	4-21
4.16	Unavoidable Adverse Impacts	4-21
4.16.1	Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A	4-21
4.16.2	Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C	4-22
4.16.3	No-Action Alternative	4-22
4.17	Mitigation Measures	4-22
4.17.1	Relationship of Short-Term Uses and Long-Term Productivity	4-23
4.17.2	Irreversible and Irrecoverable Commitments of Resources	4-23
5	Conclusion	5-1
6	References	6-1
7	List of Persons Contacted	7-1
8	List of Preparers and Reviewers	8-1

Tables

Table 2-1.	Summary of Applicable Regulations for the Proposed Action and Alternatives.....	2-3
Table 3-1.	Minority Populations by County	3-11
Table 4-1.	Groundwater Results from Proposed Action Site	4-14
Table 5-1.	Summary of Potential Environmental Effects	5-1

Figures

- 1 General Site Location Map
- 2 Site Location Map and GIS Data Pertaining to the Proposed Action
- 3 Soil Map of the Proposed Action
- 4 Land Use Map of the Proposed Action
- 5 Site Location Map and GIS Data Pertaining to Alternative 1
- 6 Soil Map of Alternative 1
- 7 Land Use Map of Alternative 1
- 8 Site Location Map of Alternative 2
- 9 Noise Contour Map Showing the Proposed Action and Alternative 1

Appendices

- A Scoping Letters
- B Responses to Scoping Letters and Comments from the Public on this EA
- C Public Notice
- D Photographs of the Proposed Action, Alternative 1, and Alternative 2
- E List of Federal- and State-Listed Threatened and Endangered Species at Wright Patterson Air Force Base
- F Portions of *Remedial Investigation Report, Volume 1 of 4, Operable Unit 4, Landfills 3, 4, 6, and 7, and Drum Staging/Disposal Area*, CH2M Hill Ohio, April 1995

LIST OF ACRONYMS

AFI	Air Force Instruction
AICUZ	Air Installation Compatible Use Zone
APZ	Accident Potential Zone
AST	Aboveground Storage Tank
bgs	Below ground surface
BHE	BHE Environmental, Inc.
BMP	Basewide Monitoring Program
BMPs	Best Management Practices
BTEX	Benzene, toluene, ethylbenzene, and xylene
CAAA	Clean Air Act Amendments of 1990
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEV	USAF Environmental Management Division
CFR	Code of Federal Regulations
CO	Carbon monoxide
dB	Decibels
DoD	Department of Defense
EA	Environmental Assessment
EIAP	U.S. Air Force Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act of 1973
FFA	Federal Facilities Agreement
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
FS	Feasibility studies
ft ²	Square foot or square feet
GIS	Geographic Information System
gpm	Gallons per minute
HAP	Hazardous Air Pollutant
HAZMATs	Hazardous Materials
HMMP	Hazardous Materials Management Process
HVAC	Heating, ventilation, & air conditioning
ICI/SAIC	International Consultants Incorporated and Science Applications International Corporation
ICRMP	Integrated Cultural Resources Management Plan
IHMP	Installation HAZMAT Management Program
INRMP	Integrated Natural Resources Management Plan
IRP	Installation Restoration Program
J	Estimated value of parameter concentration

km ²	Square kilometers
kV	Kilovolt
LF	Landfill
MCD	Miami Conservancy District
mgd	Million gallons per day
µg/L	Micrograms per liter
mg/L	Milligrams per liter
mi ²	Square miles
MrB	Miamian-Urban land complex, undulating unit
MSA	Metropolitan Statistical Area
MSL	Mean Sea Level
MWD	Military working dog
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act
NO _x	Nitrogen oxides
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
O ₃	Ozone
OAC	Ohio Administrative Code
ODNR	Ohio Department of Natural Resources
ODS	Ozone Depleting Substance
OEPA	Ohio Environmental Protection Agency
OU	Operable Unit
OVM	Organic Vapor Meter
Pb	Lead
PM _{2.5}	Particulate matter equal to or less than 2.5 microns in diameter
psi	Pounds per square inch
PTI	Permits to Install
RI	Remedial Investigation
SH	Shallow test hole
SO ₂	Sulfur dioxide
Sp	Sloan-Fill land complex map unit
SWMU	Solid Waste Management Unit
T&E	Threatened and Endangered
TCE	Trichloroethylene
TP	Test pits
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USC	United States Code
USFWS	United States Fish and Wildlife Service
UST	Underground Storage Tank

VOC	Volatile organic compound
WMP	Wetland Management Plan
WPAFB	Wright Patterson Air Force Base
WSHP	Weapon System HAZMAT Program
WWTP	Waste Water Treatment Plant

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1 INTRODUCTION

1.1 Proposed Action

Wright Patterson Air Force Base (WPAFB), Dayton, Ohio, in conjunction with the United States Army Corps of Engineers (USACE), proposes to construct and operate a new 2,500-square foot (ft²) veterinary clinic on the Base. This Environmental Assessment (EA) has been prepared to assess any potential environmental consequences which may result from the construction of this facility.

WPAFB is located in southwestern Ohio in Greene and Montgomery counties, about 8 miles east of downtown Dayton. See Figure 1 for a general site location map. The base covers approximately 8,145 acres with a variety of land uses ranging from administrative and residential to research and industrial. WPAFB is divided into three functional areas: A, B, and C. Area A is primarily an administrative area; Area B consists primarily of research facilities, and Area C includes airfield operations.

1.2 Need for the Action

Currently, the veterinary clinic is housed in a 1,200 square-foot building that was constructed in 1942. This building is small and antiquated and; hence, is inadequate for the needs of WPAFB.

The proposed new veterinary clinic will have adequate space for an operating room, treatment room, radiograph equipment, and offices.

1.3 Purpose of the Environmental Assessment

This EA was prepared in accordance with the National Environmental Policy Act of 1969 (NEPA), 40 Code of Federal Regulations (CFR) Part 1500, the Council on Environmental Quality (CEQ) regulations implementing NEPA, and the U.S. Air Force Environmental Impact Analysis Process (EIAP) contained in 32 CFR Part 989. This EA addresses the potential for environmental impacts associated with construction of a new veterinary clinic at three potential locations.

1.4 Scope of Analysis

The proposed action and alternatives addressed in this EA reflect the results of interviews with WPAFB officials, federal and State agencies, and other interested parties, as well as on-site assessments conducted in October 2006. In addition, WPAFB's *Integrated Natural Resources Management Plan* (INRMP) was consulted. The alternatives to be addressed are as follows:

- Proposed Action: Construct a new veterinary clinic on Communications Boulevard in Area A

- Alternative 1: Construct a new veterinary clinic adjoining the existing dog kennels on Mitchell Drive in Area C
- Alternative 2: Construct a new veterinary clinic on Oak Street in Kittyhawk Area
- No-action Alternative: Do not construct a new facility and continue using the existing facility

This EA examines the potential consequential environmental, socioeconomic, and cultural effects that would result from implementing any one of the alternatives. Specifically, the following criteria were evaluated:

- Soils
- Water resources (surface water, ground water, and wetlands)
- Floodplains
- Biological resources (flora, fauna, threatened and endangered species, and critical habitats)
- Air quality
- Noise
- Land use
- Facilities (transportation and public utilities)
- Socioeconomic conditions
- Cultural resources
- Hazardous materials and hazardous waste management
- Environmental justice
- Aboveground and underground storage tanks
- Health and safety

A scoping letter describing the nature of the proposed project was sent to the Miami Conservancy District, the Ohio Department of Natural Resources, and the U.S. Fish and Wildlife Services on February 5, 2007. The purpose of the scoping letter was to request the recipient to address any questions, concerns, or provide any advisory information regarding environmental concerns for the EA. Appendix A contains copies of the scoping letters which were submitted to each agency. Appendix B contains the responses received from the recipients of the scoping letter and comments from the public after reviewing this EA. The public notices requesting input into this EA are located in Appendix C.

1.5 Conclusions to be Made

The purpose of this EA is to analyze the proposed action and its alternatives and determine whether to implement the proposed action (i.e., construction of a new veterinary clinic on Communications Boulevard) so that a Finding of No Significant Impact (FONSI)/Finding of No Practicable Alternative (FONPA) can be determined. The EA will provide the decision maker and the public with information required to understand the short-term and long-term consequences of the proposed action and its alternatives. Where applicable, mitigation measures will be recommended to minimize the adverse impacts. The necessity for the preparation of an Environmental Impact Statement (EIS) will also be determined.

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2 PROPOSED ACTION AND ALTERNATIVES

2.1 Summary of Proposed Action and Alternatives

WPAFB is proposing to construct a new 2,500 ft² veterinary clinic. The alternatives considered in this EA are as follows:

- *Proposed Action:* Construct a new veterinary clinic on Communications Boulevard in Area A
- *Alternative Action 1:* Construct a new veterinary clinic adjoining the existing working dog kennels on Mitchell Drive in Area C
- *Alternative Action 2:* Construct a new veterinary clinic on Oak Street in Kittyhawk Area
- *No Action Alternative:* Do not construct a new facility and continue using the existing facility

The proposed action, alternative actions, and the no-action alternative are discussed in further detail below.

2.2 Purpose and Need for the Proposed Action

The purpose of the proposed action is to construct a new veterinary clinic. The need for this project stems from:

- The fact that the existing veterinary clinic is located in an area that is to be used by the Marine Corp Reserve Training Center.
- The fact that the veterinary operations have outgrown the existing and antiquated facility.

2.3 Proposed Actions and Alternatives

2.3.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A

The proposed action consists of constructing a 2,500-ft² veterinary clinic and associated parking on an approximately 1-acre plot within an approximately 2.5-acre tract of open land located north of Communications Boulevard in Area A. This site was recently used as a staging area by utility contractors. Presently, there is a concrete parking area located on the southeast portion of the site which contains a construction trailer and large wooden spools that formerly contained utility wire. The construction trailer is currently vacant. This area is not located in a floodplain.

The subject site is bordered to the north by an open area and then a wooded area, and to the west by an unnamed tributary of Hebble Creek. On the other side of this tributary is Battle Creek Road and then Landfill (LF) 6 to the north and LF 7 to the west. The subject site is bordered to

the east by an unnamed tributary of Hebble Creek and then Skeel Avenue, and to the south by Communications Boulevard and then administrative buildings. See Figure 2 for the site location and Geographic Information System (GIS) data pertaining to the subject site and adjoining parcels (i.e., floodplains, utilities, etc.). See Figures 3 and 4 for a soil map of the subject site and land use of the subject site and adjacent areas, respectively. See Appendix D for photographs of the subject site and adjoining areas.

2.3.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C

Alternative 1 involves the construction of a 2,500-ft² veterinary clinic adjoining the existing working dog kennels north of Mitchell Drive within an approximate 5.5-acre tract of open land. The proposed footprint for the site is approximately 1 acre and is partially located within the 100-year floodplain. The south portion of this site is currently being used as a kennel for military working dogs, while the remainder of the site is currently being used as an obstacle training course.

The site is surrounded by an obstacle course to the north and east, an ammunitions storage area to the west, and a family campground to the south (across Mitchell Drive). See Figure 5 for the site location and GIS data pertaining to the subject site and adjoining parcels (i.e., floodplains, utilities, etc.). See Figures 6 and 7 for a soil map of the subject site and land use of the subject site and adjacent areas, respectively. See Appendix D for photographs of the subject site and adjoining areas.

2.3.3 Alternative 2: Construct the New Veterinary Clinic on Oak Street in Kittyhawk Area

Alternative 2 consists of constructing a 2,500 ft² veterinary clinic on open land on the south side of Oak Street in the Kittyhawk Area. See Figure 8 for a site location map. See Appendix D for photographs of the subject site and adjoining areas. The site is adjacent to Building 1240 (heating plant), baseball fields, and across the street from service station. This area is not located in a floodplain.

This area of Kittyhawk Area is involved in the State Route 444 relocation project. Currently, State Route 444 physically divides the Kittyhawk Area from the main portion of the base. The public use of this road has been determined to have the potential to increase security risks and additional gates are required to be maintained because of the public thoroughfare through the base. To address this issue, State Route 444 will be moved to the outside of the Kittyhawk Area, which includes the proposed alternate site.

Because State Route 444 is scheduled to be relocated in this area, this alternative is not feasible and is removed from this EA from further consideration.

2.3.4 No-Action Alternative

The no-action alternative is to not construct a new veterinary clinic. If the no-action alternative were implemented, then the existing clinic would continue to be used.

2.4 Regulatory Requirements

Statutes and regulations which may apply to the proposed and alternative actions are summarized in Table 2-1. The actions include construction and operation of the final completed veterinary clinic. If over 1 acre of land is to be disturbed for the construction project, as specified in OAC 3745-38, an Ohio National Pollutant Discharge Elimination System (NPDES) General Permit will be required.

Table 2-1. Summary of Applicable Regulations for the Proposed Action and Alternatives

Regulatory Area	Regulation
Natural Resources	Air Force Instruction (AFI) 32-7064, Integrated Natural Resource Management Plan
	Endangered Species Act of 1973, 16 USC §1531 <i>et seq.</i> 50 CFR Part 402, Interagency Cooperation Endangered Species Act of 1973, as Amended 33 CFR Part 230, Procedures for Implementing NEPA 33 CFR Part 238, Water Resources Policies and Authorities: Flood Damage Reduction Measures in Urban Areas 33 CFR Part 239, Water Resources Policies and Authorities: Federal Participation in Covered Flood Control Channels
	Executive Order 11990 – Protection of Wetlands
	40 CFR Part 6, Procedures for Implementing the Requirements of the Council on Environmental Quality on the National Environmental Policy Act, Appendix A – Statement of Procedures on Floodplain Management and Wetlands Protection
	Ohio Revised Code 1531.25, Protection of Species Threatened with State-Wide Extinction
Land Use	AFI 32-7063, Air Installation Compatible Use Zone (AICUZ) Program
Cultural/Historic Resources	AFI 32-7065, Cultural Resources Management Program
	National Historic Preservation Act of 1966, as amended
Air Quality	Ohio Administrative Code (OAC) 3745-15, General Provisions on Air Pollution Control
	OAC 3745-17, Particulate Matter Standards
	OAC 3745-77, Title V Permit Rules
Noise	29 CFR §1910.95, Occupational Noise Exposure

Regulatory Area	Regulation
	AFI 32-7063, AICUZ Program
Wastewater/ Storm Water	40 CFR §122.26, Storm Water Discharges
	OAC 3745-31, Permit to Install New Source of Pollution
	OAC 3745-33, Ohio NPDES Permits
	OAC 3745-38, Ohio NPDES General Permit
	City of Dayton Sewer Use Ordinance, No. 29641-98
Health and Safety	29 CFR §1910.133, Eye and Face Protection
	29 CFR §1910.134, Respiratory Protection
	29 CFR §1910.138, Hand Protection
	29 CFR §1910.1025, Occupational Safety and Health Standards: Lead
	29 CFR §1910.1030, Bloodborne Pathogens
	29 CFR §1910.1096, Ionizing Radiation
	29 CFR §1910.1200, Hazard Communication
	29 CFR Part 1926, Safety and Health Regulations for Construction
Infectious Waste	OAC Chapter 3745-27: Solid & Infectious Waste Regulations

3 AFFECTED ENVIRONMENT

3.1 Soils

The majority of the Proposed Action location consists of the Sloan-Fill land complex map unit (Sp). See Figure 3 for the soil map of the Proposed Action location. Sloan is a nearly level, very deep, very poorly-drained soil. Typically, the surface layer is silty clay loam about 24 inches thick. The surface layer has a high content of organic matter. The lowest permeability is moderate. It has a high available water capacity and a moderate shrink-swell potential. This soil is frequently flooded and is not ponded. The top of the seasonal high water table is at 6 inches. The soil contains a maximum amount of 40 percent calcium carbonate. This soil is hydric. There is no description available for Fill Land.¹

The extreme southeastern portion of the Proposed Action Location consists of the Miamian-Urban land complex, undulating unit (MrB). Miamian is a gently sloping, very deep, well drained soil. Typically the surface layer is clay loam about 7 inches thick. The surface layer has a moderate content of organic matter. The slowest permeability is moderately slow. It has a moderate available water capacity and a moderate shrink-swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 50 percent calcium carbonate. This soil is not hydric. There is no description available for Urban Land.²

The entire area of Alternative 1 is underlain by the Sp land complex map unit. See Figure 6 for the soil map of the Alternative location.

3.2 Water Resources

3.2.1 Surface Water

WPAFB is located within the Mad River Valley of the Great Miami River Basin. The Mad River flows along the western boundary of Area C and passes to the north/northwest of Area B and converges with the Miami River in Dayton.

Two intermittent tributaries are located on the adjoining property to the west and east of the Proposed Action location (see Figure 2). Both tributaries flow roughly from south to north, and converge north of the subject site to form a perennial tributary. This tributary flows northwest to Hebble Creek. Hebble Creek is a main tributary of the Mad River. The intermittent tributaries adjacent to the Proposed Action location receive runoff from roadways, parking lots, and open space in the area.

¹ USDA, December 2006

² USDA, December 2006

NPDES Outfall 006 is located on the intermittent tributary which adjoins the eastern side of the site. This outfall is sampled once a month during a “first flush” rainfall event. The samples are analyzed for the following parameters: pH; temperature; flow rate; oil and grease; benzene, toluene, ethylbenzene, and xylene (BTEX); total suspended solids; and 1,2,4-trimethylbenzene. The only parameters that have permit limits are pH and oil and grease. The permit parameters require pH to be between 6.5 and 9 and the permit limit for oil and grease is 10 milligrams per liter (mg/L). To date, the limits of either parameter have not been greater than the permit requirements for Outfall 006. This outfall captures runoff from an industrial area south of the Proposed Action location. There is a former fueling station in this industrial area which is still considered active.³ See Figure 2 for the surface water features and location of NPDES Outfall 006.

The only surface drainage feature located in the vicinity of Alternative 1 is a manmade ditch across Mitchell Drive southwest of the subject area. This ditch is vegetated with turf grass and runoff from the ditch flows southwest via sheet flow towards Bass Lake. NPDES Outfalls 019 and 020 are the closest outfalls to Alternative 1. Outfall 019 is approximately 0.25 miles southeast of the site and is located on an intermittent tributary just before entering Bass Lake. Outfall 020 is located approximately 0.25 miles northeast of the site at the beginning of an intermittent tributary to the Mad River north of the intersection of Mitchell Drive and Mustang Drive. Like Outfall 006 near the Proposed Action, these outfalls are sampled once a month during a “first flush” rainfall event. The samples are analyzed for the same parameters as NPDES Outfall 006 and pH and oil and grease have the same permit limits as Outfall 006. To date, the limits of either parameter have not been greater than the permit requirements for Outfalls 019 and 020. Outfalls 019 and 020 capture runoff from aircraft support operations east of the site of the Proposed Action location. See Figure 5 for the surface water features and locations of NPDES Outfalls 019 and 020.

3.2.2 Groundwater

The deep porous glacial materials along the Mad and Great Miami River valleys are part of the Buried Valley Aquifer, which reaches a maximum thickness of approximately 230 feet and thins to only a few feet at the edges. Water production in this area is very prolific, yielding over 2,000 gallons per minute (gpm) to water supply wells, with the aquifer being very responsive to applied stresses. Data indicate that a typical seasonal variation in water levels of approximately 10 feet. The annual low water levels occur during the autumn months (September – October) with annual high levels occurring in spring (April-May). Regional groundwater flow is typically west toward the Mad River and the Huffman Dam well field.⁴

³ Linda Rogers, February 2007

⁴ WPAFB, 2005

The Buried Valley Aquifer is a designated sole source aquifer under USC 1424(e) of the Safe Drinking Water Act and is highly utilized as a municipal and industrial source of water.⁵

3.2.3 Wetlands

A base-wide wetland delineation was conducted on WPAFB in 1994, and was updated by walking reconnaissance in 1999 and 2004, as cited in the INRMP. The results of the 1999 delineation were used to prepare the Wetland Management Plan (WMP) in 2000. Based on the results of the 2004 delineation, the WMP was updated in 2005.⁶

A total of 44 wetlands encompassing approximately 20.5 acres were delineated in 2004. Of this total, 17 wetlands were identified in Area B and 27 wetlands were found in Area C. Area A is the cantonment portion of WPAFB, and no wetlands were found to exist in this area.⁷

There were no wetlands identified on either the Proposed Action location or Alternative 1 (see Figures 2 and 5, respectively).

3.2.4 Floodplains

The Miami Conservancy District (MCD) regulates the flood control basin on the Mad River upgradient of Huffman Dam. The Base Civil Engineering Office uses 814.3 feet above Mean Sea Level (MSL) as the 100-year floodplain elevation of the Mad River. This elevation is based on the U.S. Army Corps of Engineers data and HEC-1 modeling. The flood elevation has been verified by the U.S. Geological Survey using MCD Data in 1994 which also determined other recurrence interval flood levels. These include the 5-year flood level (801.4 feet), 10-year flood level (804.7 feet) and 25-year flood level (808.8 feet).⁸

The Proposed Action location is not located within the Mad River 100-year floodplain. However, Alternative 1 is located within the floodplain.

3.3 Biological Resources

3.3.1 Flora

The Proposed Action location is situated on a relatively level, grassy open space. Vegetation in the vicinity of the Proposed Action location includes mixed grasses and forbs. Shrubs, saplings, and small trees are located along the two intermittent tributaries which flank the project area to the east and west. A mixed hardwood forest is present on the northern adjoining property.

⁵ WPAFB, 2005

⁶ BHE Environmental, Inc., October 2006

⁷ WPAFB, December 2005

⁸ Versar, Inc., December 2005

The Alternative 1 location is also situated on a relatively level, grassy open space. Vegetation in the vicinity of the Alternative 1 location includes mixed grasses and forbs. A mixed hardwood forest is present on the western adjoining property. A small strip of a mixed hardwood forest is present to the south between the Alternative 1 location and an access road.

3.3.2 Fauna

According to the *Site-wide Characterization Report*⁹, mammals commonly found in commercial/industrial areas and other disturbed areas, such as the Proposed Action and Alternative 1 locations, include eastern cottontail rabbit (*Sylvilagus floridanus*), opossum (*Didelphis virginiana*), chipmunk (*Tamias striatus*), and gray squirrel (*Sciurus crolinensis*). Birds found in these types of areas include pigeon (*Columba leucocephala*), killdeer (*Charities vociferous*), English sparrow (*Passer domesticus*), mockingbird (*Mimus polyglottos*), and red-winged black bird (*Agelaius phoeniceus*).

3.3.3 Threatened and Endangered Species

Air Force regulations (Air Force Policy Directive 32-70 and Air Force Instruction 32-7064) require all Air Force properties to protect species designated as threatened or endangered under the Endangered Species Act of 1973 (ESA) and to comply with State of Ohio Law 1531.25 for State-listed threatened and endangered (T&E) species.

Surveys to record T&E species on WPAFB were conducted between 1995 and 2000. A list of federal- and State-listed species observed on WPAFB during these surveys is included in Appendix E. Most of these species occur in or near the Mad River, various wooded areas at WPAFB, or within the Huffman Prairie area.

3.3.3.1 Flora

No federal-listed plants have been observed on WPAFB. However, the geographic range of the buffalo clover (*Trifolium stoloniferum*), a federal-endangered species, and the eastern prairie fringed orchid (*Platanthera leucophaea*), a federal-threatened species, includes WPAFB, although neither species was observed during the surveys.

3.3.3.2 Fauna

Federally- and state-listed animals present on WPAFB include the Indiana bat (*Myotis sodalis*), bald eagle (*Haliaeetus leucocephalus*), clubshell (*Pleurobema clava*), eastern massasauga rattlesnake (*Sistrurus c. catenatus*), and blazing star stem borer (*Papaipema beeriana*, a moth). In 2001, WPAFB developed an *Endangered Species Management Plan* to address the aforementioned species.

⁹ International Consultants Incorporated and Science Applications International Corporation (ICI/SAIC), 1995

3.3.4 Critical Habitat

No critical habitat, as defined in the ESA, has been designated on WPAFB for any federal-listed species.

3.3.5 Agency Correspondence

The Ohio Department of Natural Resources (ODNR) and the U.S. Fish & Wildlife Service (USFWS) were consulted regarding the potential occurrence of T&E species in the vicinity of the Proposed Action location. See Appendix A for the scoping letters submitted to the ODNR and the USFWS and Appendix B for responses from these agencies.

The ODNR consulted their Natural Heritage maps and determined that there are no unique ecological sites, animal assemblages, forests, or wildlife areas on or within a one-mile radius of the Proposed Action location.¹⁰

The USFWS stated that the Proposed Action location lies within the range of the Federally-listed Indiana bat, bald eagle, eastern massasauga, and clubshell mussel. The USFWS did not foresee any impacts to these species, aside from the Indiana bat, due to lack of suitable habitat. With regards to the Indiana bat, the USFWS recommended that trees and forested habitat be maintained along the edges of developed areas to the maximum extent practicable, and that if trees were to be cut, that further coordination with their office was requested.

3.4 Air Quality

The Clean Air Act Amendments of 1990 (CAAA) tasked the United States Environmental Protection Agency (EPA) with generating a revised set of rules governing the establishment of air quality standards and rules governing emissions of pollutants. The National Ambient Air Quality Standards (NAAQS) set concentration levels for the following pollutants, often referred to as “criteria air pollutants”:

- Carbon monoxide (CO)
- Nitrogen oxides (NO_x)
- Sulfur dioxide (SO₂)
- Lead (Pb)
- Ozone (O₃)
- Particulate matter equal to or less than 2.5 microns in diameter (PM_{2.5})

¹⁰ Debbie Woischke, ODNR, February 2007

It should be noted that emissions of volatile organic compounds (VOCs) are considered to be key in ozone generation. Lead is also regulated as a hazardous air pollutant (HAP).

Air quality is typically good in the vicinity of WPAFB, and is generally affected only locally by military and civilian vehicle emissions, particulate pollution from vehicle traffic, fumes from wastewater treatment plants, industrial sources, and construction activities. Mobile sources, such as vehicle and aircraft emissions are generally not regulated and are not covered under existing permitting requirements. Specific emissions sources at WPAFB include natural gas and coal-fire boilers, research and development sources, such as laboratory fume hoods and test cells; paint spray booths; refueling operations; and emergency power generators.

WPAFB is located in the Dayton-Springfield Metropolitan Statistical Area (MSA) which was designated a non-attainment area for ozone (8-hour standard) and particulates less than 2.5 micrometers in December of 2006. The designations result in a requirement of an air quality conformity applicability analysis for federal actions to determine whether Conformity rules apply. Applicability hinges on emission increases from the action or exceedances of *de minimus* emissions of criteria pollutants.

WPAFB has prepared and submitted a base-wide federal operating permit application for air emissions as specified under Title V of the Clean Air Act Amendments of 1990. This activity included an emissions inventory of criteria air pollutants for approximately 1,450 stationary sources. Many of the Title V sources are insignificant, including approximately 139 air emission sources that required Permits to Install (PTI). The remaining sources were exempt from a PTI by various provisions of OAC 3745-31-03 and OAC 3745-15-05. Of these permitted sources, only 29 are classified as major air pollution sources. Nine of these major sources are coal and natural gas-fired boilers at the two central heating plants. These nine boilers generate by far the largest quantity of emissions from stationary sources at the base. The Ohio Environmental Protection Agency (OEPA) finalized the Title V Operating Permit for WPAFB with an effective date of February 17, 2004.

3.5 Noise

The Department of Defense (DoD) required military departments to establish an Air Installation Compatible Use Zone (AICUZ) program. The AICUZ program is based on a maximum mission scenario. The goal of the AICUZ program is to promote compatible land use on and off base to minimize noise complaints.

The main “client” of the WPAFB veterinary clinic is the military working dog (MWD). According to WPAFB policy, the veterinary clinic must be located in a noise contour area at or below 75 decibels (dB) to ensure the optimum health and well-being of the MWDs and other animals that will be treated at the facility.

Based on a site visit by Bhate Environmental Associates, Inc. in October 2006 and consulting the site map (see Figure 2), typical noises surrounding the Proposed Action location are vehicular

traffic, human activity, and aircraft. Main sources of ambient noise in this area are traffic from State Route 444, which is approximately 0.25 mile to the south; Communications Boulevard which adjoins the site to the south and accessed from the west by Gate 16A, which is southwest of the site, Skeel Avenue, is just east of the site, and Battle Creek Road, which is just west of the site. Gate 16A serves as an entrance-only gate for commercial delivery and is operational from 6:00 a.m. to 6:00 p.m. Monday through Friday and 8:00 a.m. to 4:00 p.m. on Saturday.¹¹ The ambient noise level in this area as shown on a noise contour map is between 65 and 70 dB, which is below the 75 dB limit for the veterinary clinic location. See Figure 9 for a Noise Contour Map for the Proposed Action and Alternative 1.

Typical noises in the vicinity of the Alternative 1 location include aircraft and human activities. Presently, military and civilian aircraft operations are the primary sources of noise in this area. Currently, the 445th Wing Airlift is located just west of this area. This unit services the C-5 aircraft. Another noise source in this area is the FAMCAMP. This is an area reserved for campers, with 54 recreational vehicle parking sites available. The campground rules are strictly enforced: campers must keep noise down after 10:00 p.m. from Sunday through Thursday and after 11:00 p.m. on Friday and Saturday nights. The ambient noise level in this area as shown on a noise contour map is between 70 and 75 dB, which is at or below the 75 dB limit for the veterinary clinic location. See Figure 9 for a Noise Contour Map for the Proposed Action and Alternative 1.¹² It should be noted that the C-5 aircraft have become operational since the creation of the noise contour map. It has been projected that the 75 dB noise contour (the limit for the location of the veterinary clinic) will move over the Alternative 1 area.¹³

3.6 Land Use

WPAFB is divided into three areas: A, B, and C (see Figure 1). Area A contains primarily administrative activities; Area B focuses on research and development; and Area C is primarily occupied by airfield operations, maintenance, and civil engineering activities. Within Area C is an area known as “Kittyhawk,” which serves as the base's commercial and recreation center.

The base encompasses 8,145 acres and is classified as non-industrial with mixed development. Ten major land use categories have been identified on WPAFB.¹⁴

The land use for the Proposed Action is categorized as “Outdoor Recreation” and is bordered by “Administrative” and “Industrial” land. See Figure 4 for the Land Use Map of the Proposed Action and the surrounding areas.

¹¹ Mr. Raymond Baker, October 2006 and April 2007

¹² Shaw Environmental, Inc., September 2006

¹³ Mr. Dave Duell, October 2006

¹⁴ BHE and IT Corporation (IT) (BHE/IT), 2001

The land use for Alternative 1 is categorized as “Open Space” and is bordered by areas with the following land-use categories: “Open Space,” “Industrial,” and “Outdoor Recreation.” See Figure 7 for the Land Use Map of Alternative 1 and the surrounding areas.

3.7 Facilities

3.7.1 Transportation

3.7.1.1 Highways and Roads

The majority of access ways to the WPAFB Area A are on the south side of the area. The main gate to WPAFB Area A is through Gate 12-A along State Route 444. Access to Area A is also via State Route 844 (Gate 16A) and additional gates along State Route 444 (9A, 8C, and 1C). Gate 16A is used exclusively for commercial vehicles (trucks) and is only used for entry onto the base. Vehicles are not allowed to exit through this gate. Access to Area A is also available through Gate 26-C along State Route 235 (east side of Area A).

Access to the Kittyhawk Area is through Gates 38C and 39C on State Route 444.

State Route 444 runs through the WPAFB between Area A and the Kittyhawk Area. A project has been scheduled to relocate State Route 444 to the south of the Kittyhawk Area so that public access to the base will be further limited and passing from Area A into the Kittyhawk Area will not be restricted by security check points or jeopardized by local traffic.

3.7.1.2 Railroads

Railroad access is not available to Area A or the Kittyhawk Area.

3.7.1.3 Airports

The WPAFB runway is used by the 445th Airlift Wing and the Aero Club. The 445th Airlift Wing services the C-5 aircraft, which use the active runway.

The Aero Club provides safe and inexpensive recreational flying to active and retired military personnel and their dependents, members of the Reserve, National Guard, DoD civilians, and Civil Air Patrol members. The Aero Club uses the runway at the WPAFB for small aircraft use.

3.7.2 Public Utilities

3.7.2.1 Potable Water and Waste Water Management

The source of WPAFB’s drinking water is the Great Miami Buried Valley Aquifer. This aquifer is a large underground area of water-bearing sand and gravel deposits. WPAFB has two community public water systems that feed from this groundwater aquifer. This natural aquifer

provided WPAFB with approximately 1 billion gallons of water in 2005. There are six wells that serve Area A/C and four wells that serve Area B. Each well system has its own individual treatment process. Treatment includes air stripping to remove VOCs, chlorine disinfection to eliminate bacteria, the addition of polyphosphate to control fouling/scaling in the air strippers and distribution system, the introduction of carbon dioxide to control scaling and pH adjustment, ion exchange to reduce hardness in the family housing areas and Kittyhawk Center, and fluoridation which promotes strong teeth.

The data collected in 2005 showed that the water provided through the WPAFB systems did not exceed any EPA Drinking Water Standard.¹⁵

WPAFB produces, on average, 4.5 million gallons per day (mgd) of wastewater. The majority of the waste water from WPAFB is treated by municipal treatment facilities. Wastewater from the West Ram and a small portion of Patterson Field is discharged to the City of Fairborn Waste Water Treatment Plant (WWTP). The remainder of Patterson Field, Wright Field, and all base housing discharges to the City of Dayton WWTP.¹⁶

3.7.2.2 Electricity and Natural Gas

Electricity is supplied to WPAFB by Dayton Power & Light. A switching station located on Kauffman Avenue at Wright State University receives power at 69 kilovolt (kV) and a second smaller source is located at substation J. Eight substations located on base receive power at 15 kV. WPAFB owns the electrical distribution system located within the boundaries of the base. There are approximately 523 miles of aboveground and underground electrical lines on base.¹⁷

The natural gas is owned by and supplied to WPAFB by Vectren. The natural gas is transported through 131,000 linear feet of underground lines owned by WPAFB. The natural gas system consists of 11 distribution subsystems that provide service to heat-generating plants and numerous buildings on the base.¹⁸

Two central heating plants at the base provide space and process heat for all base facilities.

3.8 Socioeconomic Conditions

3.8.1 Population and Social Demographics

Approximately 92 percent of WPAFB's military and civilian employees live in the Dayton-Springfield, Ohio MSA that includes Clark, Greene, Miami, and Montgomery counties.

¹⁵ WPAFB, 2005 Water Quality Report

¹⁶ WPAFB, January 2001

¹⁷ WPAFB, January 2001

¹⁸ WPAFB, January 2001

As of the census of 2000, there were 6,656 people, 1,754 households, and 1,704 families residing in WPAFB. The population density was 219.8 per square kilometer (km²) (179.2/mi²). The racial makeup at WPAFB is 76.11% White, 15.25% Black or African American, 0.45% Native American, 2.30% Asian, 0.12% Pacific Islander, 2.09% from other races, and 3.68% from two or more races. Hispanic or Latino of any race were 4.45% of the population.¹⁹

Based on the 2000 Census data, the Census Bureau estimated the following population numbers for 2005:²⁰

- Montgomery County: 547,435
- Greene County: 151,996
- Miami County: 101,619
- Clark County: 142,376

As of September 2005, 533 military personnel, and 1,149 active military duty dependents resided on the installation.²¹

WPAFB operates like most other communities by providing commercial goods and services, community and social services, security, health care, churches, and schools.

3.8.2 Economic Activity and Employment

As of 2000, the median income for a household in WPAFB was \$43,342, and the median income for a family was \$43,092. Males had a median income of \$30,888 versus \$21,044 for females. The per capita income for WPAFB was \$15,341. About 1.6% of families and 1.8% of the population were below the poverty line, including 2.4% of those under age 18 and none of those aged 65 or over.²²

As of September 2006, the civilian workforce reported for Greene and Montgomery Counties was 77,200, and 273,500, respectively, with unemployment rates of approximately 4.7 and 5.8 percent, respectively.²³

As of September 2005, approximately 20,498 people, including 5,310 military personnel, 2,597 trainees and reservists; 10,322 civilians, and 2,259 non-appropriated fund civilians and private businesses, worked at WPAFB, which equated to a gross annual payroll of \$1,251,129,331.²⁴

¹⁹ U.S. Census Bureau, 2000

²⁰ U.S. Census Bureau, 2006

²¹ WPAFB, 30 September 2005

²² U.S. Census Bureau, 2000

²³ Ohio Job and Family Services, Office of Workforce Development, September 2006 Data

²⁴ WPAFB, 30 September 2005

The fiscal year 2005 payroll for WPAFB employees in the local area was over \$3.4 million per day.²⁵

3.8.3 Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires federal agencies to achieve environmental justice “to the greatest extent practicable” by identifying and addressing “disproportionately high adverse human health or environmental effects of activities on minority populations and low income populations.”

In October 2006, the statewide unemployment rate was 4.7 percent. The unemployment rates for the four surrounding counties were as follows:

- Clark: 5 percent
- Greene: 4.5 percent
- Miami: 4.7 percent
- Montgomery: 5.5 percent

As the table below shows, the percent of low-income persons was found to be higher for Clark and Montgomery Counties (11.3% and 11.2%, respectively) than for the State of Ohio (10.6%).

Table 3-1. Minority Populations by County

Statistic	Ohio	County			
		Clark County	Greene	Miami	Montgomery
Black persons	11.9%	9.0%	6.5%	2.0%	20.6%
American Indian and Alaska Native persons	0.2%	0.3%	0.3%	0.2%	0.2%
Asian persons	1.5%	0.6%	2.4%	1.0%	1.4%
Native Hawaiian and Other Pacific Islanders	0.0%	0.0%	0.0%	0.0%	0.0%
Persons reporting two or more races	1.2%	1.4%	1.6%	0.9%	1.5%
Persons of Hispanic or Latino origin	2.2%	1.4%	1.4%	1.0%	1.5%

²⁵ WPAFB, 30 September 2005

Statistic	Ohio	County			
		Clark County	Greene	Miami	Montgomery
Persons below poverty (2003)	10.6%	11.3%	8.2%	8.1%	11.2%
Unless otherwise noted, data is from 2004. Data source: U.S. Census Bureau, 8 June 2006					

The percent minority population was also higher in some counties for certain populations than the Statewide percentage. For instance, the percentage of Black persons was higher in Montgomery County; the percentage of Asian persons was higher in Greene County; and the percentage of persons reporting two or more races was higher in Clark, Greene, and Montgomery Counties.

3.8.4 Community Services

Fire protection is provided at WPAFB by an on-base fire department. Security and police protection is provided by the Military Police. Gate guards are provided through contract support.

Community services available at WPAFB include the base commissary, which includes a grocery store, pharmacy, bakery, and deli; and an AAFES service station. The base also includes a health club, gymnasium, fitness center; restaurants, cafes, canteens, and a sports bar; outdoor recreation facilities and programs; auto hobby shop; bowling alley; golf courses; and medical facilities, a library, and a veterinary clinic. The base also offers youth and family programs and recycling services.

3.9 Cultural Resources

3.9.1 Coordination with the National Historic Preservation Act

Regulations implementing Section 106 of the National Historic Preservation Act (NHPA), 36 CFR Part 800.8, encourage the coordination of the processes of review of possible impacts to the environment under NEPA with the assessment of effects of undertakings required under the NHPA. It is the intent of WPAFB that this document supports both of these independent reviews. The potential effects on historic properties is the main concern posed by the proposed action, though there are some other types of cultural resources known at the base. For purposes of the NHPA, WPAFB has determined that for the proposed and alternative actions, no historic properties will be affected. In accordance with Section 106 of NHPA, 88 ABW/CEVO provided written correspondence to the Ohio State Historic Preservation Office requesting concurrence on this determination.²⁶ See letter in Appendix A.

²⁶ Mr. Raymond Baker, June 2007

3.9.2 Cultural Resources at WPAFB

Over 300 recorded or potential cultural resources have been identified on WPAFB, to include prehistoric and historic archaeological sites, historic structures, and historic landscapes. The base contains a number of significant cultural resources from those recorded.

Results from recent cultural resource surveys have been presented in the base Integrated Cultural Resources Management Plan (ICRMP). The ICRMP identifies archeological sites, historic structures, and other significant cultural resources on WPAFB.

There are no known prehistoric and historic archaeological sites, historic structures, and historic landscapes on or adjacent to the Proposed Action or Alternative 1²⁷ (see Figures 2 and 5, respectively).

3.10 Hazardous Materials and Hazardous Waste Management

3.10.1 Hazardous Materials Management

The United States Air Force (USAF) and WPAFB are committed to the proper management of hazardous materials (HAZMATs). WPAFB uses a centralized tracking system to control HAZMAT procurement, receipt, labeling, storage, issue, use, and final disposal.²⁸

WPAFB maintains an Installation HAZMAT Management Program (IHMP) Plan that outlines the requirements, responsibilities, and general procedures for managing HAZMATs. The IHMP Plan is a WPAFB HAZMAT user's guide for addressing proper procurement, receipt, labeling, storage, issue, use, and tracking of HAZMATs as well as the redistribution, recycling, or disposal of excess HAZMAT.

The Hazardous Materials Management Process (HMMP) consists of three programs:

1. IHMP - The program for authorizing, procuring, issuing, and tracking HAZMAT.
2. Ozone-Depleting Substance (ODS) Program - Program for authorizing, tracking and controlling mission-critical Class I and Class II ODS.
3. Weapon System Hazardous Materials Program (WSHP) - ASC/ENV is the WPAFB organization responsible for the implementation of this program.

3.10.2 Installation Restoration Program Sites

In 1981, the Installation Restoration Program (IRP) was initiated at WPAFB and began with a Phase I, problem identification and records search conducted by Engineering-Science. Phase II,

²⁷ Mr. Raymond Baker, October 2006

²⁸ CH2M Hill, July 2006

Stages 1 and 2 were subsequently conducted for the 33 sites initially identified. WPAFB entered into a Consent Order with the OEPA in February 1988. The Consent Order specifies requirements for conducting preliminary assessments, site investigations, remedial investigations (RIs), feasibility studies (FS), remedial designs, and remedial actions at the base.²⁹

After the EPA listed WPAFB as a National Priorities List (NPL) site in October 1989 (bringing it into the Federal Facility Provision of the Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA] §120), WPAFB entered into a Federal Facilities Agreement (FFA) with the EPA that establishes a procedural framework and schedule for implementing and monitoring response actions at the site. The FFA was signed in March 1991.³⁰

As part of the IRP, an RI/FS Work Plan was initially developed for 39 potential waste disposal sites. WPAFB grouped the sites into 12 Operable Units (OUs) and prioritized them from high to low. In 1994, a groundwater monitoring program was designated for the entire base which is referred to as the Basewide Monitoring Program.³¹ To date, a total of 68 sites and several areas of concern have been addressed with various levels of investigation and remediation.³²

The WPAFB GIS Database shows all OUs, Landfills, and Solid Waste Management Unit (SWMU) locations and other areas of concern throughout the installation.

3.11 Tanks

The USAF Environmental Management Division (CEV) maintains a list of all current underground storage tanks (USTs) and aboveground storage tanks (ASTs). A list of USTs and ASTs that have been removed within the last several years is also maintained.³³

3.12 Health and Safety

General health and safety issues associated with the proposed project include worker safety and public safety during construction. Occupational and public safety issues are address with respect to construction.

Health and safety issues for the project include hazards associated with construction of a new or expanded facilities and supporting infrastructure. Such hazards include physical hazards (including heavy and light on-site equipment usage) and underground/overhead utility work.

The Air Force AICUZ program is intended to reduce the potential for aircraft mishaps in populated areas. As a result of this program, WPAFB has altered basic flight patterns to avoid

²⁹ WPAFB, November 2006

³⁰ WPAFB, November 2006

³¹ WPAFB, November 2006

³² Mr. Sherm Siegel, April 2007

³³ Libby Domingue, October 2006

heavily populated areas. In addition, airfield safety zones have been established under AICUZ to minimize the number of people who would be injured or killed if an aircraft crashed. Three safety zones are designated at the end of all active runways: Clear Zone, Accident Potential Zone (APZ) I, and APZ II. The Clear Zone represents the most hazardous area. Although administrative uses (industrial, business services, manufacturing) are permitted in the APZ, “people-intensive” uses (e.g., auditoriums, class rooms, etc.) are discouraged in these areas. According to AFI-32-7063, all new construction is required to comply with the AICUZ.

Quantity/Distance Zones, which are Explosive Safety Ordnance Zones, have also been established to demark where aircraft carrying explosive cargo or ordnance may be parked or generally operating. Neither the proposed site nor the alternative site is located within a Quantity/Distance Zone.

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4 POTENTIAL ENVIRONMENTAL IMPACTS AND CONSEQUENCES

This section assesses known, potential, and reasonably foreseeable environmental consequences related to implementing the proposed action, alternative action, or no action at WPAFB.

This assessment is organized by resource area (as presented in Section 3) and considers implementation of the proposed action in its entirety. Cumulative effects are discussed in Section 4.15.

A third alternative, construction of the veterinary clinic in the Kittyhawk Area was considered, but eliminated due to future redevelopment of the land as a road. Other alternatives were considered during the screening process but were eliminated because they were economically infeasible, ecologically unsound, or incompatible with the requirements of the military mission.

4.1 Soils

4.1.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A

If more than 1 acre of land is to be disturbed, a land-disturbance permit must be obtained from OEPA as a requirement of Phase II of the NPDES regulations. A Storm Water Management Plan must be prepared and submitted with the Notice of Intent (NOI) for the project. This plan is required to address which Best Management Practices (BMPs) will be utilized during the construction process for erosion and sedimentation control. Regular monitoring of the BMPs is required to ensure proper implementation and maintenance.

The topography of the Proposed Action location is relatively flat to gently rolling. During construction and until re-vegetation can occur, the potential exists for soil erosion. This potential impact would be short-term. Due to the relatively level topography of the project area, excessive soil erosion is not expected and no long-term impacts to soils are anticipated.

4.1.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C

The effects of the construction of the veterinary clinic at the Alternative 1 location are similar to those of the Proposed Action location. The topography of this area is relatively flat and no long-term impacts to soils would be expected if this alternative were implemented.

4.1.3 No-Action Alternative

Soils would not be impacted or affected under the no-action alternative.

4.2 Water Resources

4.2.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A

Groundwater at the Proposed Action location was measured at 13 to 14 feet below grade during an RI effort in 1993/1994. Groundwater flow was determined to be to the northwest.³⁴

The proposed action would not result in any substantial effects on existing aquatic resources, groundwater, or wetland conditions in the project area. A negative impact to the creek adjacent to the site is possible during construction, although sedimentation and erosion controls should be implemented. Depending on the final grade of the site after construction and the final site configuration, stormwater runoff could be directed to the small creek. Any contaminants in the stormwater from vehicles in the parking lot could affect the water in the creek. Negative effects on stormwater runoff to the creek could be minimized by including stormwater controls in the design of the facility.

4.2.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C

Groundwater in the vicinity of the potential construction site on Mitchell Drive adjoining the existing dog kennels occurs under water table conditions at depths ranging from approximately 6 to 10 feet below ground surface (bgs). Groundwater is recharged through infiltration of precipitation, groundwater flow into the area, and infiltration of surface water from Bass Lake.

Alternative 1 would not result in any substantial effects on existing surface water, aquatic resources, groundwater, or wetland conditions in the project area.

4.2.3 No-Action Alternative

The no-action alternative would not result in any substantial effects on existing surface water, aquatic resources, groundwater, or wetland conditions.

4.3 Floodplains

As discussed in Section 3.2.4, the 100-year Mad River floodplain elevation at WPAFB is 814.3 feet above MSL. The MCD regulates the flood control basin on the Mad River upgradient of Huffman Dam. All new structures or additions of any type within the floodplain behind Huffman Dam shall not be built more than 5 feet below the Huffman Dam Spillway elevation, which is 835 feet above MSL, unless approved by the MCD.

³⁴ CH2M Hill Ohio, April 1995

4.3.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A

This location is at an elevation of 817 feet above MSL and is above the 100-year floodplain of the Mad River behind the Huffman Dam. Therefore, there would be no significant impacts to any floodplains.

Also, WPAFB submitted a scoping letter to the MCD detailing the proposed project and requested comments from the MCD. Appendix A contains a copy of the scoping letter. No comments were received from the MCD. However, the MCD was contacted via telephone to determine if there were any comments. The MCD responded that they had no issues with the location of the Proposed Action; hence, no written response was generated.³⁵

4.3.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C

Alternative 1 is located at an elevation of 810 feet above MSL, which is within the Mad River 100-year floodplain. The MCD has the authority to back water upon and over the property behind Huffman Dam.

Federal regulations pertaining to new construction or additions within the Mad River floodplain specify that in the case of a “significant encroachment” on the floodplain by a proposed project, a finding of an “only practicable alternative” is required.

4.3.3 No-Action Alternative

The no-action alternative would not result in any substantial impacts on existing floodplains or floodplain management.

4.4 Biological Resources

4.4.1 Flora

4.4.1.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A

The vegetated portions of the Proposed Action location consist of grasses and forbs, which are ubiquitous across the base. The proposed footprint of the building and parking area is currently covered mostly in asphalt. After the construction, the disturbed areas would be reclaimed with native grasses; hence, the impacts would be insignificant.

³⁵ Mr. Rick Doran, MCD, May 2007

4.4.1.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C

The impacts for this location are similar to the Proposed Action location. The footprint of the building and parking area are covered with similar grasses and forbs. The disturbed areas would be reclaimed with native grasses; hence, the impacts would be negligible.

4.4.1.3 No-Action Alternative

Under the no-action alternative, the health and condition of plant communities would not be significantly impacted.

4.4.2 Fauna

4.4.2.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A

Potential short-term impacts could occur during construction, as some small common mammal and bird habitat could be disrupted. However, additional habitat is available to these animals in the adjacent areas, in the form of flat grassy areas and nearby wooded areas. No long-term impacts on wildlife or wildlife habitat are expected from the project.

4.4.2.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C

The impacts for Alternative 1 are similar to those of the Proposed Action location. Wildlife which may be temporarily affected during the construction process would be expected to move to adjacent grassy areas or nearby wooded areas.

4.4.2.3 No-Action Alternative

Under the no-action alternative, no animal communities would be significantly impacted.

4.4.3 Threatened and Endangered Species

No T&E species exist on the Proposed Action and Alternative 1 locations, but some T&E species were found on other areas of WPAFB. Protective measures for T&E species which were found on WPAFB are described in the current base *Endangered Species Management Plan*.³⁶

³⁶ BHE/IT, 2001

4.4.3.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A

According to the base GIS data, there are no T&E species on or adjacent to the subject site (see Figure 2).

Also, WPAFB submitted a scoping letter to the ODNR and the USFWS detailing the proposed project and requested comments from each agency. Appendix A contains a copy of the scoping letter and Appendix B contains the subsequent correspondence from the agencies regarding the project.

The ODNR consulted their Natural Heritage maps and determined that there are no unique ecological sites, animal assemblages, forests, or wildlife areas on or within a one-mile radius of the Proposed Action location.³⁷

The USFWS stated that the Proposed Action location lies within the range of the Federally-listed Indiana bat, bald eagle, eastern massasauga, and clubshell mussel. The USFWS did not foresee any impacts to these species, aside from the Indiana bat, due to lack of suitable habitat. With regards to the Indiana bat, the USFWS recommended that trees and forested habitat be maintained along the edges of developed areas to the maximum extent practicable, and that if trees were to be cut, that further coordination with their office was requested.

Since the Proposed Action location contains only grasses and forbs, no trees will be impacted by the construction of the veterinary clinic in this area.

4.4.3.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C

According to the base GIS data, there are no T&E species on or adjacent to the subject site (see Figure 5).

4.4.3.3 No-Action Alternative

The no-action alternative would not result in any significant impacts to T&E species or their habitats.

³⁷ Ms. Debbie Woischke, ODNR, February 2007

4.4.4 Critical Habitats

4.4.4.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A

Since there are currently no critical habitats at WPAFB, the Proposed Action would not result in any substantial effects.

4.4.4.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C

Since there are currently no critical habitats at WPAFB, Alternative 1 would have no significant impacts.

4.4.4.3 No-Action Alternative

The no-action alternative would not result in any substantial effects since there are currently no critical habitats at WPAFB.

4.5 Air Quality

4.5.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A

The only air emissions expected from the new veterinary clinic would be products of combustion from a fuel-fired heat source or back-up generator, if one was to be installed. No impact to air quality is expected with this action since the existing clinic would be decommissioned.

4.5.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C

The only air emissions expected from the new veterinary clinic adjoining the existing dog kennels would be products of combustion from a fuel-fired heat source or back-up generator, if one was to be installed. No impact to air quality is expected with this action.

4.5.3 No-Action Alternative

The no-action alternative would not result in any substantial effects on air quality in the project areas.

4.6 Noise

4.6.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A

As discussed in Section 3.5, the DoD required military departments to establish an AICUZ program, which is implemented to promote compatible land use on and off base to minimize noise complaints. According to WPAFB policy, the veterinary clinic must be located in a noise contour area at or below 75 dB to ensure the optimum health and well-being of the MWDs, the main “client” of the veterinary clinic, and other animals that will be treated at the facility.

Typical noises surrounding the Proposed Action location are vehicular traffic, human activity, and aircraft. Major noise sources consist of commercial delivery traffic through Gate 16A onto Communications Boulevard, which adjoins the site to the south; light traffic on Skeel Avenue (east of the site); and to a lesser degree, traffic on State Route 444 (0.25 mile south of the site). The proposed site is within the AICUZ 65 to 70 dB noise zone.

Noise is generated by commercial truck and vehicles entering WPAFB via Gate 16A, which is adjacent to the southwestern corner of the proposed site. Commercial trucks and vehicles are directed through Gate 16A for entry only. Vehicles are not allowed to exit through this gate. The gate is open from 6:00 a.m. until 6:00 p.m. Monday through Friday and 8:00 a.m. to 4:00 p.m. on Saturday. The majority of the traffic is in the morning.

Impacts on ambient noise levels from the work area would result from the operation of heavy machinery and equipment. There would be a minor, negative short-term impact from noise at the project site during the construction phase.

The heating, ventilation, & air conditioning (HVAC) system to serve the new facility will be designed to minimize noise impacts. Impacts would be minor because the activities at the clinic will be carried out during normal working hours only.

There would be potential minor, long-term impacts from barking (MWDs and clinic patients). This site is subject to noise from truck traffic entering through Gate 16A, however this impact is minimized because the gate is open only during normal business hours and is heaviest in the morning.

Potential noise receptors from noise generated at the site in the long-term include the personnel working in offices to the south of Communications Boulevard and in offices to the east across Skeel Avenue. Outside activities in these adjacent areas is minimal. There are no receptors for noise to the north or to the west. Both of these areas are former landfill sites.

4.6.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C

According to the AICUZ study, the Alternative 1 location is in the 70 to 75 dB noise contour zone. Typical noise sources in and around the alternative site include intermittent noises such as barking dogs and human activities at the family campground across the street. Other noise sources include flight operations. Military and civilian aircraft operations are the primary sources of noise at the Alternative 1 site. The 445th Airlift Wing is located just west of the dog kennels. This unit services the C-5 aircraft.³⁸

The second noise source in the area of the proposed action is the FAMCAMP. There are 54 trailer sites available for campers. Rules regarding noise in the campgrounds are strictly enforced. Campers must keep noise down after 10:00 p.m. from Sunday through Thursday and 11:00 p.m. on Fridays and Saturdays.³⁹

Impacts on ambient noise levels from the work area would result from the operation of heavy machinery and equipment. There would be a minor, negative short-term impact from noise at the project site during the construction phase.

The new HVAC system will be designed to minimize noise impacts. Impacts would be minor because the activities at the clinic will be carried out during normal working hours only.

There would be minor long-term impacts to the FAMCAMP area from the increase in traffic due to clinic clients.

4.6.3 No-Action Alternative

Typical noise sources in and around the existing facility include truck traffic from Gate 16A and State Route 444. This site is located below the 65 dB AICUZ zone (see Figure 9).

Commercial trucks are directed through Gate 16A for entry only. Vehicles are not allowed to exit through this gate. The gate is open from 6:00 a.m. until 6:00 p.m. Monday through Friday and 8:00 a.m. to 4:00 p.m. on Saturday. The majority of the truck traffic is in the morning.

The no-action alternative would not result in any significant impacts on noise from operations in the project area. However, noise at the existing site is likely to increase due to the future construction of the Marine Corps Reserve Training Center adjacent to the clinic.

Development of the Training Center will include construction of buildings; installation of utilities; excavation and earthmoving; and construction of roads, sidewalks, and erosion control

³⁸ Shaw Environmental, Inc., September 2006

³⁹ WPAFB, September 2006

structures. Short-term impacts on community noise levels during construction/demolition activities would include noise from construction equipment and noise from construction vehicles/delivery vehicles traveling to and from the construction site.⁴⁰

Noise from the future operations would be minor and consistent with operations that are already occurring at WPAFB.⁴¹

4.7 Land Use

4.7.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A

Land use at the proposed site will change with the construction of the clinic. However, the land use is considered to be compatible with surrounding administrative (office) uses and the adjacent landfills.

4.7.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C

Minor land use changes associated with clinic operations would occur at the alternative site. However, the land use is compatible with the existing dog kennel operations.

4.7.3 No-Action Alternative

The no-action alternative would not result in any significant impacts on land use in the project areas.

4.8 Facilities

4.8.1 Transportation

4.8.1.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A

Minor short-term impacts would occur due to construction-type vehicles using roadways to the designated site. No long-term impacts are expected from clinic client traffic since the clinic is located close to the existing clinic location.

⁴⁰ U.S. Marine Corps Reserve, September 19, 2005

⁴¹ U.S. Marine Corps Reserve, September 19, 2005

4.8.1.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C

Minor short-term impacts would occur due to construction-type vehicles using roadways to the site. Minor long-term impacts would occur from the additional traffic due to clinic clients coming to the facility.

4.8.1.3 No-Action Alternative

The no-action alternative would not result in any significant impacts on transportation in the project area.

4.8.2 Public Utilities

4.8.2.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A

Construction of the veterinary clinic at the Proposed Action location would not require the relocation of any existing utilities or the installation of new utilities. Utilities such as electrical, water, sanitary sewer, and natural gas are present in the area and would only require connecting to the existing utilities lines. Therefore, the Proposed Action would not have any significant impacts on public utilities in this area.

4.8.2.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C

The effects on public utilities at the Alternative 1 location would be similar to those of the Proposed Action location. The afore-mentioned utilities are also present in this area and no utilities would have to be relocated in order to construct the veterinary clinic in this location. Hence, no significant impacts would result from implementing Alternative 1.

4.8.2.3 No-Action Alternative

The no-action alternative would not result in any significant impacts on public utilities at WPAFB.

4.9 Socioeconomic Conditions

4.9.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A

Nominal, temporary socioeconomic impacts would occur during construction activities. Contractors could benefit from employment and income through contracts associated with construction of the veterinary clinic.

The proposed action would not result in any positive or negative long-term impacts on socioeconomic conditions at WPAFB or the surrounding communities. A larger veterinary clinic may be able to sustain additional staff, although the number of additional staff would be very small.

4.9.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C

Nominal, temporary socioeconomic impacts would occur during construction activities. Contractors could benefit from employment and income through contracts associated with construction of the veterinary clinic.

Alternative 1 would not result in any positive or negative long-term impacts on socioeconomic conditions at WPAFB or the surrounding communities. A larger veterinary clinic may be able to sustain additional staff, although the number of additional staff would be very small.

4.9.3 No-Action Alternative

The no-action alternative would not result in any significant positive or negative impacts on socioeconomic conditions at WPAFB or the surrounding communities.

4.10 Cultural Resources

4.10.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A

A total of 2,987 acres (37%) of the base has been field surveyed for archaeological sites. The remaining acreage (approximately 5,158 or 63%) of the base has been excluded from survey because of substantial development and previous disturbance. The proposed area does not contain nor is it adjacent to any identified archaeological sites, historic buildings, or historic landscapes. The area is considered previously disturbed and the potential for the discovery of archaeological resources during construction is low.⁴²

Therefore, the proposed action would not result in significant positive or negative impacts on cultural resources in the project areas. For purposes of the NHPA, no historic properties would be affected.

⁴² Mr. Raymond Baker, June 2007

4.10.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C

The existing dog kennel, facility 34053, is not a historic building and is not part of any historic landscape or district. In 2001, Gray & Pape, Inc., conducted Phase I investigations at WPAFB as a part of the base's ongoing Section 110 responsibilities for identifying and protecting historic properties on its land. The current project was focused on identifying potential prehistoric resources located in areas previously identified as having a low to moderate probability for containing prehistoric sites. An area of 18.52 acres between Riverview and Liberator Roads was surveyed, which included the open field just west of and including part of the alternate construction site. No sites were discovered in this area and no further work was recommended.⁴³

Therefore, Alternative 1 would not result in significant positive or negative impacts on cultural resources in the project areas. For purposes of the NHPA, no historic properties would be affected.

4.10.3 No-Action Alternative

The current Vet Clinic, facility 11435, is not a historic building and is not part of any historic landscape or district.⁴⁴

Therefore, the no-action alternative would not result in significant positive or negative impacts on cultural resources in the project areas. For purposes of the NHPA, no historic properties would be affected.

4.11 Hazardous Materials and Hazardous Waste Management

4.11.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A

The proposed action would not result in any significant positive or negative environmental impacts due to encounters with hazardous materials. Construction workers are responsible for complying with applicable environmental, health, and safety regulations and standard operating procedures. No negative impacts associated with hazardous materials usage would be expected from the Proposed Action.⁴⁵

No spills of oil or hazardous materials are known to have occurred at the proposed site.⁴⁶

⁴³ Mr. Raymond Baker, July 2007

⁴⁴ Mr. Raymond Baker, June 2007

⁴⁵ Mr. Raymond Baker, April 2007

⁴⁶ Mr. Chris Tumbusch, 2006; SAIC, February 1, 2006

The Proposed Action site and the areas to the north and west are part of Operable Unit 4 (OU4) that was investigated in 1994-1995 as part of the OU4 Remedial Investigation (RI).⁴⁷

The OU4 RI effort included the installation of three shallow test holes (SH-21, SH-21A, and SH-21B) on and near the edge of the Proposed Action site. These are shown on the map (Figure 2-9) included in Appendix F. Logs for these sample locations are also included in Appendix F. None of the descriptions noted objects or debris, although the log for OU-SH-21 noted:

“Fuel/gasoline odor noted in the fill OVM [Organic Vapor Meter] = 122 ppm [parts per million]. High OVM readings confined to an isolated area about 1.5 feet below ground surface. Probable isolated gasoline spill (very small volume).”

No refuse/debris was encountered in a test pit (OU4-TP22) installed as part of the RI effort just adjacent to and north of the Proposed Action site (see Figures 1 and 3-4 and the associated test pit logs in Appendix F).⁴⁸

A small arms firing range was formerly present in the adjacent area to the north of the Proposed Action site. A map that showed the small arms firing range suggests that it was in use from approximately 1966 to 1979.⁴⁹

The areas adjacent to the Proposed Action site to the north and west are part of OU4.⁵⁰ LF 6 is located to the north of the former firing range. LF 6 was operated from 1949 to 1952 and received general refuse from Areas A and B. It was conducted as a trench and cover operation in an area covered by about 7 acres. LF 7 is located to the west of the proposed site. LF 7 was operated from 1952 to 1962 and received general refuse from Areas A and B. It was a trench and cover operation in an area about 18 acres in size.⁵¹

The OU4 RI effort included the following on the adjacent property to the north of the Proposed Action site:⁵²

- Seven test pits
- Three landfill gas probes
- Four surface water samples (in the intermittent streams bordering the site)
- Sampling of one existing monitoring well (installed in 1987)
- Four Shallow Test Holes (SHs) (for landfill cover inspection)

⁴⁷ CH2M Hill Ohio, Inc., April 1995

⁴⁸ CH2M Hill Ohio, Inc., April 1995

⁴⁹ U.S. Engineer Office, August 1944, updated through 1979

⁵⁰ CH2M Hill Ohio, Inc., April 1995

⁵¹ WPAFB, undated (Community Relations Plan)

⁵² CH2M Hill Ohio Inc., April 1995

- Two Shelby tubes (for landfill cover inspection)
- One infiltrometer

No refuse or debris was identified in four of the test pits on the south and east sides of the former firing range area (OU4-TP22, OU4-TP23, OU4-TP24, and OU4-TP25). See Appendix F for the locations and associated logs of these test pits. Fill and construction debris was found between 0.5 feet and 4 feet in the center of the former firing range area. Fill and ashy fill were identified from the surface or near surface (0.3 feet) to 2 to 3 feet in the three test pits in the northern portion of the proposed site, with the exception of one test pit which found ashy fill to 6.5 feet below grade (OU4-TP36, OU4-TP37, and OU4-TP38). A map showing the locations of these test pits and the associated logs are included in Appendix F.

Soil and water samples were collected from the adjacent area to the north as part of the LF 6 and LF 7 investigation. Results of groundwater sampled collected from an on-site groundwater monitoring well (11-540-M) in August and December 1993 are shown in Table 4-1.

Table 4-1. Groundwater Results from Proposed Action Site

Parameter	Groundwater from 11-540-M ⁵³	
	August 1993	December 1993
1,1,1-Trichloroethane	2 µg/L	2 µg/L
Trichloroethylene (TCE)	4 µg/L	5 µg/L
Total VOCs	6 µg/L	7 µg/L
Aluminum	Less than background	Less than background
Antimony	22.3J µg/L	Less than background
Arsenic	Less than background	Less than background
Barium	Less than background	Less than background
Cadmium	Less than background	Less than background
Cobalt	Less than background	Less than background
Cyanide	1.3J µg/L	Less than background
Copper	Less than background	13J µg/L

⁵³ CH2M Hill Ohio, April 1995

Parameter	Groundwater from 11-540-M ⁵³	
	August 1993	December 1993
Iron	Less than background	Less than background
Lead	Less than background	Less than background
Manganese	Less than background	Less than background
Potassium	Less than background	Less than background
J = Estimated value μg/L = micrograms per liter		

Soil samples were collected in the Proposed Action location in the following locations:

- OU4-SH-21, OU4-SH-21A, and OU4-SH-21B, located in west-central portion west of parking lot

Soil samples were collected in the area north of the Proposed Action location in the following locations:

- OU4-SH-22, located near the concrete pad for range operations
- OU4-SH-23, located on the west-central portion of the former firing range
- OU-SH-24, located on the northeast portion of the former firing range and north of OU-SH-22
- OU-SH-25, located in the northwest of the former firing range and northwest of OU-SH-23

Logs for these sample locations are included in Appendix F. None of the descriptions noted objects or debris (shot, bullets, etc.).

The Record of Decision dated August 1998 determined that no remedial action was necessary at Landfills 6 or 7.⁵⁴

4.11.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C

Alternative 1 would not result in any significant positive or negative environmental impacts due to encounters with hazardous materials. Construction workers are responsible for complying

⁵⁴ WPAFB, 28 August 1998

with applicable environmental, health, and safety regulations and standard operating procedures. No negative impacts to the environment or human health and safety would be expected from the Alternative 1 action.

No spills of oil or hazardous materials are known to have occurred at the Alternative 1 site.⁵⁵

The alternative site has not been identified as an OU, SWMU, or other area of potential contamination.

4.11.3 No-Action Alternative

The no-action alternative would not result in any significant positive or negative environmental impacts due to encounters with hazardous materials.

No spills of oil or hazardous materials are known to have occurred at the existing clinic site.⁵⁶

4.12 Environmental Justice

4.12.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A

There is little potential for the Proposed Action to have a significantly high adverse human health or environmental effect on low-income and minority populations and children that are located outside the boundaries of WPAFB. There would be no substantial economic ramifications resulting from the proposed action. The absence of nearby populations (including low-income and minority populations) and schools minimize any potential environmental justice issues.

4.12.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C

There is little potential for the alternative action to have a significantly high adverse human health or environmental effect on low-income and minority populations and children that are located outside the boundaries of WPAFB. There would be no substantial economic ramifications resulting from the Alternative 1 action. The absence of nearby populations (including low-income and minority populations) and schools minimize any potential environmental justice issues.

⁵⁵ Mr. Chris Tumbusch, October 2006; SAIC, February 1, 2006

⁵⁶ Mr. Chris Tumbusch, October 2006; SAIC, February 1, 2006

4.12.3 No-Action Alternative

There are no environmental justice issues with the No Action alternative since no construction would occur.

4.13 Tanks

4.13.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A

4.13.1.1 USTs

No USTs are located on the Proposed Action site. No evidence was found that indicated USTs have ever been located on the proposed site. The nearest USTs (UST-237 and UST-238) are located approximately 600 feet east. Both tanks are 4,000-gallon capacity and previously stored a combination of diesel and JP-7 fuel. The tanks were pumped to less than 1 inch of product remaining and the underground piping was drained in February 2007. Both tank systems are programmed for removal and closure assessment in Fiscal Year 2008.⁵⁷

One UST (UST-446) located near the Recycling Center (Building 293) on Communications Boulevard (approximately 825 feet east of the proposed site) was removed on September 1, 2004. No constituents of concern were found in groundwater or soils collected during the removal. The Ohio Department of Commerce, Bureau of Underground Storage Tank Regulations, has issued a No Further Action Status to this tank site.⁵⁸

A UST (UST-441) located near the Water Tower (Building 291) (approximately 825 feet east of the proposed site) was removed circa 1996. The Ohio Department of Commerce, Bureau of Underground Storage Tank Regulations, has issued a No Further Action Status to this tank site.⁵⁹

Two USTs (UST-267 and UST-268), located near Building 1456, approximately 300 feet south of the proposed site, were removed in 1991. Two USTs (UST-266 and UST-117) were removed from near Building 1456 in 1992 and 1995, respectively. No further actions were required at this location.⁶⁰

One UST (UST-84) was removed from a former sewage lift station in February 2003. The tank was located approximately 450 feet northwest of the proposed site, across the tributary bordering the western side of the site. The tank was exempt from regulation due to its size. However, soils

⁵⁷ WPAFB, February 2006a; Ms. Libby Domingue, October 2006 and April 2007

⁵⁸ Ms. Libby Domingue, October 2006 and April 2007; Ohio Department of Commerce, September 29, 2005

⁵⁹ Ms. Libby Domingue, October 2006; Ohio Department of Commerce, October 8, 1998

⁶⁰ Ms. Libby Domingue, October 2006; Ohio Department of Commerce, July 19, 2004

collected from the bottom of the excavation and analyzed by a laboratory, did not indicate the presence of organic compounds in excess of regulatory limits.⁶¹

4.13.1.2 ASTs

No ASTs are located on the proposed site. No evidence of ASTs having been installed on the site was found.⁶² However, since the site is used as a contractor staging area, it is possible that contractors have stored ASTs temporarily on the site.

The nearest ASTs (AST-602 and AST-625) are located approximately 250 feet south of the Proposed Action site. AST-602 is a 500-gallon diesel and AST-625 is a 50-gallon diesel tank.

4.13.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C

4.13.2.1 USTs

No USTs are located on the Alternative 1 site. No evidence was found to indicate that any USTs have been located on the site in the past. The nearest UST (UST-243) is located approximately 400 feet southwest in the munitions storage area (Building 4052). The tank is a 1,000-gallon diesel tank.⁶³

4.13.2.2 ASTs

One 500-gallon diesel double-walled AST (AST-617) is present at the MWD kennels. The tank and fuel are used for heating the facility. No evidence of ASTs having been installed on the site was found.⁶⁴

The nearest AST off the alternate site is located at the munitions storage area (Building 4052). This AST (AST-58) is 100-gallon diesel tank.⁶⁵

4.13.3 No-Action Alternative

4.13.3.1 USTs

No USTs are located at the existing clinic site. No evidence was found that indicated USTs have ever been located on the existing site. The nearest USTs (UST-237 and UST-238) are located approximately 1,500 feet northeast.⁶⁶

⁶¹ Ms. Libby Domingue, October 2006

⁶² WPAFB, February 2006b; Ms. Libby Domingue, October 2006

⁶³ WPAFB, February 2006a; Ms. Libby Domingue, October 2006

⁶⁴ WPAFB, February 2006b; Ms. Libby Domingue, October 2006

⁶⁵ WPAFB, February 2006b

Two USTs (UST-267 and UST-268), located near Building 1456, approximately 100 feet north of the existing clinic site, were removed in 1991. Two USTs (UST-266 and UST-117) were removed from near Building 1456 in 1992 and 1995, respectively. No further actions were required at this location.⁶⁷

4.13.3.2 ASTs

No ASTs are located at the existing clinic site. No evidence was found that indicated ASTs have ever been located on the existing site. The nearest ASTs (AST-323 and AST-324) are located approximately 150 feet north.⁶⁸

4.14 Health and Safety

4.14.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A

Construction workers are responsible for complying with applicable environmental, health, and safety regulations and standard operating procedures. No negative impacts to the environment or human health and safety would be expected from the Proposed Action. Digging clearances would be obtained from Base Civil Engineering prior to any excavating. The likely construction area is outside the boundaries of any area identified with contamination that warrants long-term monitoring or remediation.⁶⁹

A potential for truck/vehicle accidents is slightly increased since Communications Boulevard is used for truck entry at the southeast corner of the alternative site. With the current site configuration, the entrance to the site is on Communications Boulevard. Clients coming to the clinic would be traveling in the opposite direction as the trucks, but would not have to cross in front of trucks to enter the site. Clients exiting the site would have to watch for on-coming trucks before entering the roadway. The visibility in this area is good. Since clients already travel in this area to go to the existing clinic, no negative or positive impact is expected.

4.14.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C

Construction workers are responsible for complying with applicable environmental, health, and safety regulations and standard operating procedures. No negative impacts to the environment or human health and safety would be expected from the Alternative 1 action. Digging clearances

⁶⁶ WPAFB, February 2006a; Ms. Libby Domingue, October 2006

⁶⁷ Libby Domingue, 2006; Ohio Department of Commerce, July 19, 2004

⁶⁸ WPAFB, February 2006b; Ms. Libby Domingue, October 2006

⁶⁹ WPAFB, 28 August 1998

would be obtained from Base Civil Engineering prior to any excavating. The likely construction area is outside the boundaries of any OUs.

The Alternative 1 site is located outside of current Explosive Safety Zones for the Munitions Storage Area.⁷⁰ The location of the clinic is technically acceptable. The risk of damage from an explosion at this facility is low. A worst-case scenario could result in damage to approximately 5 percent of the structure and shattering of unhardened glazing on glass, especially glazing that faces the Munitions Storage Area. In the event of a worst-case mishap, there is a small chance of injury or death to personnel, clients, and patients in open areas outside.

To reduce risks from explosions, the following optional protective standards could be implemented:

- Construct the clinic in the direction away from the Munitions Storage Area.
- Locate windows away from the Munitions Storage Area
- Harden the glaze in the rest of the facility to at least 1.2 pounds per square inch (psi) over pressure.
- Use substantial construction materials (e.g., brick/block).

Although most of the materials (e.g., munitions and explosives) are transported by truck through the gate on the back side of the Munitions Storage Area, Mitchell Drive serves as an alternate route.⁷¹ Risks of fire and explosion, however, are reduced because the quantities that can be transported via this route are limited.

The clinic would be located within the 100-year floodplain and may experience some flooding. In cases of flooding, an evacuation plan would be in place and followed.

4.14.3 No-Action Alternative

No impacts on health and safety would occur under the No Action alternative since no construction would occur.

4.15 Cumulative Effects

A cumulative effect is defined as an effect on the environment that results from the incremental effect of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place locally or regionally over a period of time. The purpose of analyzing the cumulative effects of a proposed action is to

⁷⁰ WPAFB, September 2006

⁷¹ WPAFB, September 2006

ensure that federal decisions consider the “big picture” of the consequences of the proposed action.

Cumulative effects are identified by defining the direct and indirect effects of the proposed action, determining which environmental resources are affected, and deciding which effects on these resources are important from a cumulative effects perspective. Also, when analyzing cumulative effects, the spatial (geographical area) and temporal (time frame) components must be expanded beyond the scope of the proposed action.

4.15.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A

There are no foreseeable, significant, indirect, or cumulative effects associated with the Proposed Action.

4.15.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C

The construction of a new veterinary clinic attached to the existing dog kennels may be impacted by the expansion of the dog kennels – a project that has recently been approved. When the dog kennels are expanded, if the clinic is constructed adjoining the kennels, cumulative effects on noise and traffic due to construction are likely.

Potential long-term cumulative effects would be the potential expansion of the existing dog kennels compounded by the construction of the veterinary clinic and associated parking facilities within the 100-year floodplain of the Mad River. Minor or major cumulative effects could occur as a result of decreasing the area of floodplain.

4.15.3 No-Action Alternative

There are no foreseeable, significant, indirect, or cumulative effects associated with the no action alternative.

4.16 Unavoidable Adverse Impacts

4.16.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A

If the Proposed Action were implemented, soil would be excavated as part of the site preparation/construction work. Impacts to vegetation would be minor because the species are common to the base (i.e., common native grasses and forbs) and the areas excavated would be revegetated/landscaped. Minor impacts from noise would slightly affect passers-by and nearby

workers. The increase in noise would be primarily due to construction/excavation equipment. The construction noise would only exist during working hours.

4.16.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C

If the alternative action were implemented, soil would be excavated as part of the site preparation/construction work. Impacts to vegetation would be minor because the species is common to the base (i.e., common native grasses and forbs) and the areas excavated would be re-seeded/landscaped. Minor impacts from noise would slightly affect passers-by, nearby workers, and nearby campers. The increase in noise would be primarily due to construction/excavation equipment, but some additional noise would be created by increased traffic to the clinic. Additional noise would only exist during working hours.

4.16.3 No-Action Alternative

There are no unavoidable adverse impacts associated with the no action alternative.

4.17 Mitigation Measures

Mitigation generally includes the following:

- Avoiding an effect altogether by stopping or modifying an action,
- Minimizing an effect by limiting the degree or magnitude of an action and the activities associated with its implementation, and
- Rectifying an effect by repairing, rehabilitating, or restoring the affected environment.

Mitigation may also involve reducing or eliminating an effect over time by preservation and maintenance operations during the life of an action or compensating for an effect by replacing or providing substitute resources or environments.

Mitigation measures will be exercised for soils and surface water. BMPs will be implemented in accordance with applicable NPDES permits and State and local requirements.

All construction activities will be conducted in accordance with State, local, and federal guidelines, regulations, and permits, and all identified and available BMPs will be utilized to minimize potentially substantial effects. Appropriate minimization features such as silt fencing, hay bales, and hydroseeding/mulching will be used during construction phases to minimize erosion and off-site sedimentation.

4.17.1 Relationship of Short-Term Uses and Long-Term Productivity

Neither the Proposed Action, Alternative 1, or the No-Action Alternative would affect the long-term productivity of the environment; no significant impacts to the environment or socioeconomic factors have been identified through this EA process.

4.17.2 Irreversible and Irretrievable Commitments of Resources

CEQ regulations in 40 CFR §1502.16 require that an agency identify any irreversible or irretrievable commitments of resources that would be involved in the proposed action, should it be implemented. Capital, energy, materials, and labor would be required for the proposed action. These resources are not retrievable.

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5 CONCLUSION

The results of this Environmental Assessment indicate that the project would have no significant environmental impacts provided that the mitigation measures discussed in Section 4.17 are implemented. Table 5-1 is a summary of the environmental effects on each resource. Based on this study, the preparation of an Environmental Impact Statement is not warranted. It is recommended that a FONSI be issued. Since no floodplains or wetlands will be impacted by the Proposed Action, a FONPA will not be required.

Table 5-1. Summary of Potential Environmental Effects

Resource		Environmental Effect		
		Proposed Action	Alternative 1	No Action
Soils		<p><u>Short-term:</u> Potential minor impacts from soil excavation, which would be minimized by implemented erosion and sedimentation controls during construction.</p> <p><u>Long-term:</u> No impacts</p>	<p><u>Short-term:</u> Potential minor impacts from soil excavation, which would be minimized by implemented erosion and sedimentation controls during construction.</p> <p><u>Long-term:</u> No impacts</p>	<p><u>Short-term:</u> No Impacts</p> <p><u>Long-term:</u> No impacts</p>
Water Resources	Surface Water	<p><u>Short-term:</u> Minimal impacts from increased surface water runoff during construction</p> <p><u>Long-term:</u> No impacts</p>	<p><u>Short-term:</u> Minimal impacts from increased surface water runoff during construction</p> <p><u>Long-term:</u> No impacts</p>	<p><u>Short-term:</u> No Impacts</p> <p><u>Long-term:</u> No impacts</p>
	Groundwater	<p><u>Short-term:</u> No Impacts</p> <p><u>Long-term:</u> No impacts</p>	<p><u>Short-term:</u> No Impacts</p> <p><u>Long-term:</u> No impacts</p>	<p><u>Short-term:</u> No Impacts</p> <p><u>Long-term:</u> No impacts</p>

Resource		Environmental Effect		
		Proposed Action	Alternative 1	No Action
	Wetlands	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts
	Floodplains	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts	<u>Short-term:</u> Minor impacts <u>Long-term:</u> Minor to major impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts
Biological Resources	Flora	<u>Short-term:</u> Negligible impacts due to construction <u>Long-term:</u> No impacts	<u>Short-term:</u> Negligible impacts due to construction <u>Long-term:</u> No impacts	<u>Short-term:</u> No impacts <u>Long-term:</u> No impacts
	Fauna	<u>Short-term:</u> Negligible impacts due to construction <u>Long-term:</u> No impacts	<u>Short-term:</u> Negligible impacts due to construction <u>Long-term:</u> No impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts
	Threatened and Endangered Species	<u>Short-term:</u> No impacts, as no T&E species in the project area <u>Long-term:</u> No impacts	<u>Short-term:</u> No impacts, as no T&E species in the project area <u>Long-term:</u> No impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts
	Critical Habitats	<u>Short-term:</u> No impacts, as no such habitats exist on WPAFB <u>Long-term:</u> No impacts	<u>Short-term:</u> No impacts, as no such habitats exist on WPAFB <u>Long-term:</u> No impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts

Resource		Environmental Effect		
		Proposed Action	Alternative 1	No Action
Air Quality		<u>Short-term:</u> Negligible impacts due to construction <u>Long-term:</u> No impacts	<u>Short-term:</u> Negligible impacts due to construction <u>Long-term:</u> No impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts
Noise		<u>Short-term:</u> Negligible impacts due to construction <u>Long-term:</u> No impacts	<u>Short-term:</u> Negligible impacts due to construction <u>Long-term:</u> No impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts
Land Use		<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts
Facilities	Transportation	<u>Short-term:</u> Potential minor impacts due to construction traffic <u>Long-term:</u> No impacts	<u>Short-term:</u> Potential minor impacts due to construction traffic <u>Long-term:</u> No impacts	<u>Short-term:</u> No impacts <u>Long-term:</u> No impacts
	Public Utilities	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts
Socioeconomic Conditions		<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts
Cultural Resources		<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts

Resource	Environmental Effect		
	Proposed Action	Alternative 1	No Action
Hazardous Materials and Hazardous Waste Management	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts
Environmental Justice	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts
Tanks	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts
Health and Safety	<u>Short-term:</u> Minor impacts due to the potential for worker accidents. Impacts would be mitigated by complying with health and safety regulations. <u>Long-term:</u> No impacts	<u>Short-term:</u> Minor impacts due to the potential for worker accidents. Impacts would be mitigated by complying with health and safety regulations. <u>Long-term:</u> No impacts	<u>Short-term:</u> No Impacts <u>Long-term:</u> No impacts

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8 LIST OF PREPARERS AND REVIEWERS

In accordance with 32 CFR, Chapter 651.1(c), the following preparers of this EA certify that they have no financial or other interest in the outcome of this project.

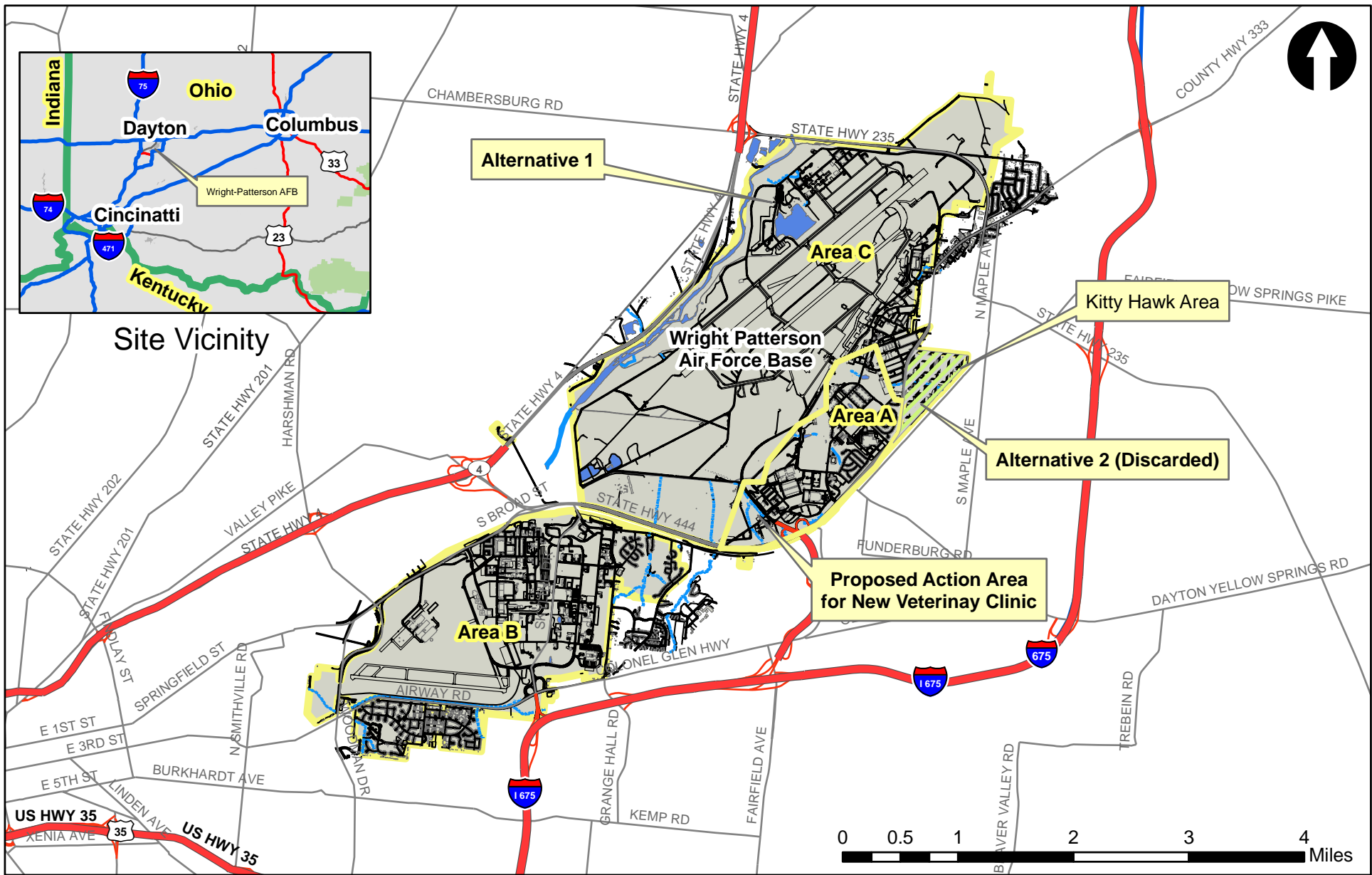
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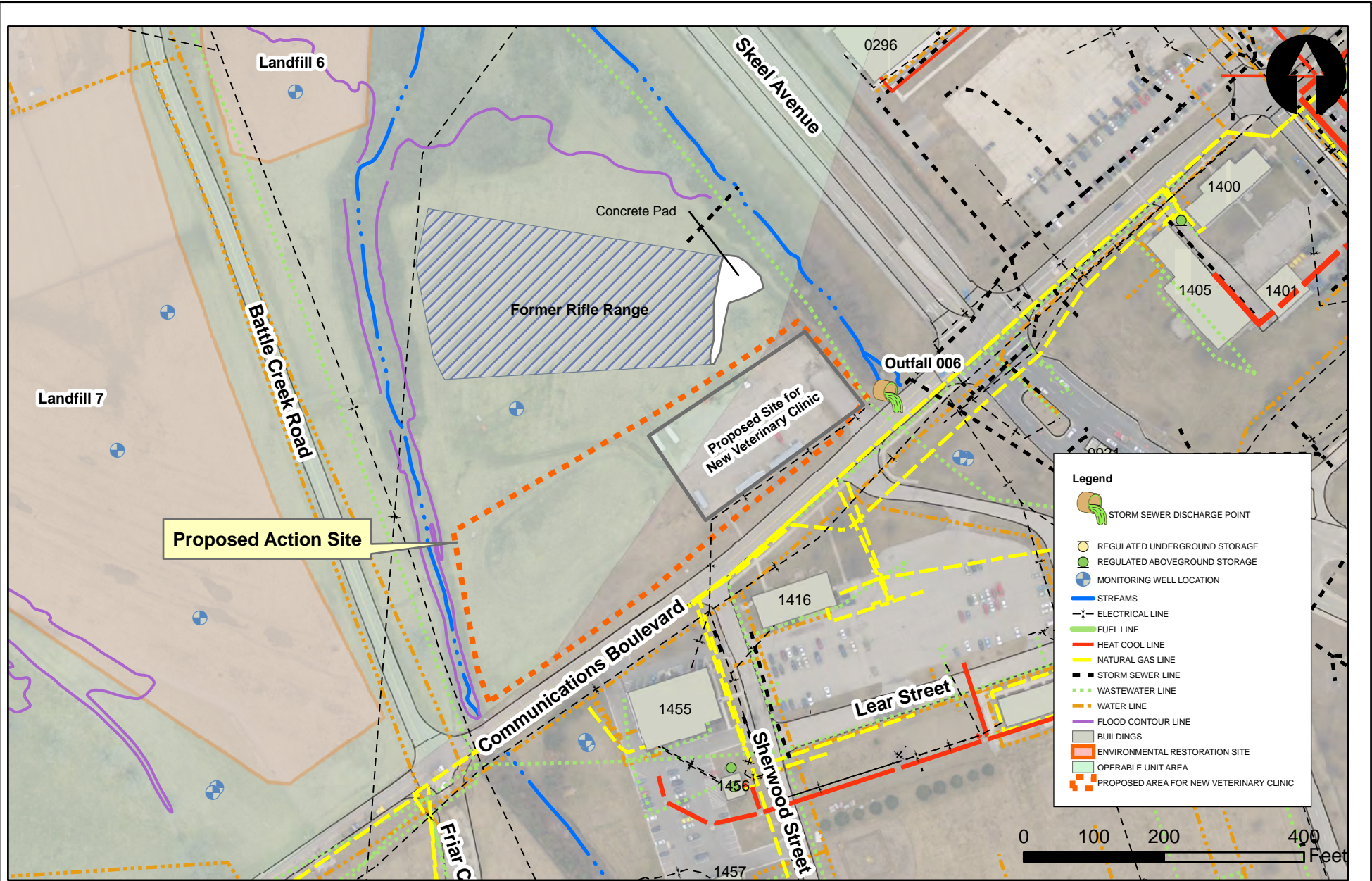
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FIGURES



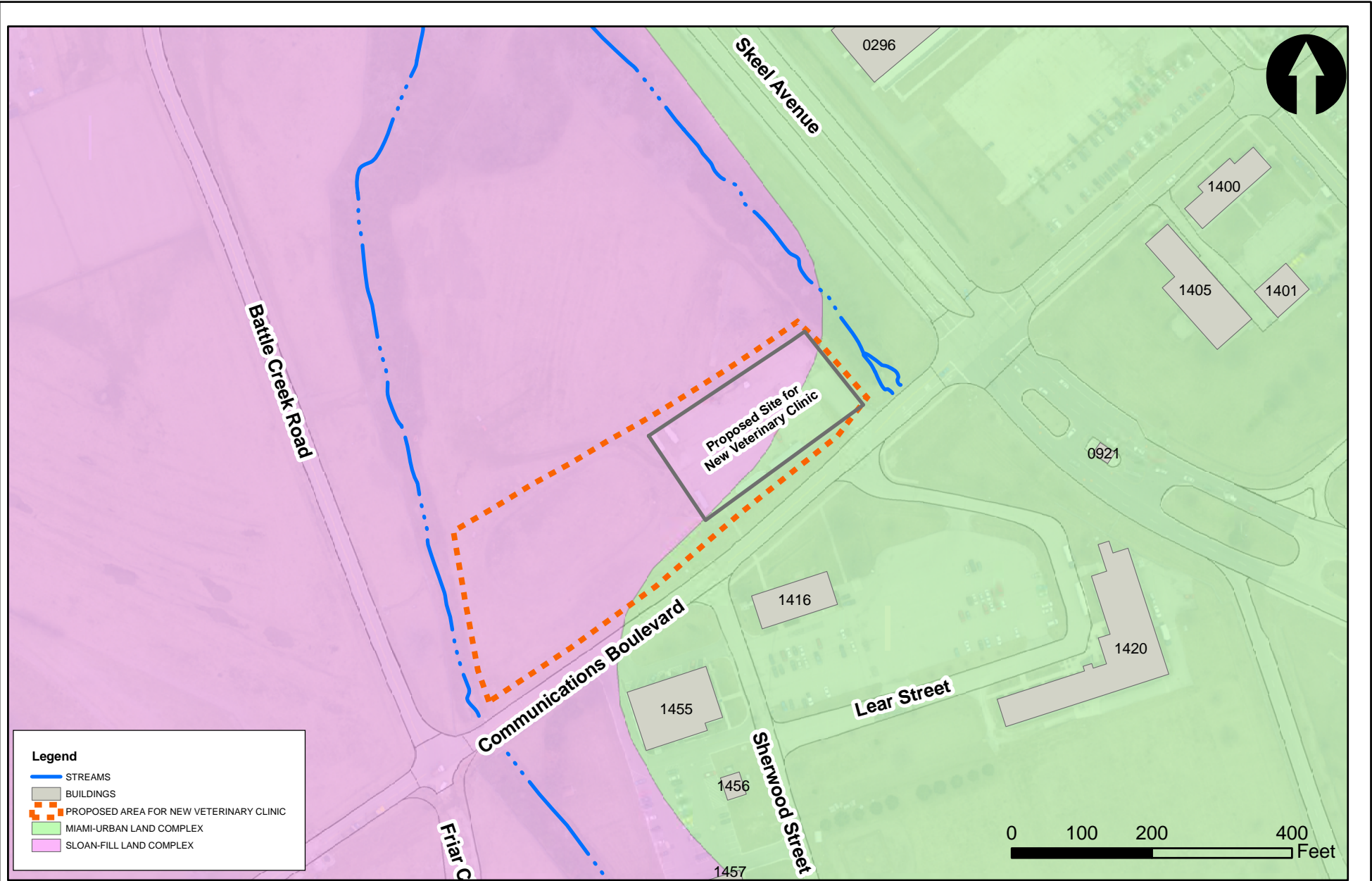
General Site Location Map

PROJECT NO.	SCALE	DATE	DRAWN BY:
9060220	Shown	2/21/07	cm
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			figure1



**Site Location Map and GIS Data
Pertaining to the Proposed Action**

PROJECT NO.	SCALE	DATE	DRAWN BY:
9060220	1"=200'	2/21/07	cm
			DRAWING NO:
			figure2

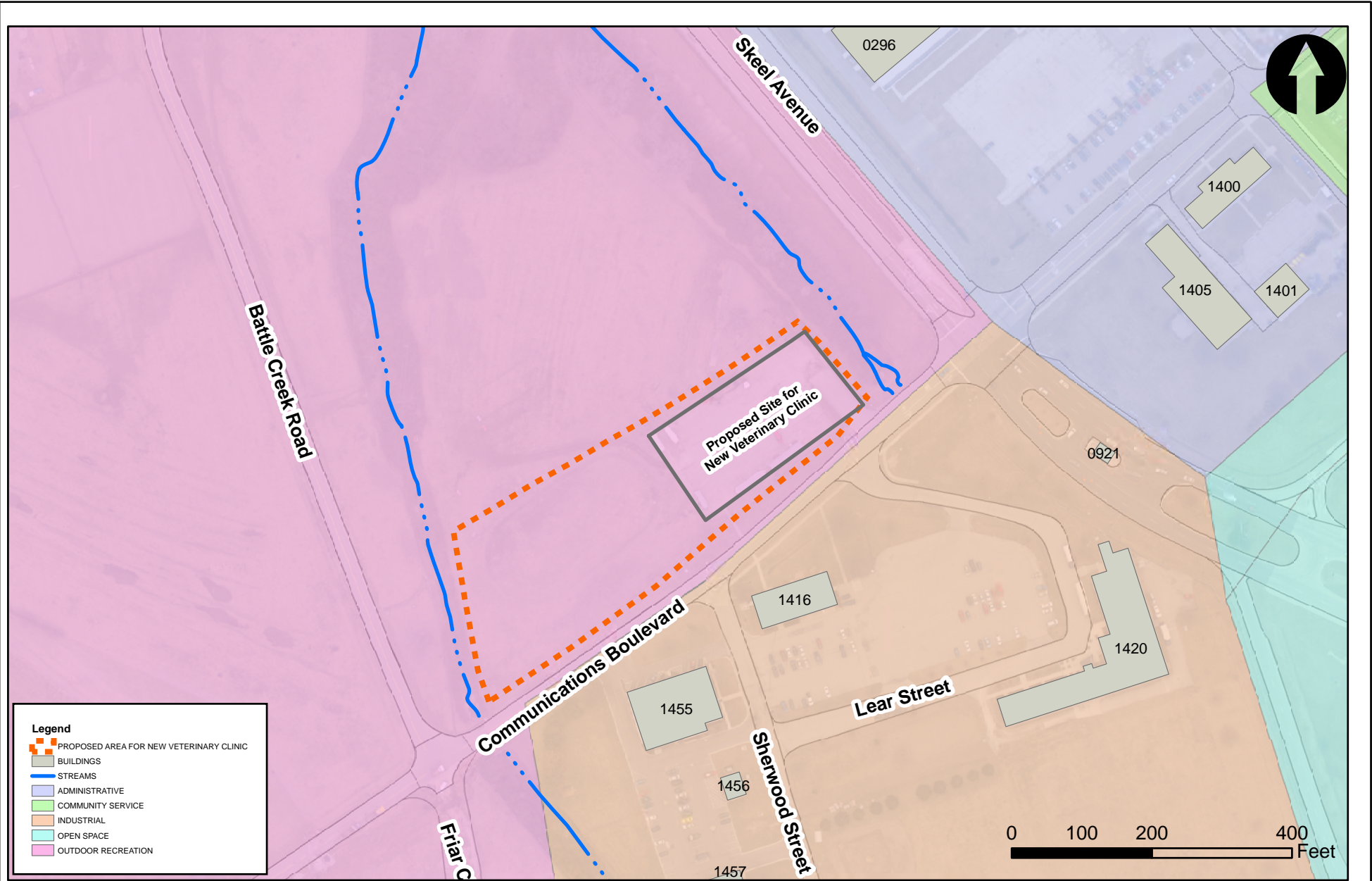


Soil Map of the Proposed Action

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			figure3

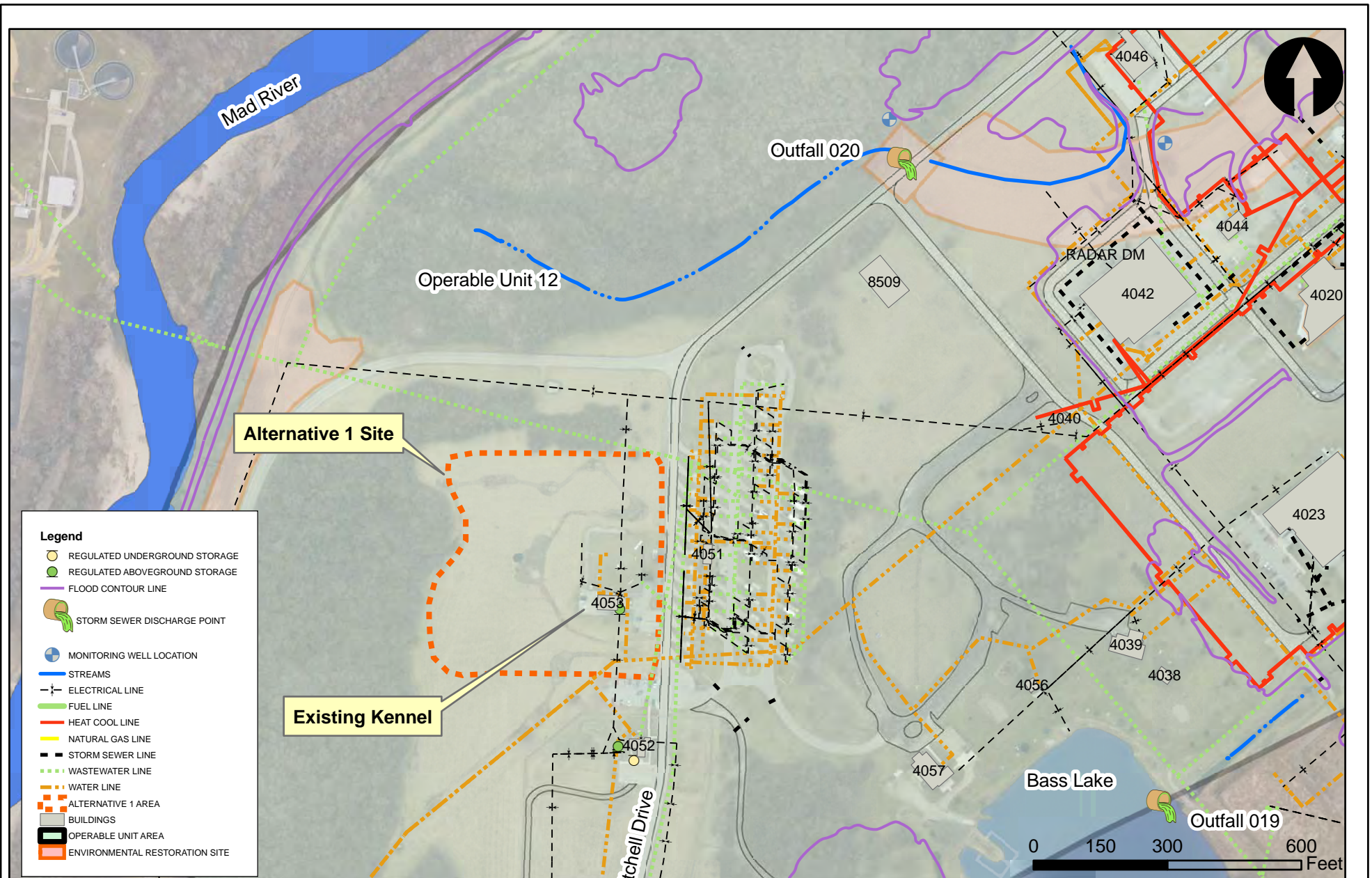
Environmental Assessment
 New Veterinary Clinic
 Wright Patterson Air Force Base

Figure 3



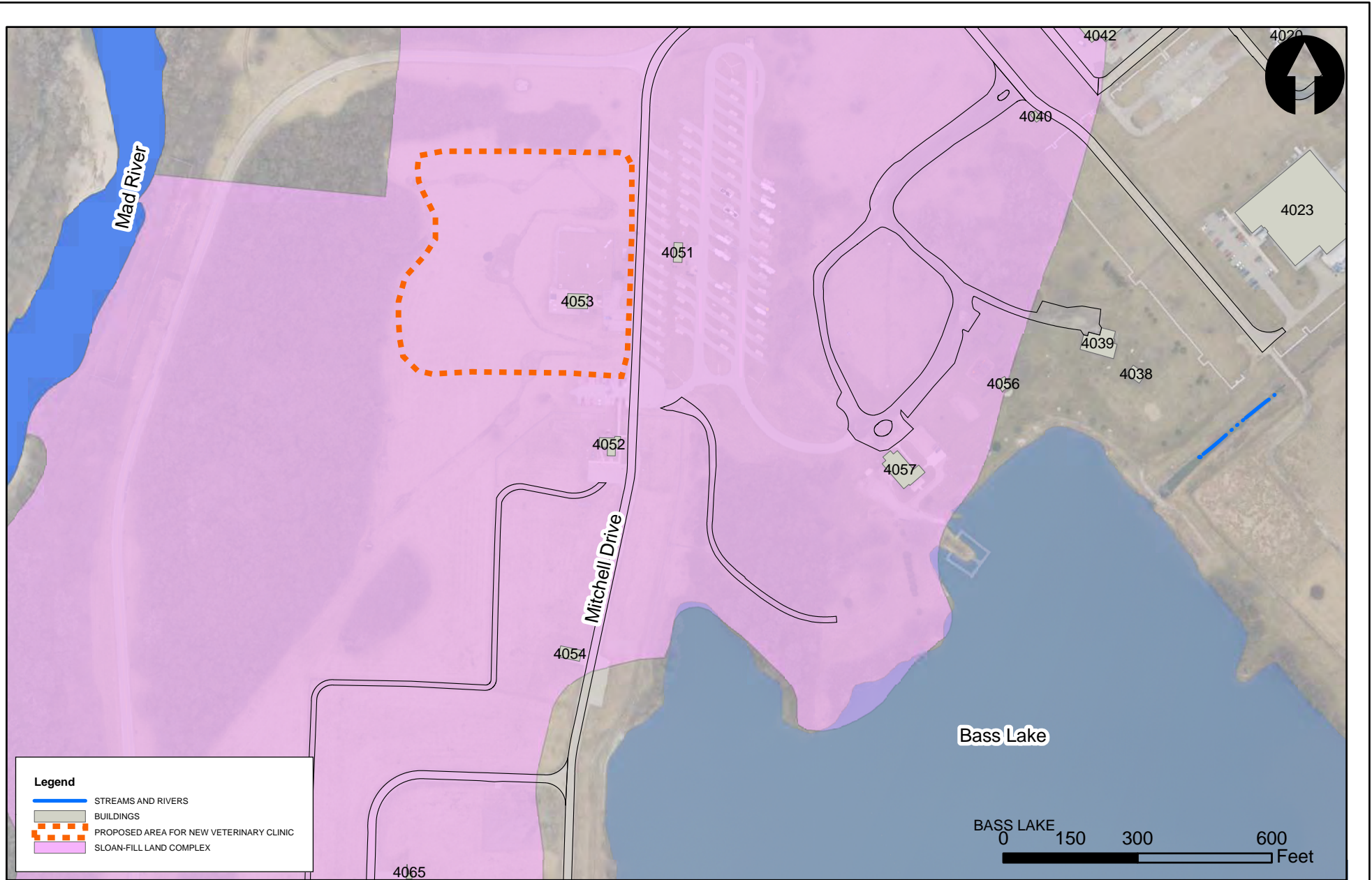
Land Use Map of the Proposed Action

PROJECT NO.	SCALE	DATE	DRAWN BY:
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			DRAWING NO:
			figure4



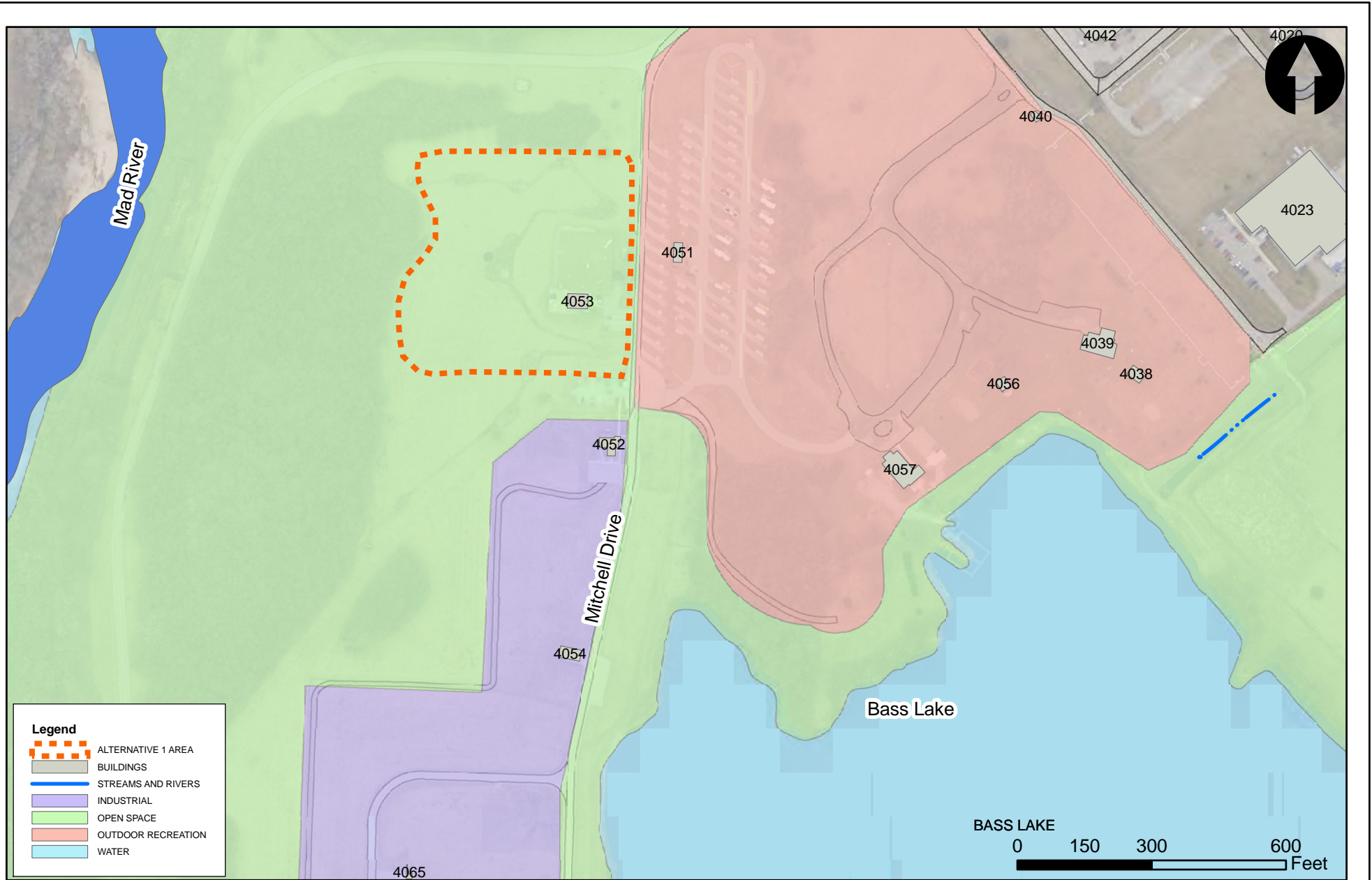
**Site Location Map and GIS Data
Pertaining to Alternative 1**

PROJECT NO.	SCALE	DATE	DRAWN BY:
9060220	1"=300'	2/21/07	cm
			DRAWING NO:
			figure5



Soil Map of Alternative 1

PROJECT NO.	SCALE	DATE	DRAWN BY:
9060220	1"=300'	2/21/07	cm
			DRAWING NO:
			figure6



Legend

- ALTERNATIVE 1 AREA
- BUILDINGS
- STREAMS AND RIVERS
- INDUSTRIAL
- OPEN SPACE
- OUTDOOR RECREATION
- WATER

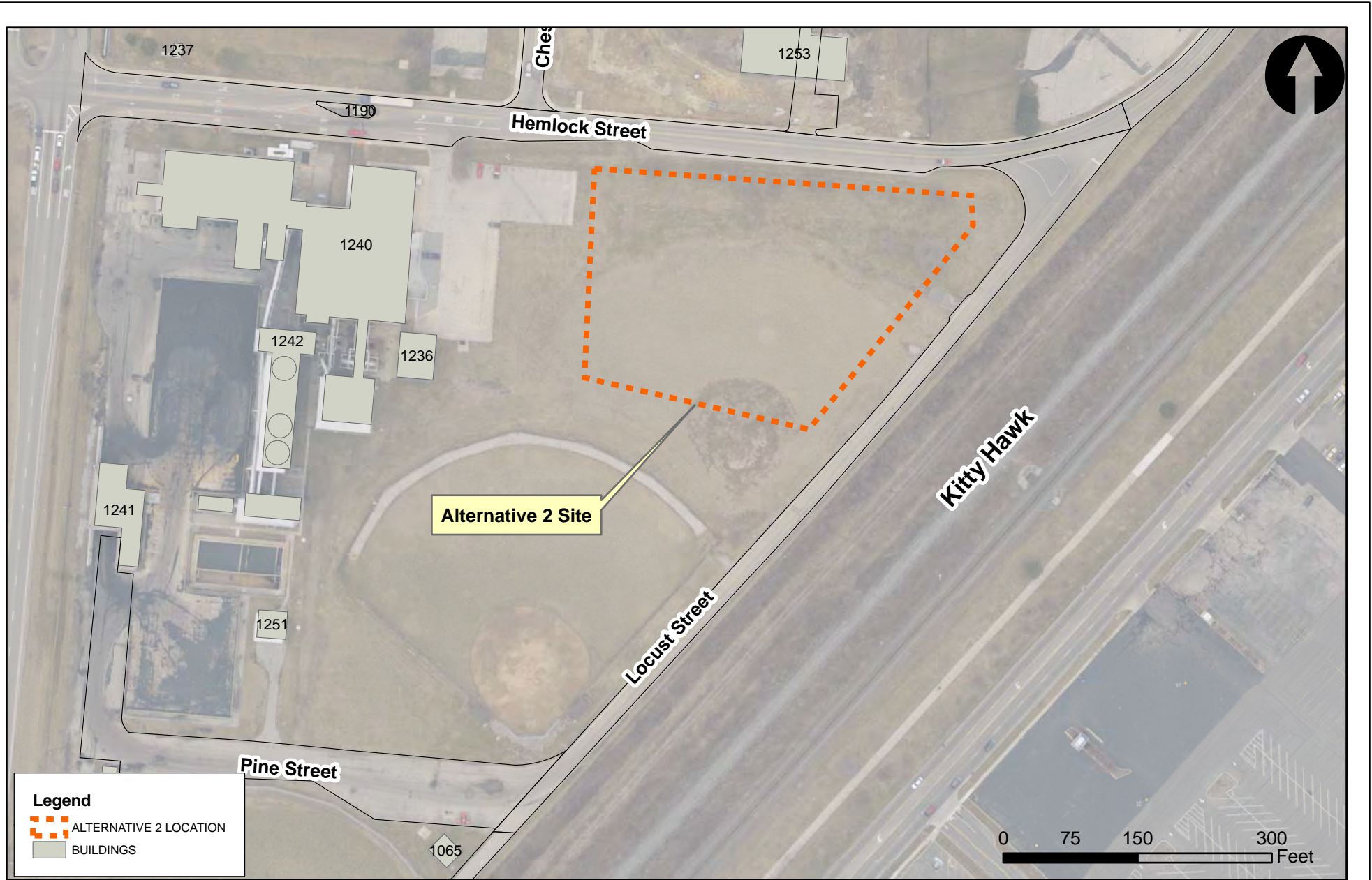


Land Use of Alternative 1

PROJECT NO.	SCALE	DATE	DRAWN BY:
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			DRAWING NO:
			figure7

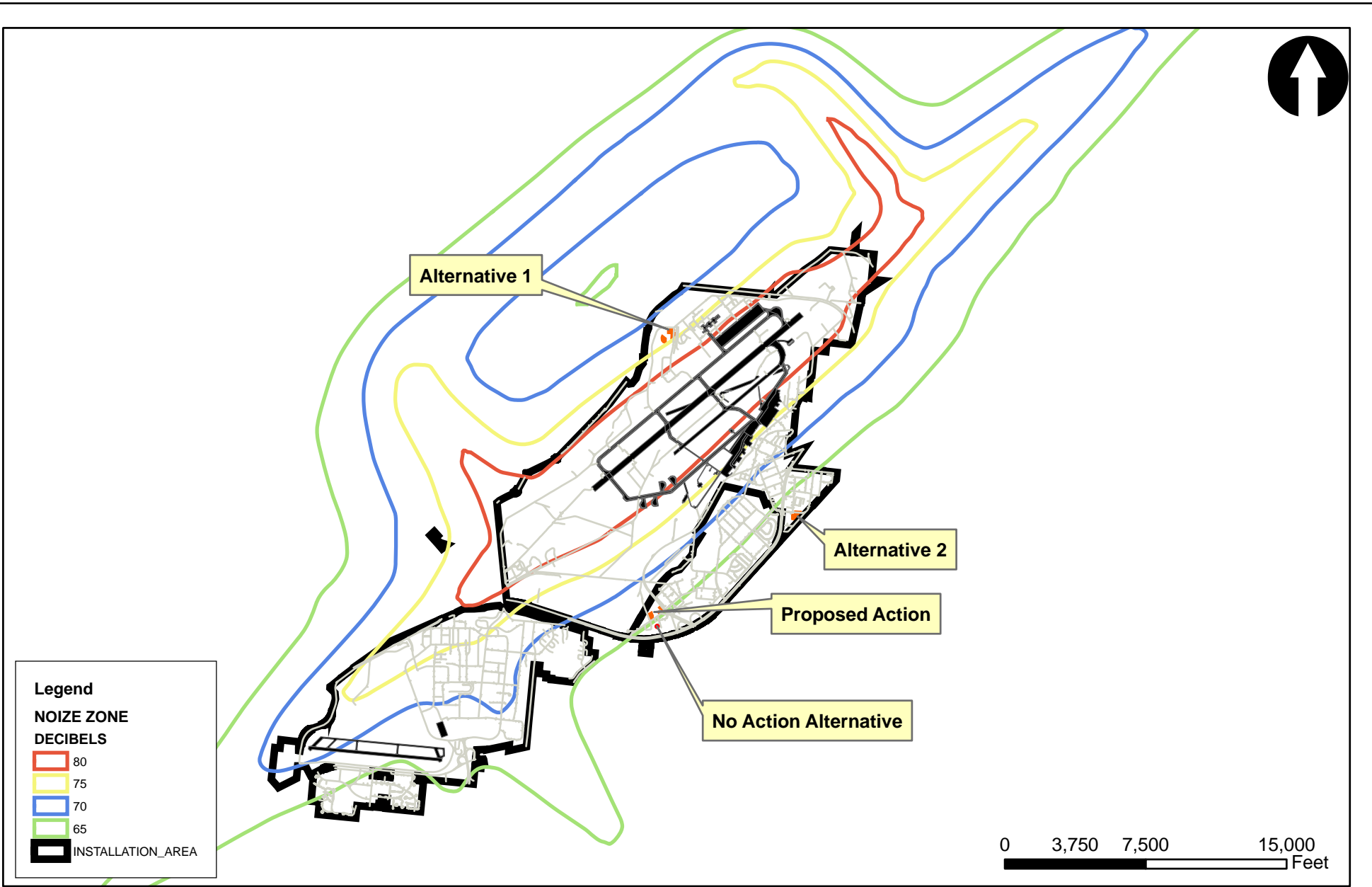
Environmental Assessment
New Veterinary Clinic
Wright Patterson Air Force Base

Figure 7



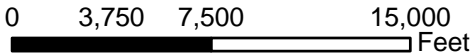
**Site Location Map
of Alternative 2**

PROJECT NO.	SCALE	DATE	DRAWN BY:
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			DRAWING NO: figure8



Legend
NOISE ZONE
DECIBELS

- 80
- 75
- 70
- 65
- INSTALLATION_AREA



Noise Contour Map

PROJECT NO.	SCALE	DATE	DRAWN BY:
9060220	Shown	2/21/07	cm
			DRAWING NO:
			figure9

Environmental Assessment
New Veterinary Clinic
Wright Patterson Air Force Base

Figure 9

APPENDIX A

SCOPING LETTERS



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 88TH AIR BASE WING (AFMC)
WRIGHT-PATTERSON AIR FORCE BASE, OHIO

16 February 2007

88 ABW/CEVO, Building 89
5490 Pearson Road
Wright-Patterson AFB OH 45433-5332

Ms. Debbie Woischke
Heritage Data Services
Division of Natural Areas and Preserves
Ohio Department of Natural Resources
2045 Morse Road, Building F-1
Columbus, Ohio 43224

Dear Ms. Woischke:

The purpose of this letter is to request information from the Natural Heritage Program for federal- or state-listed threatened or endangered flora and fauna for the proposed construction of a veterinary clinic on Communications Boulevard in Area A of Wright-Patterson Air Force Base (WPAFB), OH. A new veterinary clinic is needed at WPAFB due to the antiquated nature and size constraints of the existing veterinary facility. The building that currently houses the veterinary clinic was constructed in 1942 and encompasses approximately 1,200 square feet (ft²). Moreover, the existing facility was only meant to be temporary until funds were available to construct a new, up-to-date facility.

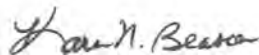
WPAFB has initiated an Environmental Assessment (EA) for the proposed construction of a veterinary clinic at the base. Potential impacts associated with the construction of the veterinary clinic will be addressed in the EA, which is being prepared to satisfy the requirements of the National Environmental Policy Act (NEPA) of 1969.

The proposed project area is located in Greene County, Ohio, in southwestern quadrant of Section 31, Township 3, Range 8, and is depicted in Figures 1, 2, and 3 (see attached). The proposed project area located in Area A of WPAFB and is bordered on the north by a wooded area, on the east by Skeel Avenue, on the south by Communications Boulevard, and on the west by Battle Creek Road. The site is located in a land use area designated as "Outdoor Recreation." Designated land uses in the vicinity of the proposed project area include: Outdoor Recreation, Industrial, Open Space, Administration, and Community Service. Natural Resources in the vicinity of the proposed project area include two intermittent tributaries of Hebble Creek and wooded areas.

The new veterinary clinic would consist of a 2,500 ft² facility and an associated parking area on an approximate one-acre footprint within the proposed project area. The facility would consist of a concrete foundation with floor slab, masonry walls, an exam/treatment room, an operating room, offices, and a waiting room. Activities associated with the construction of the facility would include site preparation, construction of the building and parking area, and landscaping.

We would appreciate any information from your database that applies to the proposed project area. Please forward any information pertinent to this proposed project to me at the above address. If you have any questions or require additional information, please contact me at (937) 257-5899 or via email at Karen.Beason@wpafb.af.mil.

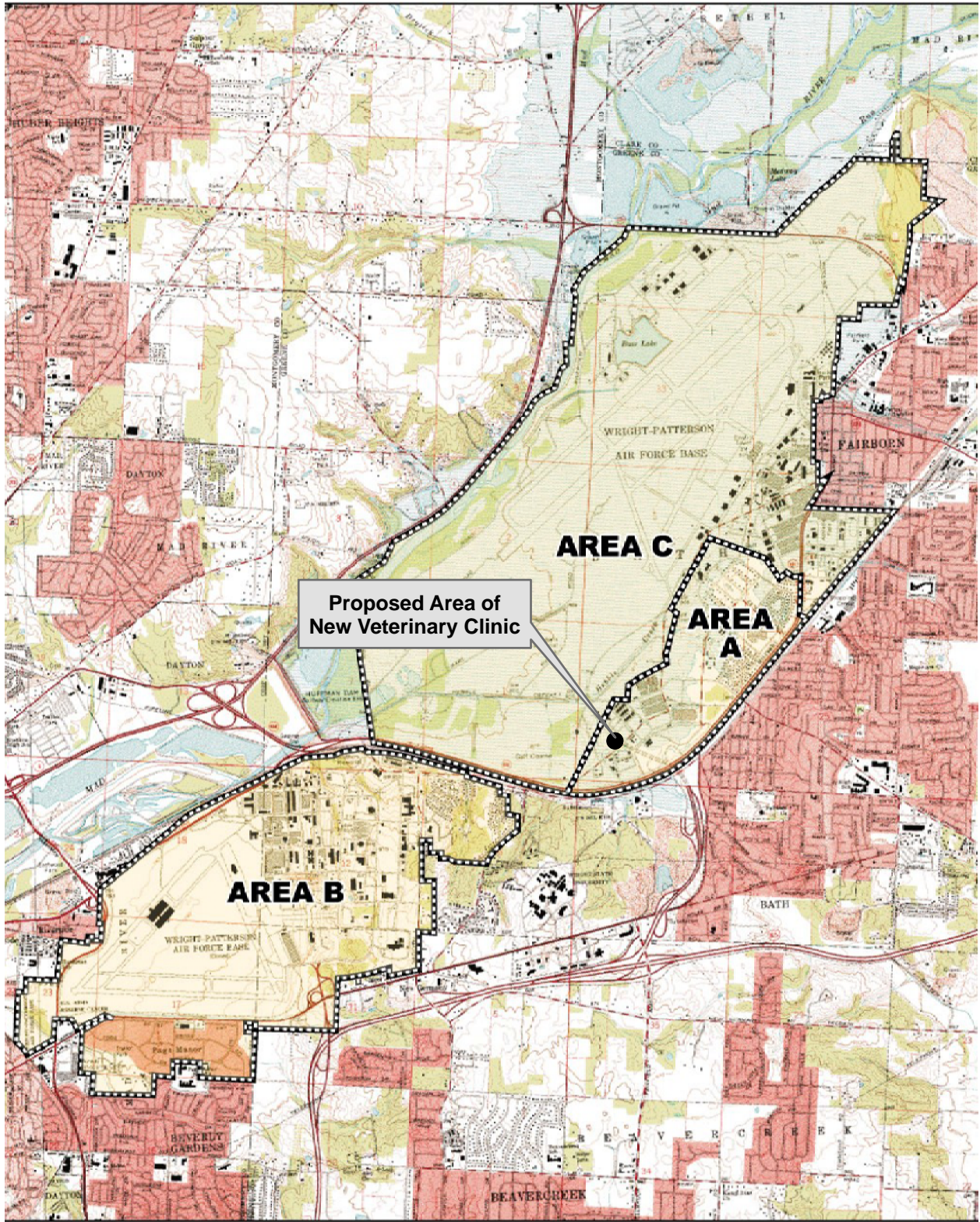
Sincerely,



Karen N. Beason
Environmental Engineer
Operations Branch
Environmental Management Division

Attachments:

1. Site Vicinity Map
2. Site Location Map
3. 2001 Aerial Photograph

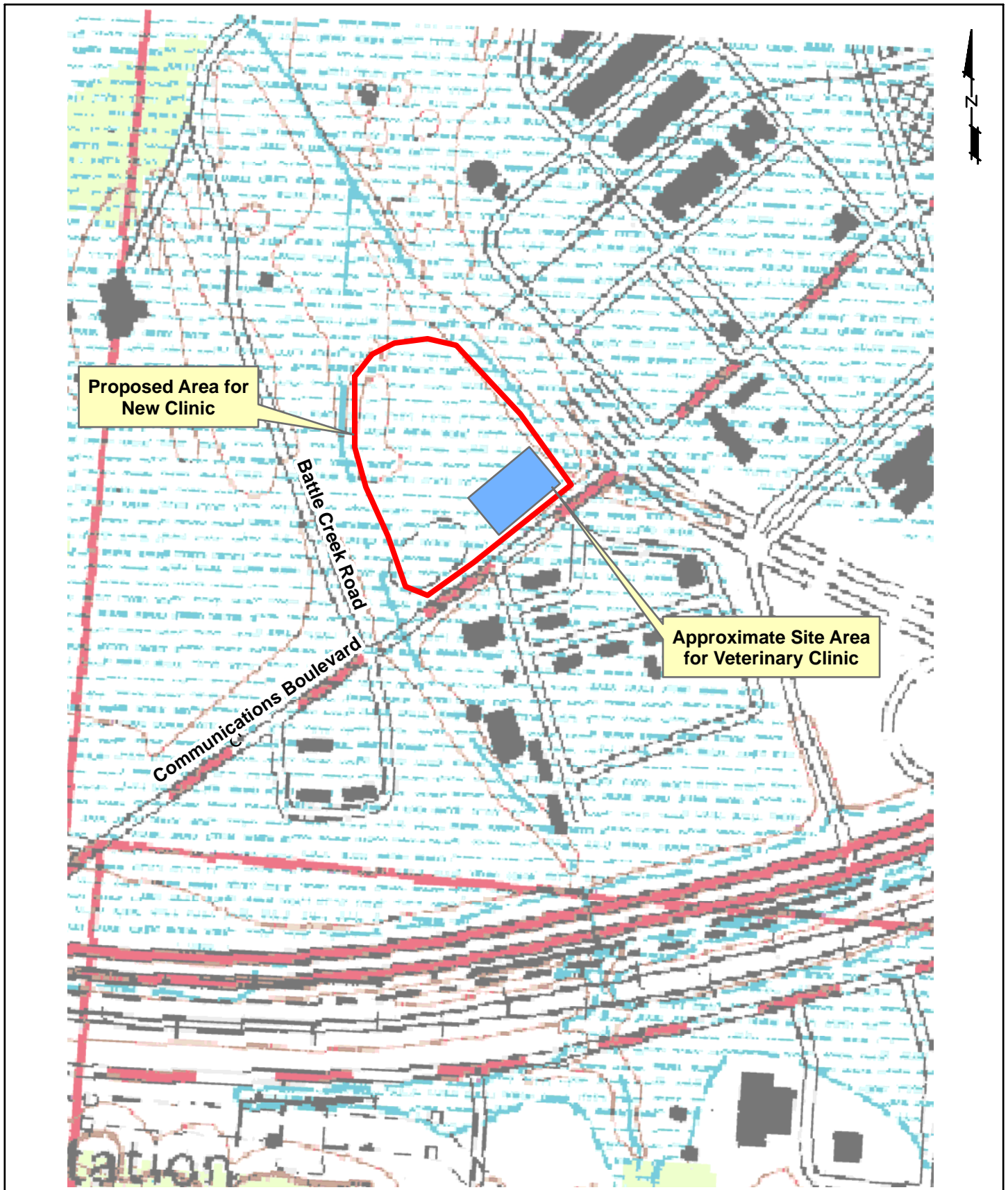


Site Vicinity Map

Proposed Area for the
New Veterinary Clinic
Wright-Patterson Air Force Base
Dayton, Ohio

PROJECT NO.	SCALE	DATE	DRAWN BY:
9060220	Shown	2/1/07	cm
			DRAWING NO:
			9060220

Figure 1



Site Location Map

PROJECT NO.	SCALE	DATE	DRAWN BY:	cm
9060220	1"=400'	2/1/07	DRAWING NO.:	9060220

Proposed Area for the
New Veterinary Clinic
Wright-Patterson Air Force Base
Dayton, Ohio

Figure 2



2001 Aerial Photograph

PROJECT NO.	SCALE	DATE	DRAWN BY:
9060220	1"=400'	2/1/07	cm
			DRAWING NO:
			9060220

Proposed Area for the
New Veterinary Clinic
Wright-Patterson Air Force Base
Dayton, Ohio

Figure 3



DEPARTMENT OF THE AIR FORCE

HEADQUARTERS 88TH AIR BASE WING (AFMC)

WRIGHT-PATTERSON AIR FORCE BASE, OHIO

16 February 2007

88 ABW/CEVO, Building 89
5490 Pearson Road
Wright-Patterson AFB OH 45433-5332

Mr. Rick Doran, Property Administrator
Miami Conservancy District
38 East Monument Avenue
Dayton, Ohio 45402-1210

Dear Mr. Doran:

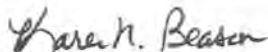
In accordance with the Miami Conservancy District's (MCD) Building Restriction Policy, the U.S. Air Force is providing notification to the MCD with respect to the proposed construction of a 2,500 square foot (ft²) veterinary clinic on Communications Boulevard in Area A at Wright-Patterson Air Force Base (WPAFB), OH. The policy states that structures or additions of any type located within the Huffman Retarding Basin shall not be erected more than five feet below the Huffman Dam spillway elevation [835 feet (ft) above Mean Sea Level (MSL)] except by authorization from the MCD.

The project area for the construction of the veterinary clinic is bordered on the north by a wooded area, on the east by Skeel Avenue, on the south by Communications Boulevard, and on the west by Battle Creek Road. The proposed project area is located in Greene County, Ohio, in southwestern quadrant of Section 31, Township 3, Range 8, and is depicted in Figures 1, 2, and 3 (see attached). This location is at an elevation of 817 ft above MSL and is above the 100-year floodplain of the Mad River behind the Huffman Dam, which has been established at 813.4 ft above MSL by the U.S. Army Corps of Engineers for WPAFB in 1994.

WPAFB has initiated an Environmental Assessment (EA) for the project to satisfy the requirements of the National Environmental Policy Act (NEPA) of 1969. The EA will address the addition or loss of flood control capacity (if any), the generation of any additional runoff from the new facility (if any), and emergency procedures in the event of flooding. It is anticipated that the construction of the facility will not impact floodplain management.

We would appreciate your input regarding the level of significance that the project would have on the floodplain of the Mad River behind the Huffman Dam. Please return your comments to me at the address above. If you have any questions or require additional information, please contact me at (937) 257-5899 or via email at Karen.Beason@wpafb.af.mil.

Sincerely,



Karen N. Beason

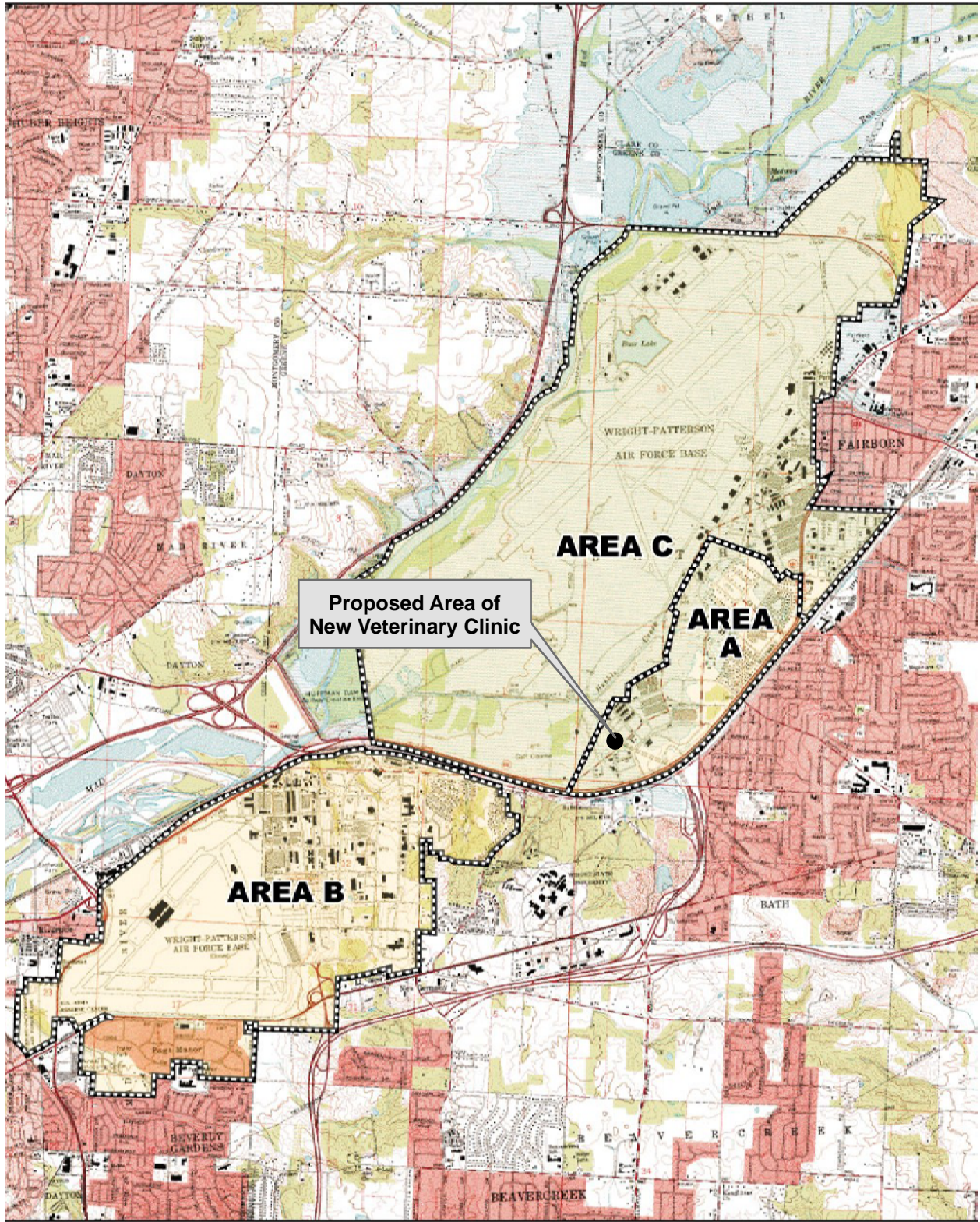
Environmental Engineer

Operations Branch

Environmental Management Division

Attachments:

1. Site Vicinity Map
2. Site Location Map
3. 2001 Aerial Photograph

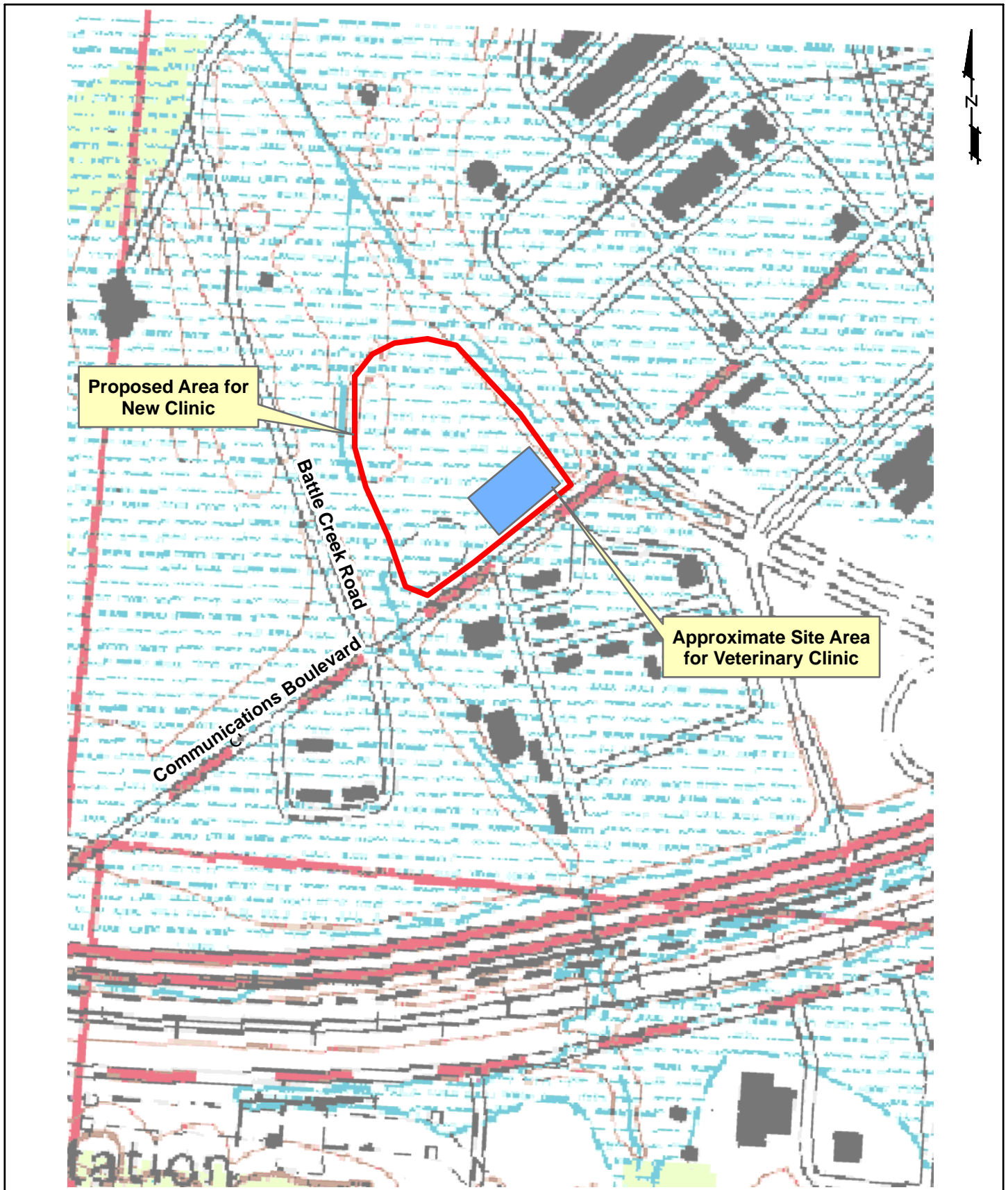


Site Vicinity Map

PROJECT NO.	SCALE	DATE	DRAWN BY:
9060220	Shown	2/1/07	cm
			DRAWING NO:
			9060220

Proposed Area for the
New Veterinary Clinic
Wright-Patterson Air Force Base
Dayton, Ohio

Figure 1



Site Location Map

PROJECT NO.	SCALE	DATE	DRAWN BY:	cm
9060220	1"=400'	2/1/07	DRAWING NO.:	9060220

Proposed Area for the
New Veterinary Clinic
Wright-Patterson Air Force Base
Dayton, Ohio

Figure 2



2001 Aerial Photograph

PROJECT NO.	SCALE	DATE	DRAWN BY:
9060220	1"=400'	2/1/07	cm
			DRAWING NO:
			9060220

Proposed Area for the
New Veterinary Clinic
Wright-Patterson Air Force Base
Dayton, Ohio

Figure 3



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 88TH AIR BASE WING (AFMC)
WRIGHT-PATTERSON AIR FORCE BASE, OHIO

16 February 2007

88 ABW/CEVO, Building 89
5490 Pearson Road
Wright-Patterson AFB OH 45433-5332

Mr. Ken Hammers, Acting Director
U.S. Fish and Wildlife Service
Ecological Services
6950 Americana Pkwy, Suite H
Reynoldsburg, OH 43068-4127

Dear Mr. Lammers:

The U.S. Air Force is seeking informal consultation from the U.S. Fish and Wildlife Service in compliance with Section 7 of the Endangered Species Act for the proposed construction of a veterinary clinic on Communications Boulevard in Area A of Wright-Patterson Air Force Base (WPAFB), OH. A new veterinary clinic is needed at WPAFB due to the antiquated nature and size constraints of the existing veterinary facility. The building that currently houses the veterinary clinic was constructed in 1942 and encompasses only 1,200 square feet (ft²). Moreover, the existing facility was only meant to be temporary until funds were available to construct a new, up-to-date facility.

WPAFB has initiated an Environmental Assessment (EA) for the proposed project. Potential impacts associated with the construction of the veterinary clinic will be addressed in the EA, which is being prepared to satisfy the requirements of the National Environmental Policy Act (NEPA) of 1969.

The proposed project area is located in Greene County, Ohio, in southwestern quadrant of Section 31, Township 3, Range 8, and is depicted in Figures 1, 2 and 3 (see attached). The proposed project area is located in Area A of WPAFB and is bordered on the north by wooded land, on the east by Skeel Avenue, on the south by Communications Boulevard, and on the west by Battle Creek Road. The site is located in a land use area designated as "Outdoor Recreation." Designated land uses in the vicinity of the proposed project area include: Outdoor Recreation, Industrial, Open Space, Administration, and Community Service. Natural Resources in the vicinity of the proposed project area include two intermittent tributaries of Hebble Creek and wooded areas.

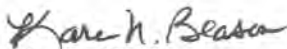
The new veterinary clinic would consist of a 2,500 ft² facility and an associated parking area on an approximate one-acre footprint within the proposed project area. The facility would consist of a concrete foundation with floor slab, masonry walls, roof, an exam/treatment room, an operating room, offices, and a waiting room. Activities associated with the construction of the facility would include site preparation, construction of the building and parking area, and landscaping.

We are requesting comment from your agency regarding the presence or absence of federal- and state-listed flora or fauna that may be located within 0.5 mile of the proposed project location. Threatened and endangered species known to exist within the vicinity of WPAFB include the Indiana bat (*Myotis sodalists*), bald eagle (*Haliaeetus leucocephalus*), eastern massasauga rattlesnake (*Sistrurus c. catenatus*), clubshell (*Pleurobema clava, mussel*), and blazing star stem borer (*Papaipema beeriana*).

In addition, please comment on the presence or absence of areas of ecological concern including wetlands, national wild and scenic rivers, wildlife areas, wildlife refuges, wildlife management areas, and wildlife sanctuaries that may be located within the area likely to be disturbed by the project (see Figures 1, 2, and 3 for the proposed site location). We have also contacted the Ohio Department of Natural Resource's Division of Natural Areas and Preserves for a search of the agency's Natural Heritage Database.

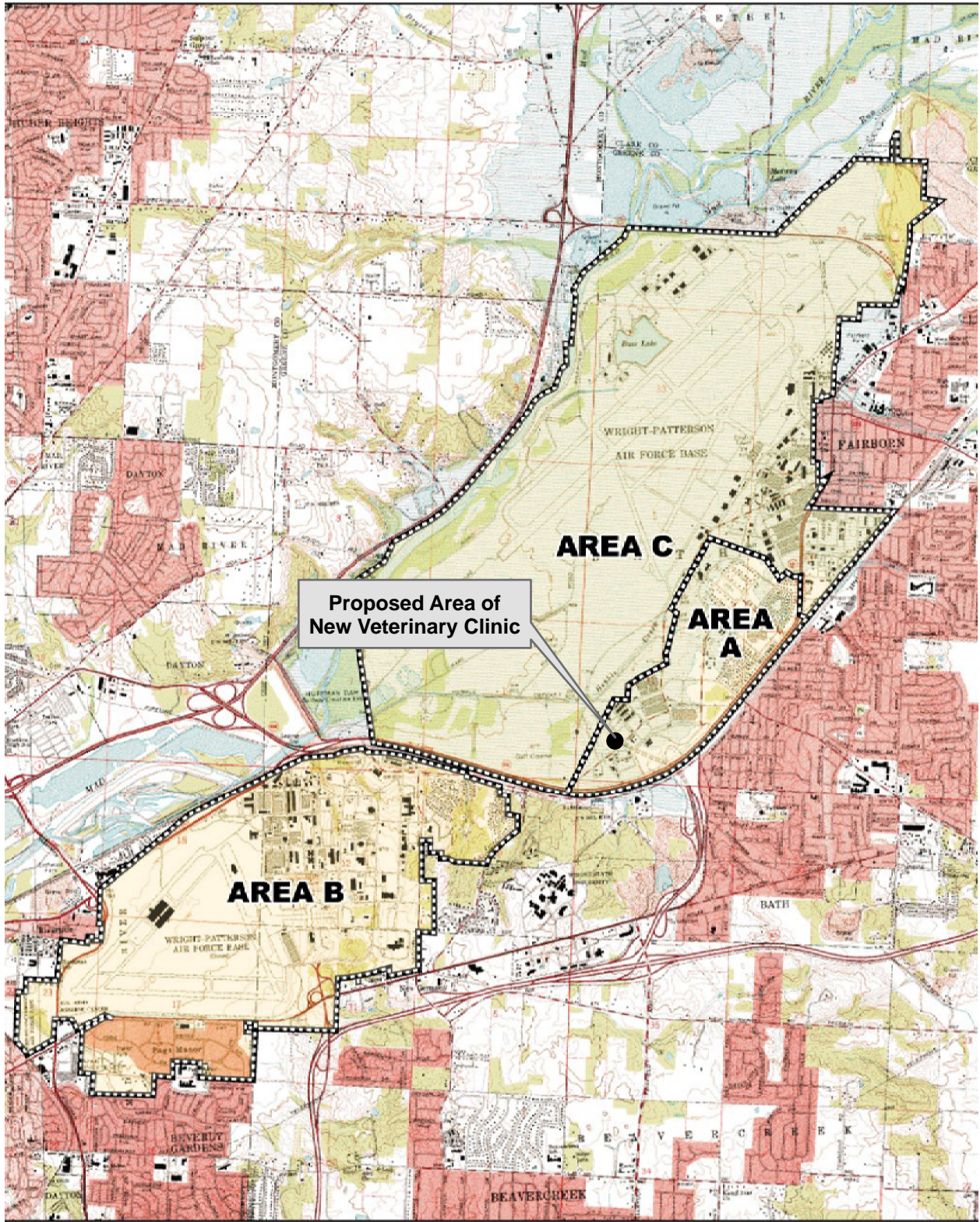
Thank you in advance for your time and consideration. Please return your comments to me at the address above. If you have any questions or require additional information, please contact me at (937) 257-5899 or by email at Karen.Beason@wpafb.af.mil.

Sincerely,


Karen N. Beason
Environmental Engineer
Operations Branch
Environmental Management Division

Attachments:

1. Site Vicinity Map
2. Site Location Map
3. 2001 Aerial Photograph

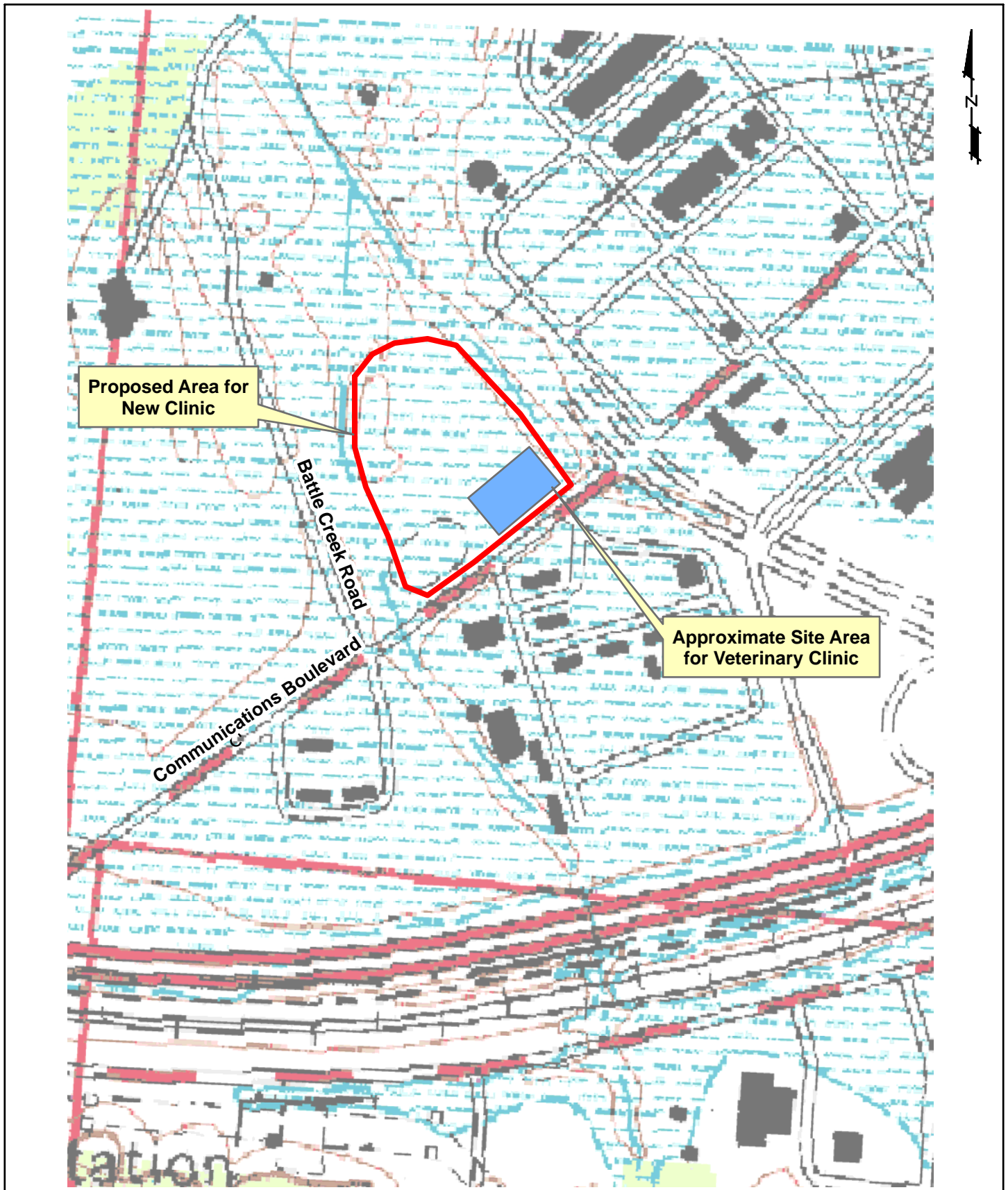


Site Vicinity Map

Proposed Area for the
New Veterinary Clinic
Wright-Patterson Air Force Base
Dayton, Ohio

PROJECT NO.	SCALE	DATE	DRAWN BY:
9060220	Shown	2/1/07	cm
			DRAWING NO:
			9060220

Figure 1



Site Location Map

PROJECT NO.	SCALE	DATE	DRAWN BY:	cm
9060220	1"=400'	2/1/07	DRAWING NO.:	9060220

Proposed Area for the
New Veterinary Clinic
Wright-Patterson Air Force Base
Dayton, Ohio

Figure 2



2001 Aerial Photograph

PROJECT NO.	SCALE	DATE	DRAWN BY:
9060220	1"=400'	2/1/07	cm
			DRAWING NO:
			9060220

Proposed Area for the
New Veterinary Clinic
Wright-Patterson Air Force Base
Dayton, Ohio

Figure 3



DEPARTMENT OF THE AIR FORCE

HEADQUARTERS 88TH AIR BASE WING (AFMC)
WRIGHT-PATTERSON AIR FORCE BASE, OHIO

8 June 2007

88 ABW/CEVO, Bldg 89
5490 Pearson Road
Wright-Patterson AFB OH 45433-5332

Mr. Mark Epstein
Department Head, Resource Protection & Review
Ohio Historic Preservation Office
567 East Hudson Street
Columbus OH 43211-1030

Dear Mr. Epstein

Wright-Patterson Air Force Base (WPAFB) is proposing to construct a new veterinary clinic and is in the process of completing an environmental assessment (EA) of the proposed and alternate building locations. We have determined that no historic properties will be affected by this undertaking because there are no historic properties present in the areas of potential effect. In accordance with 36 CFR 800.11, we are submitting the following documentation.

Description of the undertaking. A new veterinary clinic is needed due to the antiquated nature and size constraints of the existing clinic, facility 1435 in Area A. Facility 1435 was constructed in 1944 and encompasses approximately 1,200 square feet (ft²). The new veterinary clinic would consist of a 2,500 ft² facility and an associated parking area on an approximate one-acre footprint within the proposed project area. The facility would consist of a concrete foundation with floor slab, masonry walls, an exam/treatment room, an operating room, offices, and a waiting room. Activities associated with the construction of the facility would include site preparation, construction of the building and parking area, and landscaping. The proposed construction activities are described in sections 2.3.1 and 2.3.2 of the attached excerpt from the draft EA (Attachment 1). This attachment also contains mapping showing the areas of potential effect.

Description of steps taken to identify historic properties. WPAFB has assessed all buildings on the installation that are 50 years old or older, and has assessed buildings for exceptional significance relating to the Cold War. Your office has reviewed the information we have collected, and our two offices have reached a consensus determination of eligibility for listing on the National Register of Historic Places (NRHP) for facilities at WPAFB. We have also undertaken archeological surveys for prehistoric and historic-era archaeological sites, and have provided reports of those surveys to your office for review. The existing veterinary clinic, facility 1435, and the dog kennel, facility 4053 in Area C, have been determined ineligible for NRHP listing and are not part of any historic landscape or district. See Attachment 2 for OHI forms. The proposed construction site does not contain and is not adjacent to any identified archaeological sites, historic buildings or historic landscapes. The proposed area is considered previously disturbed and the potential for the discovery of archaeological resources during construction is low. In 2001, Gray & Pape, Inc. conducted Phase I investigations at WPAFB as a part of the base's ongoing Section 110 responsibilities for identifying and protecting historic properties on its land. The

project was focused on identifying potential prehistoric resources located in areas previously identified as having a low to moderate probability for containing prehistoric sites. An area of 18.52 acres between Riverview and Liberator Roads was surveyed, which included the open field just west and including part of the alternate construction site. No sites were discovered in this area and no further work was recommended.

Basis for determining no historic properties present or affected. Based upon our past archaeological surveys and historic building evaluations we have determined that no historic properties are present in the areas of potential effect. Therefore this undertaking will not affect historic or cultural resources at WPAFB.

Please review the documentation we have provided and let us know whether you concur with our assessment. Should you have questions, I can be reached at (937) 257-0177, or via email at raymond.baker@wpafb.af.mil.

Sincerely



RAYMOND F. BAKER
Cultural Resources Program Manager
Operations Branch
Environmental Management Division

Attachments

1. Excerpts from Draft EA
2. Ohio Historic Inventory Forms

2 PROPOSED ACTION AND ALTERNATIVES

2.1 Summary of Proposed Action and Alternatives

WPAFB is proposing to construct a new 2,500 ft² veterinary clinic. The alternatives considered in this EA are as follows:

- *Proposed Action:* Construct a new veterinary clinic on Communications Boulevard in Area A
- *Alternative Action 1:* Construct a new veterinary clinic adjoining the existing working dog kennels on Mitchell Drive in Area C
- *Alternative Action 2:* Construct a new veterinary clinic on Oak Street in Kittyhawk Area
- *No Action Alternative:* Do not construct a new facility and continue using the existing facility

The proposed action, alternative actions, and the no-action alternative are discussed in further detail below.

2.2 Purpose and Need for the Proposed Action

The purpose of the proposed action is to construct a new veterinary clinic. The need for this project stems from:

- The fact that the existing veterinary clinic is located in an area that is to be used by the Marine Corp Reserve Training Center.
- The fact that the veterinary operations have outgrown the existing and antiquated facility.

2.3 Proposed Actions and Alternatives

2.3.1 Proposed Action: Construct the New Veterinary Clinic on Communications Boulevard in Area A

The proposed action consists of constructing a 2,500-ft² veterinary clinic and associated parking on an approximately 1-acre plot within an approximately 2.5-acre tract of open land located north of Communications Boulevard in Area A. This site was recently used as a staging area by utility contractors. Presently, there is a concrete parking area located on the southeast portion of the site which contains a construction trailer and large wooden spools that formerly contained utility wire. The construction trailer is currently vacant. This area is not located in a floodplain.

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The subject site is bordered to the north by an open area and then a wooded area, and to the west by an unnamed tributary of Hebble Creek. On the other side of this tributary is Battle Creek Road and then Landfill (LF) 6 to the north and LF 7 to the west. The subject site is bordered to

Deleted: a wooded

Deleted: February

the east by an unnamed tributary of Hebble Creek and then Skeel Avenue, and to the south by Communications Boulevard and then administrative buildings. See Figure 2 for the site location and Geographic Information System (GIS) data pertaining to the subject site and adjoining parcels (i.e., floodplains, utilities, etc.). See Figures 3 and 4 for a soil map of the subject site and land use of the subject site and adjacent areas, respectively. See Appendix D for photographs of the subject site and adjoining areas.

2.3.2 Alternative 1: Construct the New Veterinary Clinic Adjoining the Dog Kennels on Mitchell Drive in Area C

Alternative 1 involves the construction of a 2,500-ft² veterinary clinic adjoining the existing working dog kennels north of Mitchell Drive within an approximate 5.5-acre tract of open land. The proposed footprint for the site is approximately 1 acre and is partially located within the 100-year floodplain. The south portion of this site is currently being used as a kennel for military working dogs, while the remainder of the site is currently being used as an obstacle training course.

The site is surrounded by an obstacle course to the north and east, an ammunitions storage area to the west, and a family campground to the south (across Mitchell Drive). See Figure 5 for the site location and GIS data pertaining to the subject site and adjoining parcels (i.e., floodplains, utilities, etc.). See Figures 6 and 7 for a soil map of the subject site and land use of the subject site and adjacent areas, respectively. See Appendix D for photographs of the subject site and adjoining areas.

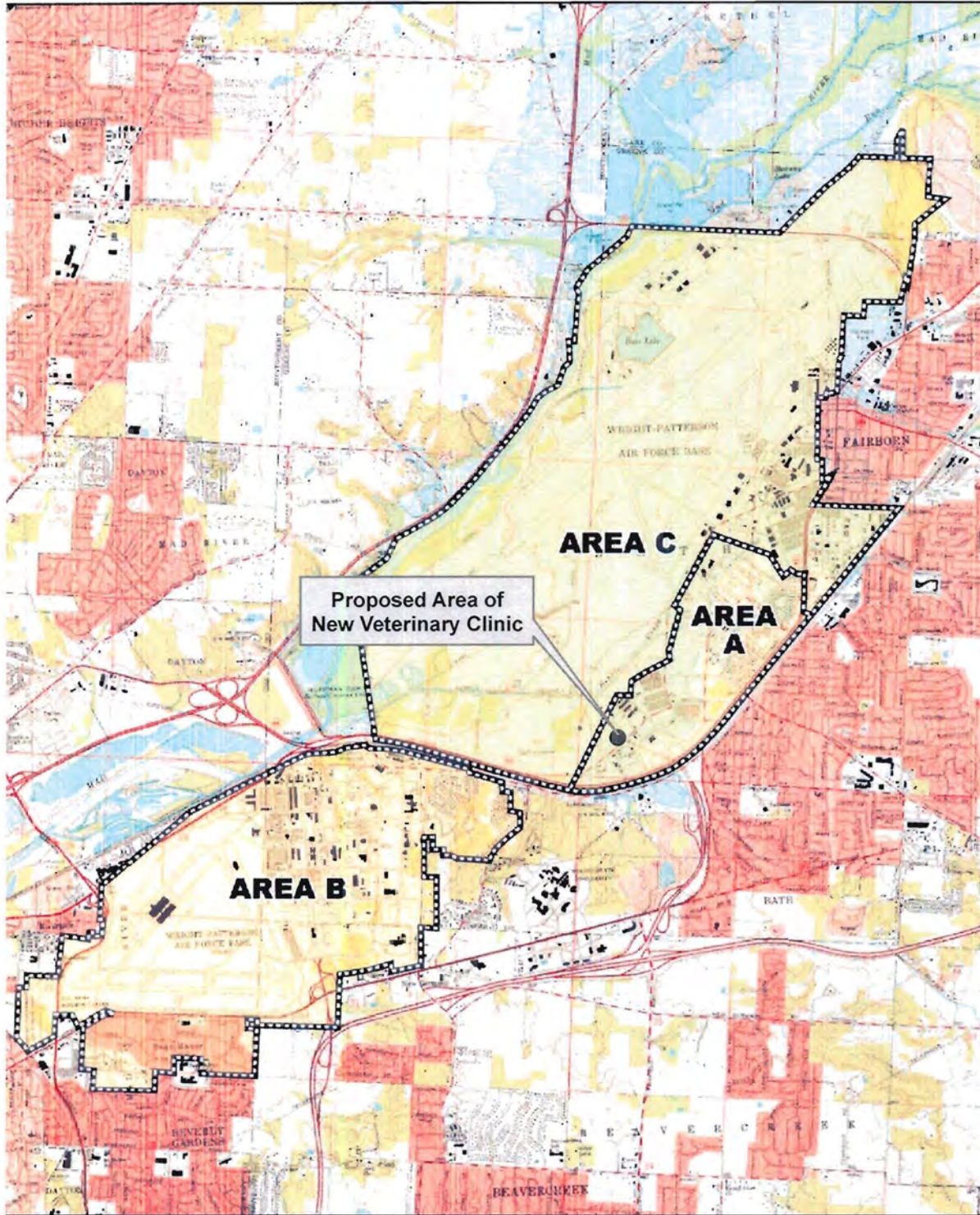
2.3.3 Alternative 2: Construct the New Veterinary Clinic on Oak Street in Kittyhawk Area

Alternative 2 consists of constructing a 2,500 ft² veterinary clinic on open land on the south side of Oak Street in the Kittyhawk Area. See Figure 8 for a site location map. See Appendix D for photographs of the subject site and adjoining areas. The site is adjacent to Building 1240 (heating plant), baseball fields, and across the street from service station. This area is not located in a floodplain.

This area of Kittyhawk Area is involved in the State Route 444 relocation project. Currently, State Route 444 physically divides the Kittyhawk Area from the main portion of the base. The public use of this road has been determined to have the potential to increase security risks and additional gates are required to be maintained because of the public thoroughfare through the base. To address this issue, State Route 444 will be moved to the outside of the Kittyhawk Area, which includes the proposed alternate site.

Because State Route 444 is scheduled to be relocated in this area, this alternative is not feasible and is removed from this EA from further consideration.

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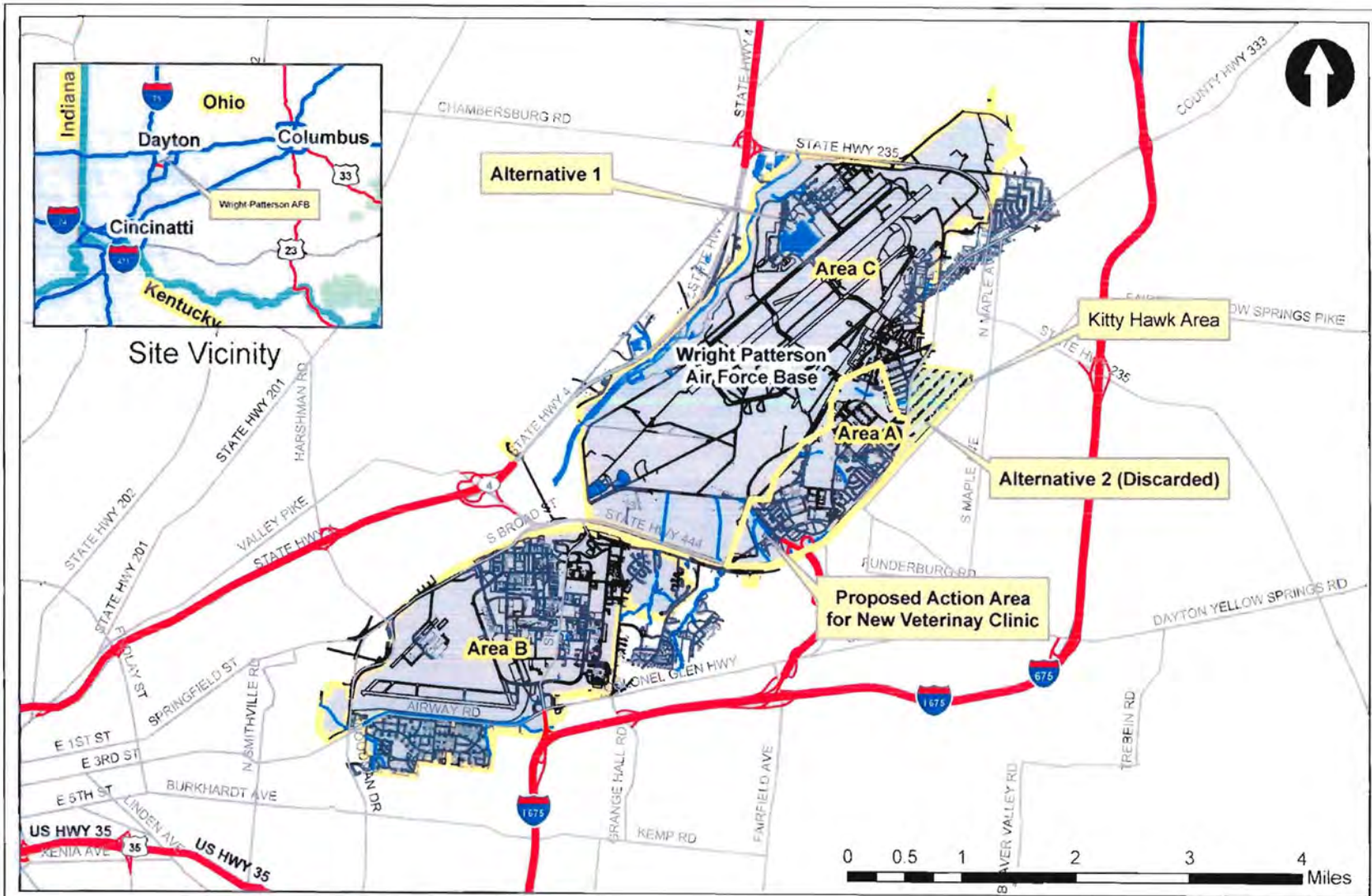


Site Vicinity Map

PROJECT NO	SCALE	DATE	DRAWN BY
9060220	Shown	2/1/07	cm
			DRAWING NO: 9060220

Proposed Area for the
New Veterinary Clinic
Wright-Patterson Air Force Base
Dayton, Ohio

Figure 1

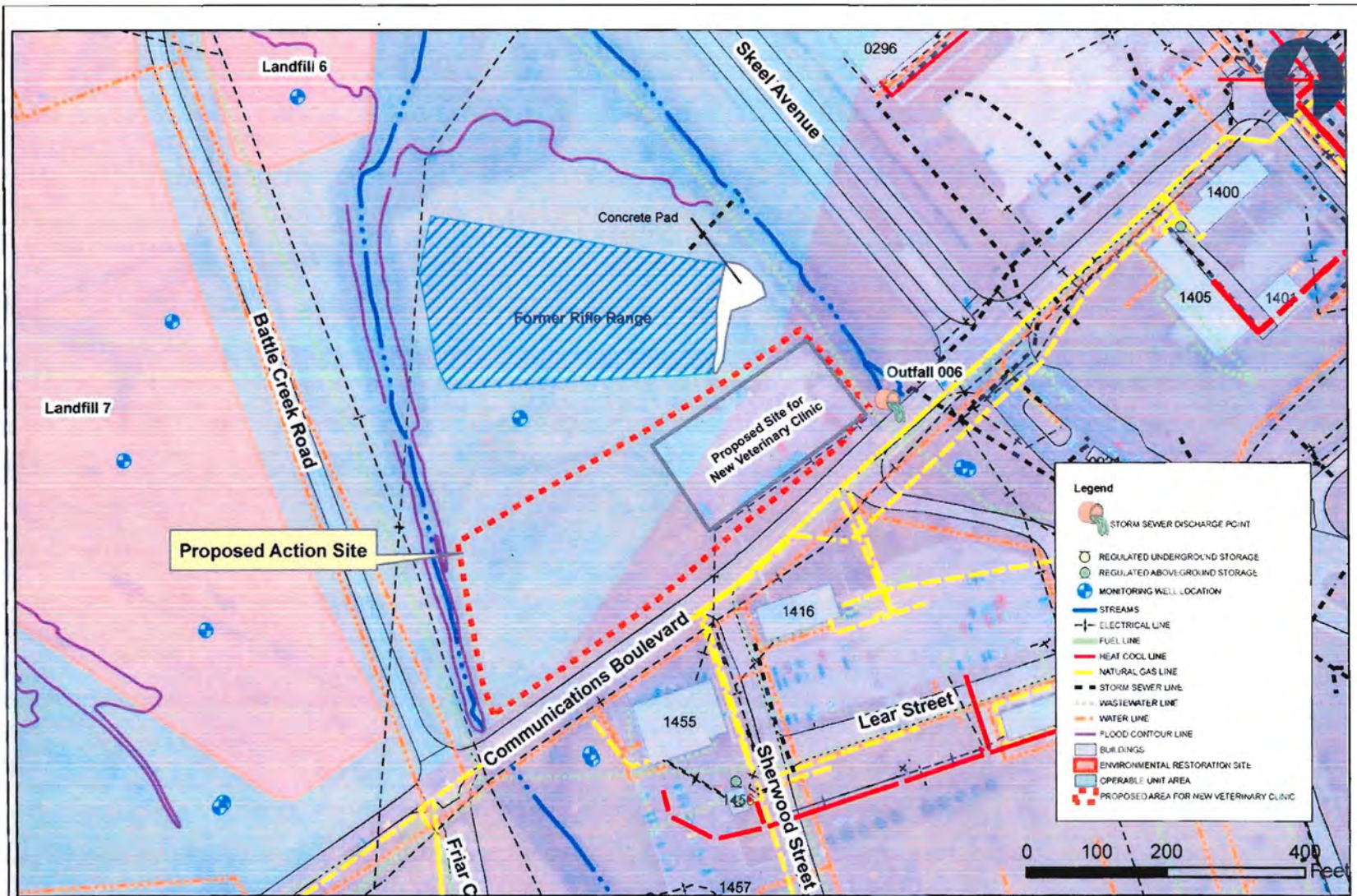


General Site Location Map

PROJECT NO	SCALE	DATE	DRAWN BY
9060220	Shown	2/21/07	cm
			DRAWING NO
			figure1

Environmental Assessment
New Veterinary Clinic
Wright Patterson Air Force Base

Figure 1

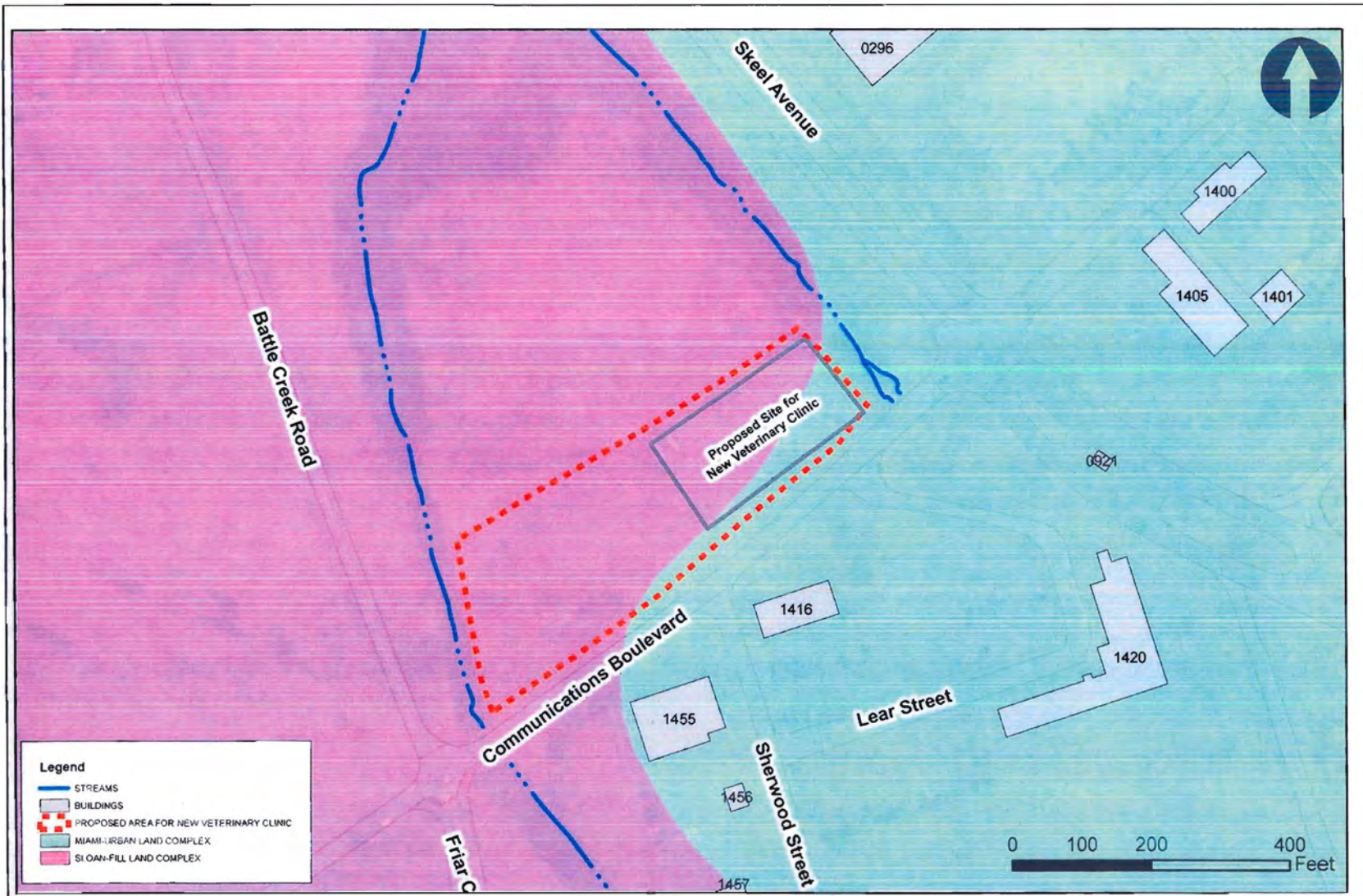


**Site Location Map and GIS Data
Pertaining to the Proposed Action**

PROJECT NO.	SCALE	DATE	DRAWN BY:
9060220	1"=200'	2/21/07	cm
			DRAWING NO. figure2

Environmental Assessment
New Veterinary Clinic
Wright Patterson Air Force Base

Figure 2



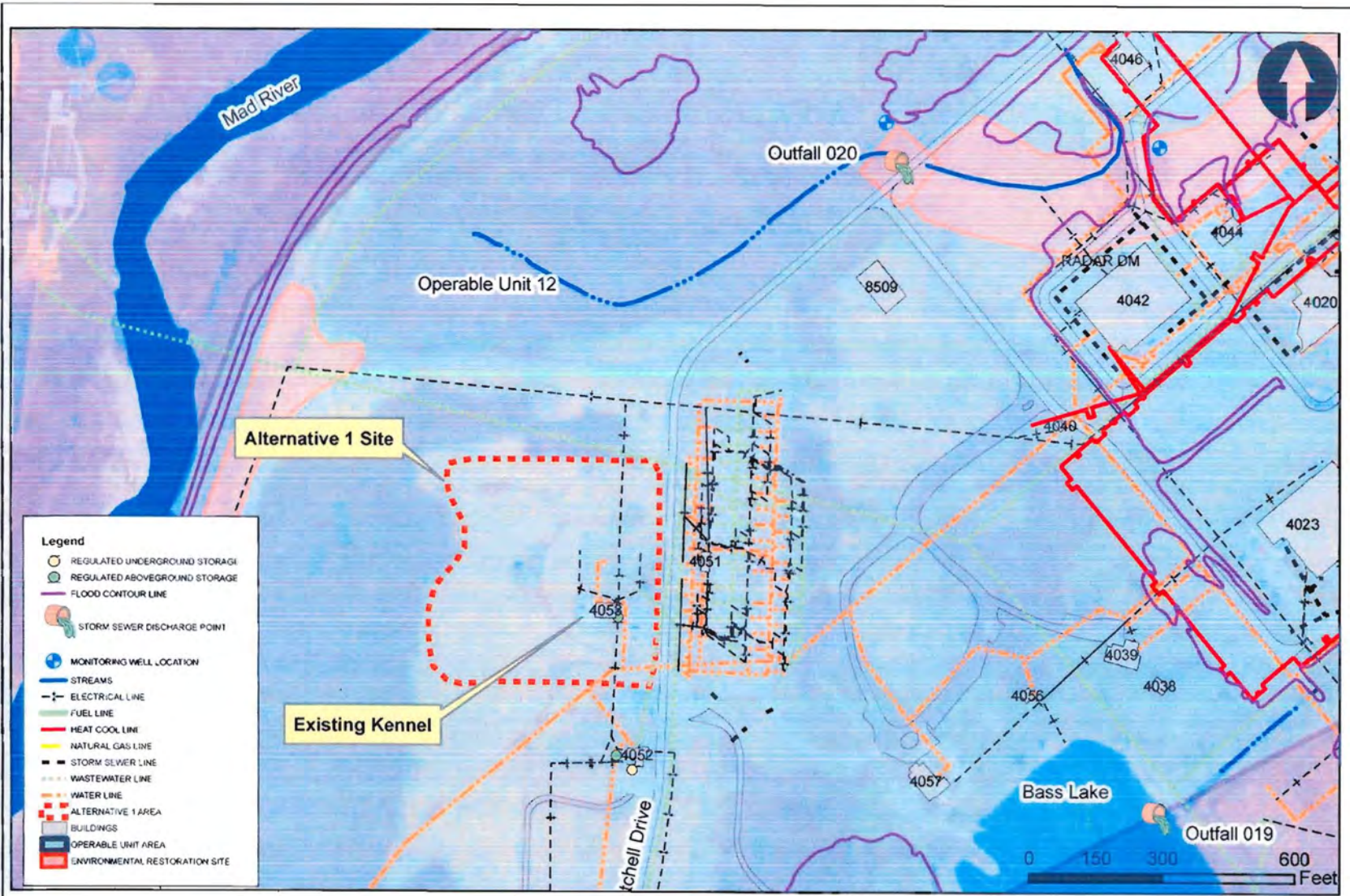
ENGINEERING, SCIENCE AND CONSTRUCTION

Soil Map of the Proposed Action

PROJECT NO.	SCALE	DATE	DRAWN BY
9060220	1"=200'	2/21/07	cm
			DRAWING NO.
			figure3

Environmental Assessment
New Veterinary Clinic
Wright Patterson Air Force Base

Figure 3

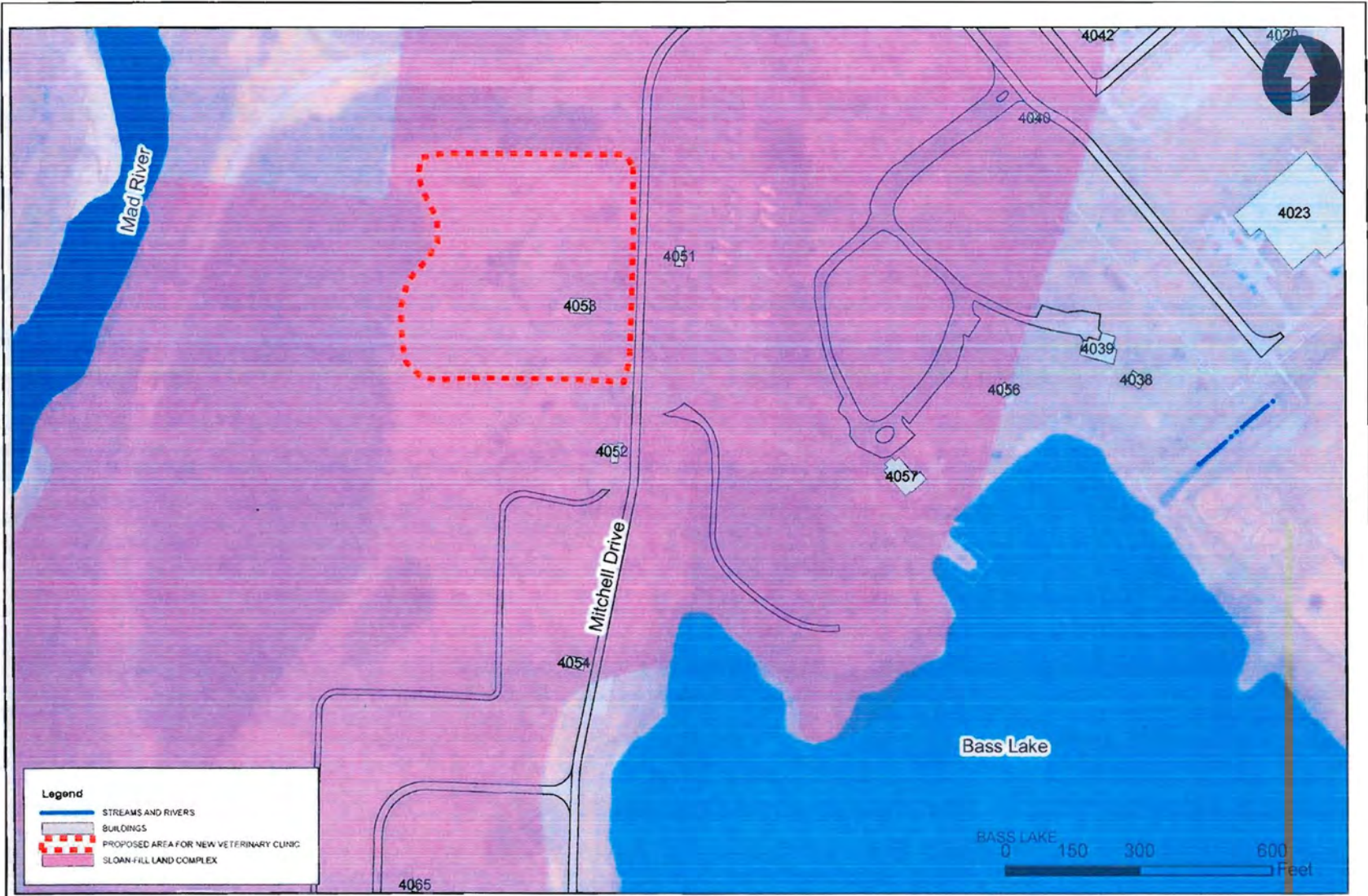


**Site Location Map and GIS Data
Pertaining to Alternative 1**

Environmental Assessment
New Veterinary Clinic
Wright Patterson Air Force Base

PROJECT NO	SCALE	DATE	DRAWN BY
9060220	1"=300'	2/21/07	cm
			DRAWING NO
			figure5

Figure 5



Soil Map of Alternative 1

PROJECT NO	SCALE	DATE	DRAWN BY
9060220	1"=300'	2/21/07	cm
			DRAWING NO
			figure6

Environmental Assessment
New Veterinary Clinic
Wright Patterson Air Force Base

Figure 6

51. Condition of Property

- Excellent
- Good/Fair
- Deteriorated
- Ruin
- Destroyed/Burned Date _____

52. Historic Outbuildings and Dependencies

Bar Type(s)

- Corn Crib or Shed
- Summer Kitchen
- Silo
- Designed landscape features
- Smoke House
- Spring House
- Ice House
- Privy
- Garage

53. Affiliated OAI Site Number(s)

Archeological Feature:	Observed	Expected on Basis of Archival Research
Well	_____	_____
Privy	_____	_____
Cistern	_____	_____
Foundation	_____	_____
Structural Rubble	_____	_____
Formal Trash Dump	_____	_____
Other _____	_____	_____

54. Farmstead Plan

Blank area for Farmstead Plan with corner markers.


42. (Cont'd)

43. (Cont'd)

OHIO HISTORIC INVENTORY

Ohio Historic Preservation Office
1985 Velma Avenue
Columbus, Ohio
614/297-2470



1. No.	2. County Greene	4. Present Name(s) Facility 34053 <input type="checkbox"/> Coded	1. No.															
3. Location of Negatives AFB - EM Division		5. Historic or other Name(s) Canine Kennel	2. County															
Roll No. 4	Picture No.(s) 7-9																	
6. Specific Address or Location 4875 Mitchell Dr Area C, WPAFB, Ohio		16. Thematic Association(s) Military Aviation, Security Dogs	4.5. Present or Historic Name															
6a. Lot, Section or VMD Number N/A		17. Date(s) or Period 1948 - 1976																
7. City or Village If Rural, Township & Vicinity Wright-Patterson Air Force Base		17b. Alteration Date(s)																
8. Site Plan with North Arrow 		18. Style or Design <input type="checkbox"/> High Style Vernacular <input type="checkbox"/> Element																
9. U.T.M. Reference Quadrangle Name Fairborn, Ohio		18a. Style of Addition or Element(s) N/A																
<table border="1" style="width:100%; text-align:center;"> <tr> <td>1</td><td>6</td><td>7</td><td>5</td><td>2</td><td>1</td><td>5</td><td>5</td><td>4</td><td>4</td><td>1</td><td>3</td><td>4</td><td>5</td><td>0</td> </tr> </table>		1		6	7	5	2	1	5	5	4	4	1	3	4	5	0	19. Architect or Engineer USAF
1	6	7		5	2	1	5	5	4	4	1	3	4	5	0			
Zone Easting Northing		19a. Design Sources Unknown																
10. SITE Site <input type="checkbox"/> Building <input checked="" type="checkbox"/> Structure <input type="checkbox"/> Object <input type="checkbox"/>		20. Contractor or Builder Unknown																
11. National Register? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		21. Building Type or Plan Rectangular																
12. N.R. Potential? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		22. Original Use, if apparent Security Forces Canine Kennel																
13. Part of Estab. Hist. Dist? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		23. Present Use Canine Kennel																
14. District Potential? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		24. Ownership Public <input checked="" type="checkbox"/> Private <input type="checkbox"/>																
15. Name of Established District (N.R. or Local)		25. Owner's Name & Address, if known US Air Force Wright-Patterson Air Force Base																
42. Description of Important Interior and Exterior Features (Continue on reverse if necessary) Facility 34053 is a one story front gabled concrete block building with metal doors and pop-out metal windows. The facility has two small narrow metal doors on the east and west facades located near the corners of the building that are used to let the dogs in and out. The interior of the building is divided by a concrete block wall into office space and kennels. Steel columns are visible within the building.		26. Property Acreage N/A	6. Specific Address or Location															
43. History and Significance (Continue on reverse if necessary) The history of this building is somewhat unclear. The base real estate inventory indicates a construction date of 1948. However, existing real property cards only date the building back to 1976. In addition, the building manager for this facility indicated that it was his understanding that an earlier wooden kennel had been built after World War II in what is now a parking lot in front of the present facility. Part of the foundation of this structure is still visible coming up through the asphalt of the parking lot. According to the building manager,		27. Other Surveys in Which Included None																
44. Description of Environment and Outbuildings (See #52) Facility 34053 is surrounded by an 8' high barb wire fence with a gravel dog yard in the rear and a diesel fuel tank on the south. A fenced grassy dog training area is located directly to the north of the facility.		28. No. of Stories 1	6. Specific Address or Location															
45. Sources of Information Wright-Patterson Air Force Base Real Property Records, 1947-1998.		29. Basement? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																
		30. Foundation Material Concrete																
		31. Wall Construction Concrete Block																
		32. Roof Type & Material Front Gable, Rolled Asphalt	6. Specific Address or Location															
		33. No. of Bays Front 1 Side 2																
		34. Exterior Wall Material(s) Concrete Block	6. Specific Address or Location															
		35. Plan Shape Rectangular																
		36. Changes (Explain in #42) Addition <input type="checkbox"/> Altered <input type="checkbox"/> Moved <input type="checkbox"/>	6. Specific Address or Location															
		37. Window Types 1 pane pop-out <input type="checkbox"/> 6 over 6 <input type="checkbox"/> 2 over 2 <input type="checkbox"/> 4 over 4 <input checked="" type="checkbox"/> Other																
		38. Building Dimensions 25' x 50'	6. Specific Address or Location															
		39. Endangered? By What? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																
		40. Chimney Placement None	6. Specific Address or Location															
		41. Distance from and Frontage on Road 36' Frontage 40' Setback																
		46. Prepared by R. Hampton & S. Popovich	6. Specific Address or Location															
		47. Organization Hardlines Design & Delineation																
		48. Date Recorded in Field May 1998	6. Specific Address or Location															
		49. Revised by 50a. Date Revised																
		50b. Reviewed by	6. Specific Address or Location															

51. Condition of Property

- Excellent Ruin
 Good/Fair Destroyed/Burned
 Deteriorated Date _____

52. Historic Outbuildings and Dependencies

Barn Type(s)

- Corn Crib or Shed Smoke House Privy
 Summer Kitchen Spring House Garage
 Silo Ice House
 Designed landscape features

53. Affiliated OAI Site Number(s)

Archeological Feature:	Observed	Expected on Basis of Archival Research
Well	_____	_____
Privy	_____	_____
Cistern	_____	_____
Foundation	_____	_____
Structural Rubble	_____	_____
Formal Trash Dump	_____	_____
Other _____	_____	_____

54. Farmstead Plan



42. (Cont'd)

43. (Cont'd)

this facility was demolished in the 1970s, and the current facility was constructed at that point. Regardless of its construction date, it is clear from the design of this building that it was originally constructed as a dog kennel, and has served that function since its construction. The kennel currently houses the 8-dog canine unit of Wright-Patterson, with two dogs currently on loan to another base. The dogs are trained to sniff both explosives and drugs, and are often used to assist U.S. Customs officials at local airports. The dogs are also trained as attack dogs.

**WRIGHT-PATTERSON AIR FORCE BASE HISTORIC STRUCTURES INVENTORY
EXTERIOR CHARACTER DEFINING FEATURES (cont'd)**

12. Exterior Trim Elements

None

13. Exterior Light Fixtures

1 plastic light fixture over north door

14. Exterior Doors

2 narrow metal doors with no windows and 1 windowed metal door on south elevation. North elevation has 1 metal windowed metal door.

15. Machinery

Heater and air conditioning.

16. Equipment

None

17. Significant Additions

Building manager said that the building was constructed in 1970's and that the old building with kennels have been demolished.

18. Non-Historic Additions or Elements

None

19. Significant Site Features

Gravel dog yard in rear and grassy dog training area to east of facility. Facility and training grounds surrounded by 8' high chain link fence with barb wire.

WRIGHT-PATTERSON AIR FORCE BASE HISTORIC STRUCTURES INVENTORY INTERIOR CHARACTER DEFINING FEATURES

1. No. _____ 2. Building Name Facility 34053

3. Building Type Rectangular

4. General Interior Features Description

Facility 34053 has a kennel in the north section of the building and 1 office in the south section of the facility.

5. Exposed Structure

Concrete block structural walls with steel column supports visible as well.

6. Interior Wall Materials Plaster Paneling Brick
 GWB Tile Concrete Block
 Wallpaper Concrete

6a. Interior Wall Surfaces Description

Concrete block walls painted with vertical wood paneled walls

7. Flooring Type Wood Concrete Stone Metal

7a. Flooring Description

Concrete floors with linoleum that has been covered over with industrial carpeting.

8. Ceiling Materials Plaster GWB Wood Metal Concrete Acoustical Tile

8a. Ceiling Description

Smooth plaster ceilings.

9. Interior Door Types Wood Metal Fireproof Glass

9a. Interior Doors Description

1 metal windowed door between office and kennel areas, and 2 metal doors with no windows.

WRIGHT-PATTERSON AIR FORCE BASE HISTORIC STRUCTURES INVENTORY INTERIOR CHARACTER DEFINING FEATURES (cont'd)

10. Stair Materials Wood Metal Concrete

10a. Stairs

No stairs in this facility.

11. Interior Trim Elements

Wood paneling with vertical lines.

12. Significant Hardware Features

None

13. Interior Light Fixtures

Fluorescent ceiling lights.

14. Plumbing Fixtures Bathtub Sink Water Closet Shower

14a. Other Plumbing Fixtures

15. Significant Built-In Elements

Metal wire dog kennels

16. Mechanical Equipment

Air conditioning, heater, and hot water heater. Diesel fuel tank for heating system on west elevation.

17. Other Significant Interior Features

APPENDIX B

**RESPONSES TO SCOPING LETTERS AND
COMMENTS FROM THE PUBLIC ON THIS EA**



Ohio Department of Natural Resources

TED STRICKLAND, GOVERNOR

SEAN D. LOGAN, DIRECTOR

Division of Natural Areas and Preserves

Bob Gable, Acting Chief

2045 Morse Rd., Bldg. F-1

Columbus, OH 43229-6693

Phone: (614) 265-6453; Fax: (614) 267-3096

February 26, 2007

Karen Beason
Wright-Patterson Air Force Base
88 ABW-CEVO, Building 89
5490 Pearson Rd.
Wright-Patterson Air Force Base, OH 45433-5332

RECEIVED
MAR 01 2007
BHATE ENVIRONMENTAL

Dear Ms. Beason:

I have reviewed our Natural Heritage maps and files for the Wright-Patterson Air Force Base Veterinary Clinic project area, including a one mile radius, in Greene County, and on the Fairborn Quad (BEA #9060220). The numbers/letters on the list below correspond to the areas marked on the accompanying map. Common name, scientific name and status are given for each species.

Fairborn Quad

A. Dayton Aviation Heritage National Historical Park - US National Park Service

1. *Papaipema beeriana* - Beer's Noctuid, endangered
- Cistothorus platensis* - Sedge Wren, species of concern

There are no state nature preserves or scenic rivers at the project site. We are also unaware of any unique ecological sites, geologic features, animal assemblages or state parks, forests or wildlife areas in the project vicinity.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Please note that although we inventory all types of plant communities, we only maintain records on the highest quality areas. Also, we do not have data for all Ohio wetlands. For National Wetlands Inventory maps, please contact Madge Fitak in the Division of Geological Survey at 614-265-6576.

Please contact me at 614-265-6818 if I can be of further assistance.

Sincerely,

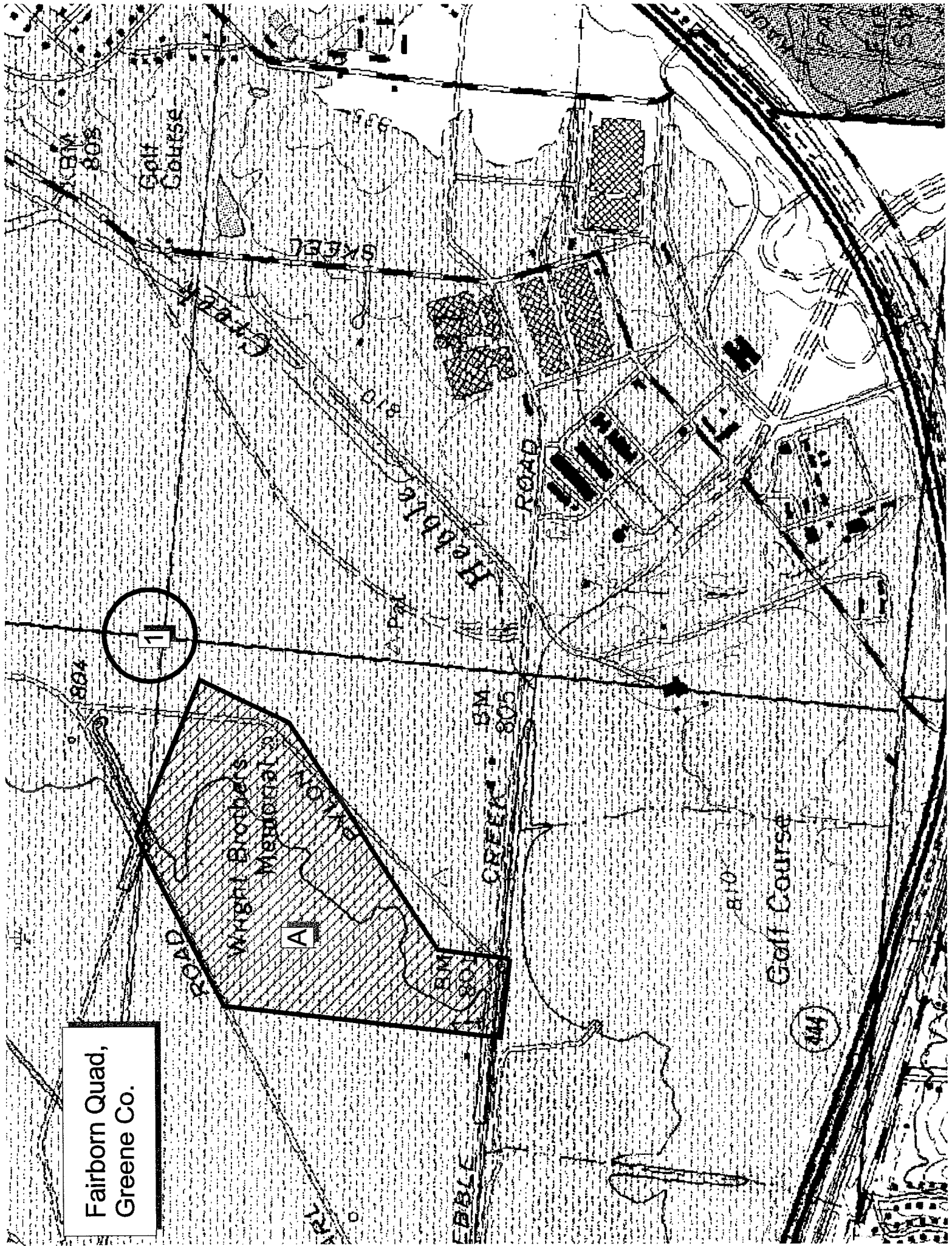
Debbie Woischke, Ecological Analyst
Natural Heritage Program

✓ cc Leigh Ann McGriff, Bhate Environmental Assoc., Inc.

ohiodnr.com



Fairborn Quad,
Greene Co.





United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
6950 Americana Parkway, Suite H
Reynoldsburg, Ohio 43068-4127
(614) 469-6923 FAX (614) 469-6919

March 16, 2007

Karen Beason
88 ABW-CEVO Bldg 89
5490 Pearson Road
Wight-Patterson AFB, OH 45433

TAILS: 31420-2007-FA-0354

Dear Ms. Beason,

The U.S. Fish and Wildlife Service (Service) has reviewed your February 16, 2007 letter regarding preparation of an Environmental Assessments in support of a proposed veterinary clinic at Wright-Patterson Air Force Base (WPAFB) in Greene County, Ohio. The proposed facility location is bordered by both developed areas and wooded habitat.

Through the INRMP process it was determined that four federally listed species may occur at WPAFB. These species include the Indiana bat (*Myotis sodalis*), bald eagle (*Haliaeetus leucocephalus*), clubshell mussel (*Pleurobema clava*), and Eastern massasauga (*Sistrurus catenatus*). Based on the information provided in your letter, the Indiana bat may be affected. Below is information about this species.

The proposed project lies within the range of the **Indiana bat**, a Federally-listed endangered species. Known locations for this species occur within your project area. Since first listed as endangered in 1967, their population has declined by nearly 60%. Several factors have contributed to the decline of the Indiana bat, including the loss and degradation of suitable hibernacula, human disturbance during hibernation, pesticides, and the loss and degradation of forested habitat, particularly stands of large, mature trees. Fragmentation of forest habitat may also contribute to declines. Summer habitat requirements for the species are not well defined but the following are considered important:

1. Dead or live trees and snags with peeling or exfoliating bark, split tree trunk and/or branches, or cavities, which may be used as maternity roost areas.
2. Live trees (such as shagbark hickory and oaks) which have exfoliating bark.
3. Stream corridors, riparian areas, and upland woodlots which provide forage sites.

The Service recommends that project designs maintain as many trees and forested habitat shrub/scrub habitat as possible along all property lines and along edges of developed areas by minimizing footprint of graded areas, roads, and staging areas to the maximum extent practicable. Should the proposed site contain trees or associated habitats exhibiting any of the characteristics listed above, we recommend that the habitat and surrounding trees be saved wherever possible. If the trees must be cut, further coordination with this office is requested to determine if surveys are

warranted. Any survey should be designed and conducted in coordination with the Endangered Species Coordinator for this office.

The proposed project also lies within the range of the **bald eagle, eastern massasauga** and **clubshell mussel**. Due to the lack of suitable habitat, no impacts to these threatened and endangered species are anticipated. Relative to these two species, this concludes consultation on this action as required by section 7(a)(2) of the Endangered Species Act. Should, during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the Service should be reinitiated to assess whether the determinations are still valid.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the Endangered Species Act of 1973, as amended, and are consistent with the intent of the National Environmental Policy Act of 1969 and the U. S. Fish and Wildlife Service's Mitigation Policy. Please note that consultation under section 7 of the ESA may be warranted for this project if suitable habitat for the Indiana bat may be impacted by this project. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

If you have questions, or if we may be of further assistance in this matter, please contact Sarena Selbo at extension 17 in this office.

Sincerely,



Mary M. Knapp, Ph.D.
Supervisor

cc: ODNR, Div. of Wildlife, SCEA Unit, Columbus, Ohio

May 5, 2007

Subject: Miami Conservancy District Response to Scoping Letter

To Whom It May Concern:

Since no response has been received by the Miami Conservancy District to date, the undersigned contacted Mr. Rick Doran of the MCD via telephone today, May 5, 2007, regarding the scoping letter. Mr. Doran stated that the MCD had no issues with the proposed action location; hence no written response to the scoping letter was generated.



Leigh Ann McGriff, REM
Bhate Environmental Associates, Inc.
Project Manager

APPENDIX C
PUBLIC NOTICE

**WRIGHT PATTERSON AIR FORCE BASE
OFFICE OF ENVIRONMENTAL MANAGEMENT
ACCEPTING PUBLIC COMMENTS ON THE ENVIRONMENTAL
ASSESSMENT TO CONSTRUCT A VETERINARY CLINIC AT WRIGHT-
PATTERSON AIR FORCE BASE**

From _____, 2007 through _____, Environmental Management officials will accept comments on the Environmental Assessment (EA) and the draft Finding of No Significant Impact (FONSI) for the construction of a veterinary clinic in Area A of Wright Patterson Air Force Base (WPAFB). Both the EA and FONSI were prepared in accordance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality implementing NEPA.

The new veterinary clinic would consist of a 2,500 square foot (ft²) facility and an associated parking area on an approximately one-acre footprint within the proposed project area. The alternatives analyzed in the EA consist of the proposed action (described previously), the no-action alternative, and two alternative locations as described below.

- Alternative 1: Construct a new veterinary clinic adjoining the existing dog kennels on Mitchell Drive in Area C
- Alternative 2: Construct a new veterinary clinic on Oak Street in the Kittyhawk Area
- No-action Alternative: Do not construct a new facility and continue to utilize the existing facility

The public is invited to review both documents at the Greene County Library, Fairborn Branch, One East Main St., Fairborn, Ohio. All comments should be submitted in writing to 88 ABW/CEVO, 5490 Pearson Road, WPAFB, OH 45433-5332, Attn: Mr. Raymond Baker, or 88 ABW/PA, Environmental Public Affairs Officer, Wright-Patterson AFB, OH 45433-5332, Attn: Lt. Holly Layer.

APPENDIX D

**PHOTOGRAPHS OF THE PROPOSED ACTION,
ALTERNATIVE 1, AND ALTERNATIVE 2**



Photograph 1: View of the northern adjoining property of the Proposed Action location (background), facing northwest.



Photograph 2: View across the northern adjoining property of the Proposed Action location, facing west.



Photograph 3: View of the northeast adjoining property of the Proposed Action location, facing southeast.



Photograph 4: View of the north-central and east portions of the Proposed Action location and adjoining property (background), facing southeast.



Photograph 5: View of the central and south portion of the Proposed Action location and adjoining property (background), facing southeast.



Photograph 6: View of the southeast portion of the Proposed Action location and adjoining property (left side of photograph), facing southeast.



Photograph 7: View of the access area from Communications Boulevard on the southeast corner of the Proposed Action location, facing southeast.



Photograph 8: View of parking lot area and construction trailer (inactive) on the southeast portion of the Proposed Action location, facing southwest.



Photograph 9: View across the Proposed Action location from the parking area on the southeast portion, facing west.



Photograph 10: View across the southeast portion of the Proposed Action location adjacent Communications Boulevard, to facing east.



Photograph 11: View of the west/northwest adjoining property of the Proposed Action location, facing north.



Photograph 12: View of existing archery targets on the northwest adjoining property of the Proposed Action location, facing north.



Photograph 1: View of obstacle course present on the north portion of the Alternative 1 location, facing east. Note the adjoining property in the background.



Photograph 2: View across the northwest portion of the Alternative 1 location, facing south.



Photograph 3: View of the north/northeast portion of the Alternative 1 location and adjoining property (background), facing north.



Photograph 4: View of existing Military Working Dog kennels on the east portion of the Alternative 1 location, facing southeast.



Photograph 5: View of the central and east portion of the Alternative 1 location, facing east.



Photograph 6: View of the eastern adjoining property (Mitchell Drive and FAMCAMP) of the Alternative 1 location, facing north.



Photograph 7: View of the southeast adjoining property (munitions storage area) to the Alternative 1 location, facing south.



Photograph 8: View of the south portion of the Alternative 1 location and adjoining property (background), facing southwest.



Photograph 9: View of the present obstacle course on the south portion of the Alternative 1 location, facing southeast. Note the adjoining property in the background.



Photograph 10: View of the central and west portion of the Alternative 1 location and adjoining property (background), facing west.



Photograph 1: View of the central and west portion of the Alternative 2 location and adjoining property (heating plant in the background), facing west.



Photograph 2: View of the central and northwest portion of the Alternative 2 location and adjoining property (background), facing northwest.



Photograph 3: View of the north portion of the Alternative 2 location and adjoining property (background), facing north.



Photograph 4: View of the east portion of the Alternative 2 location and adjoining property (background), facing east.



Photograph 5: View of the southeast/south portion of the Alternative 2 location and adjoining property (background), facing southeast.



Photograph 6: View of the southwest portion of the Alternative 2 location and adjoining property (ball field and heating plant in the background), facing southwest.

APPENDIX E

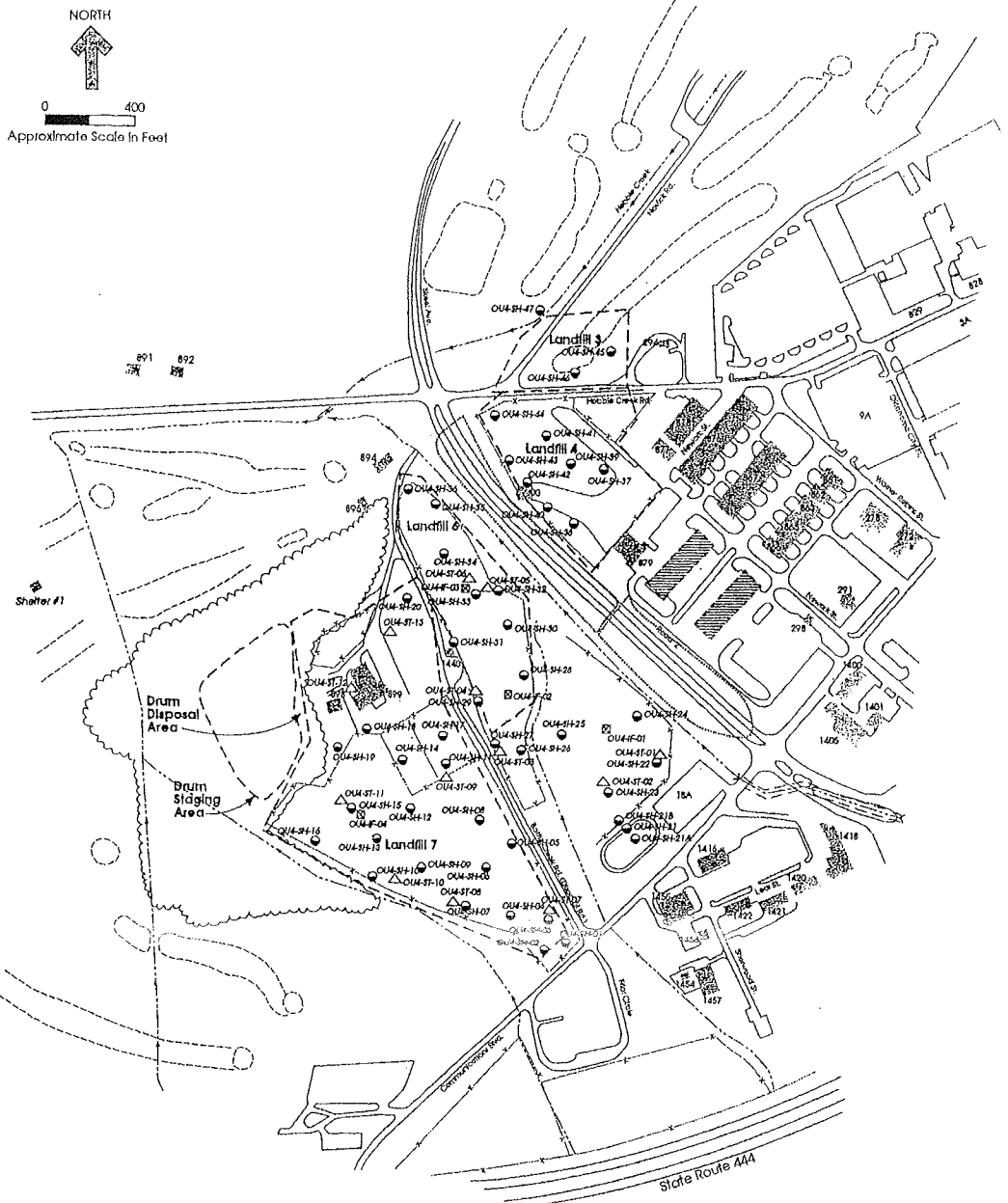
LIST OF FEDERAL- AND STATE-LISTED THREATENED AND ENDANGERED SPECIES AT WRIGHT PATTERSON AIR FORCE BASE

LIST OF FEDERAL- AND STATE-LISTED THREATENED AND ENDANGERED
SPECIES AT WRIGHT PATTERSON AIR FORCE BASE

Common Name	Scientific Name	Federal Status	State of Ohio Status	Global Ranking ⁷
MAMMALS				
Indiana bat	Myotis sodalist	E ¹	E	G2
BIRDS				
King rail	Rallus elegans	-	E	G4G5
Common tern	Sterna hirundo	-	E	G5
Bald eagle	Haliaeetus leucocephalus	T ²	E	G4
Osprey	Pandion haliaetus	-	E	G5
Sharp-skinned hawk	Accipiter striatus	-	SI ³	G5
Peregrine falcon	Falco peregrinus anatum	-	E	G4
Upland sandpiper	Bartramia longicauda	-	T	G5
Sedge wren	Cistothorus platensis	-	Sc	G5
Henslow's sparrow	Ammodramus henslowii	-	SI	
REPTILES				
Eastern massasauga rattlesnake	Sistrurus c. catenatus	C ⁴	E	G3G4
MUSSELS				
Clubshell (subfossil)	Pleurobema clava	E	E	G2
ARTHROPODS				
Blazing star stem borer (Beer's noctuid; moth)	Papaipema beeriana	-	E	G3
Moth	Tarachidia binocular	-	SI	N/A
PLANTS				
Fringe-Tree*	Chionanthus virginicus	-	T	G5
Tall larkspur*	Delphinium exaltatum	-	PT	G3
Silverbell*	Halesia Carolina	-	EXTRP ⁶	G5
Butternut	Juglans cinerea	-	PT	G3G4
Tamarack*	Larix laricina	-	PT	G5
Whorled water-milfoil	Myriophyllum verticillatum	-	E	G5
Royal catchfly*	Silene regia	-	PT	G3
Great Plains ladies'-tresses	Spiranthes magnicamporum	-	PT	G4
Northern white cedar*	Thuja occidentalis	-	PT	G5
Pigeon grape	Vitis cinerea	-	PT	G4G5
Source: WPAFB INRMP, February 2007 (Final)				
* = Planted, ¹ E = endangered, ² T=threatened, ³ SI=special interest, ⁴ C=candidate, ⁵ PT=potentially threatened, ⁶ EXTRP = extirpated, ⁷ Global Rankings (NatureServe natural heritage program) G2=imperiled, G3=vulnerable to extirpation or extinction, G4=apparently secure, G5=demonstrably widespread, abundant, secure				

APPENDIX F

PORTIONS OF *REMEDIAL INVESTIGATION REPORT, VOLUME 1 OF 4, OPERABLE UNIT 4, LANDFILLS 3, 4, 6, AND 7, AND DRUM STAGING/DISPOSAL AREA, CH2M HILL OHIO, APRIL 1995*



LEGEND

- Trees
- Road
- Creek and Direction of Flow
- Building and Number
- Former Building
- Fence
- Culvert
- Golf Course Features
- Approximate Landfill/Drum Staging/Disposal Area Boundary
- Approximate Limits of Landfill 4 Removal

- OUA-SH-XX ● Shallow Test Holes
- OUA-ST-XX ▲ Shelby Tubes
- OUA-IF-XX ⊗ Infiltrimeters

Note: All locations are approximate.

FIGURE 2-9
Landfill Cover Inspection
Sample Locations
 OU-4 RI Report
 Wright-Patterson Air Force Base, Ohio





PROJECT NUMBER GLO70157.F1.LC	TEST PIT NUMBER OU4-SH-21	SHEET 1 OF 1
SHALLOW TEST HOLES		

PROJECT WPAFB-OU-4 RI/FS LOCATION LANDFILL 6 LOGGER L.S. BRYSON
 ELEVATION 816.07 CONTRACTOR ETI, Madison, WI
 EXCAVATION EQUIPMENT JD310-A Backhoe DATE EXCAVATED 4/30/93
 WATER LEVEL AND DATE Not Encountered APPROX. DIMENSIONS: Length 5.0 ft Width 1.8 ft Max Depth 2.6 ft

DEPTH BELOW SURFACE (FT)	SAMPLE		SOIL DESCRIPTION	COMMENTS
	INTERVAL	NUMBER AND TYPE	SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	DIFFICULTY IN EXCAVATION, RUNNING GRAVEL CONDITION, COLLAPSE OF WALLS, SAND HEAVE DEBRIS ENCOUNTERED, WATER SEEPAGE GRADATIONAL CONTACTS, TESTS, INSTRUMENTATION
1	0.2		TOPSOIL, consisting of SILT (ML), black, dry, loose, with gravel. COVER, consisting of CLAYEY SAND (SC), yellow-brown, dry to moist, medium, with gravel.	Start Excavation @ 15:45 Background Readings OVM = 58.0 ppm LEL = 0.0 % Fuel/gasoline odor noted in the fill, OVM = 122 ppm. High OVM readings confined to an isolated area about 1.5 feet below ground surface. Probable isolated gasoline spill (very small volume).
	1.1		FILL, consisting of SANDY CLAY (CL), brown to gray, moist, stiff, with rocks.	
	1.8		FILL, consisting of POORLY GRADED SAND (SP), tan, dry to moist, loose to medium.	
2	2.6		END EXCAVATION @ 2.6 FEET	End Excavation @ 16:50
3			Notes: 1. Unless otherwise noted no health and safety readings above background concentrations were recorded above the collected soil samples from the borehole, around the backhoe, or in the breathing zone.	
4				
5				



PROJECT NUMBER GL070157.F1.LC	TEST PIT NUMBER QU4-SH-21A	SHEET 1 OF 1
SHALLOW TEST HOLES		

PROJECT WPAFB-OU-4 RI/FS LOCATION LANDFILL 6 LOGGER L.S. BRYSON
 ELEVATION 816.12 CONTRACTOR ETI, Madison, WI
 EXCAVATION EQUIPMENT JD310-A Backhoe DATE EXCAVATED 4/30/93
 WATER LEVEL AND DATE Not Encountered APPROX. DIMENSIONS: Length 6.0 ft Width 1.8 ft Max Depth 3.0 ft

DEPTH BELOW SURFACE (FT)	SAMPLE		SOIL DESCRIPTION	COMMENTS
	INTERVAL	NUMBER AND TYPE	SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	DIFFICULTY IN EXCAVATION, RUNNING GRAVEL CONDITION, COLLAPSE OF WALLS, SAND HEAVE DEBRIS ENCOUNTERED, WATER SEEPAGE GRADATIONAL CONTACTS, TESTS, INSTRUMENTATION
1	0.2		TOPSOIL, consisting of SILT (ML), black, dry, loose, with gravel.	Start Excavation @ 17:10 Background Readings HNu = 0.00 ppm LEL = 0.0 % O ₂ = 21 %
	0.7		COVER, consisting of CLAYEY SAND (SC), yellow-brown, dry to moist, medium, with gravel.	
	1.4		FILL, consisting of SANDY CLAY (CL), brown to gray, moist, stiff, with rocks.	
2			FILL, consisting of POORLY GRADED SAND (SP), tan, dry to moist, loose to medium.	
3	3.0		END EXCAVATION @ 3.0 FEET	End Excavation @ 17:30
4			Notes: 1. SH-21A excavated to confirm that fuel/gasoline odor encountered in SH-21 was an isolated spill. 2. Unless otherwise noted no health and safety readings above background concentrations were recorded above the collected soil samples from the borehole, around the backhoe, or in the breathing zone.	
5				



PROJECT NUMBER GLO70157.FI.LC	TEST PIT NUMBER 0U4-SH-21B	SHEET 1 OF 1
SHALLOW TEST HOLES		

PROJECT WPAFB-OU-4 R1/FS LOCATION LANDFILL 6 LOGGER L.S. BRYSON
 ELEVATION 816.03 MSL CONTRACTOR ETI, Madison, WI
 EXCAVATION EQUIPMENT JD310-A Backhoe DATE EXCAVATED 5/01/93
 WATER LEVEL AND DATE Not Encountered APPROX. DIMENSIONS: Length 7.0 ft Width 1.8 ft Max Depth 2.1 ft

DEPTH BELOW SURFACE (FT)	SAMPLE		SOIL DESCRIPTION	COMMENTS
	INTERVAL	NUMBER AND TYPE	SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	DIFFICULTY IN EXCAVATION, RUNNING GRAVEL CONDITION, COLLAPSE OF WALLS, SAND HEAVE DEBRIS ENCOUNTERED, WATER SEEPAGE GRADATIONAL CONTACTS, TESTS, INSTRUMENTATION
0.5			TOPSOIL, consisting of SANDY SILT (ML), dark brown, dry to moist, loose with roots.	Start Excavation @ 07:45 Background Readings OVM = 0.00 ppm LEL = 0.0 % O ₂ = 21 %
1			FILL, consisting of WELL GRADED SAND with SILT and GRAVEL (SW-SM), gray brown, dry, loose to medium, with clay, wood fragments and cobbles.	
2	2.1		END EXCAVATION @ 2.1 FEET	End Excavation @ 08:30
3			Notes: 1. SH-21B excavated to confirm that fuel/gasoline odor encountered in SH-21 was an isolated spill. 2. Light smell of petroleum fuel at beginning of excavation. No OVM/LEL readings above background. 3. Unless otherwise noted no health and safety readings above background concentrations were recorded above the collected soil samples from the borehole, around the backhoe, or in the breathing zone.	
4				
5				



PROJECT NUMBER GL070157.F.L.L.C	TEST PIT NUMBER OU4-SH-22	SHEET 1 OF 1
SHALLOW TEST HOLES		

PROJECT WPAFB-OU-4 RI/FS LOCATION LANDFILL 6 LOGGER L.S. BRYSON
 ELEVATION 816.09 MSL CONTRACTOR ETI, Madison, WI
 EXCAVATION EQUIPMENT JD310-A Backhoe DATE EXCAVATED 5/01/93
 WATER LEVEL AND DATE Not Encountered APPROX. DIMENSIONS: Length 8.0 ft Width 1.8 ft Max Depth 2.9 ft

DEPTH BELOW SURFACE (FT)	SAMPLE		SOIL DESCRIPTION	COMMENTS
	INTERVAL	NUMBER AND TYPE	SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	DIFFICULTY IN EXCAVATION, RUNNING GRAVEL CONDITION, COLLAPSE OF WALLS, SAND HEAVE DEBRIS ENCOUNTERED, WATER SEEPAGE GRADATIONAL CONTACTS, TESTS, INSTRUMENTATION
1	0.4	I-B	TOPSOIL, consisting of SILT (ML), dark brown, dry to moist, loose with roots.	Start Excavation @ 08:40 Background Readings OVM = 0.00 ppm LEL = 0.0 % O ₂ = 21 %
			COVER, consisting of SANDY CLAY to SILTY SAND (CL-SM), orange- gray to orange, dry, firm to loose, with rocks and cobbles.	
	1.7		POSSIBLE NATIVE SOIL, consisting of SILT (ML), black, moist, stiff, with trace gravel.	
2				
3	2.9		END EXCAVATION @ 2.9 FEET	End Excavation @ 09:00
4			Notes: 1. Unless otherwise noted no health and safety readings above background concentrations were recorded above the collected soil samples from the borehole, around the backhoe, or in the breathing zone.	
5				



PROJECT NUMBER GLO70157,FLLC	TEST PIT NUMBER OU4-SH-23	SHEET 1 OF 1
SHALLOW TEST HOLES		

PROJECT WPAFB-OU-4 R1/FS LOCATION LANDFILL 6 LOGGER L.S. BRYSON
 ELEVATION 819.37 MSL CONTRACTOR ETI, Madison, WI
 EXCAVATION EQUIPMENT JD310-A Backhoe DATE EXCAVATED 5/01/93
 WATER LEVEL AND DATE Not Encountered APPROX. DIMENSIONS: Length 6.0 ft Width 1.8 ft Max Depth 2.7 ft

DEPTH BELOW SURFACE (FT)	SAMPLE		SOIL DESCRIPTION	COMMENTS
	INTERVAL	NUMBER AND TYPE	SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	DIFFICULTY IN EXCAVATION, RUNNING GRAVEL CONDITION, COLLAPSE OF WALLS, SAND HEAVE DEBRIS ENCOUNTERED, WATER SEEPAGE GRADATIONAL CONTACTS, TESTS, INSTRUMENTATION
1			<u>COVER</u> , consisting of SANDY SILT to SANDY CLAY (ML-CL), yellow-brown, dry, firm, with gravel, rock, cobbles. No grass on surface.	Start Excavation @ 10:00 Background Readings OVM = 0.00 ppm LEL = 0.0 % O ₂ = 21 %
2				
3			END EXCAVATION @ 2.7 FEET	End Excavation @ 10:20
4			Notes: 1. Sample collected but not submitted for laboratory analyses. 2. Unless otherwise noted no health and safety readings above background concentrations were recorded above the collected soil samples from the borehole, around the backhoe, or in the breathing zone.	
5				



PROJECT NUMBER GL070157.FILC	TEST PIT NUMBER QU4-SH-24	SHEET 1 OF 1
SHALLOW TEST HOLES		

PROJECT WPAFB-OU-4 RI/FS LOCATION LANDFILL 6 LOGGER L.S. BRYSON
 ELEVATION 813.71 MSL CONTRACTOR ETI, Madison, WI
 EXCAVATION EQUIPMENT JD310-A Backhoe DATE EXCAVATED 5/01/93
 WATER LEVEL AND DATE Not Encountered APPROX. DIMENSIONS: Length 6.0 ft Width 1.8 ft Max Depth 2.6 ft

DEPTH BELOW SURFACE (FT)	SAMPLE		SOIL DESCRIPTION	COMMENTS
	INTERVAL	NUMBER AND TYPE		
0.2			<p><u>TOPSOIL</u>, consisting of SILT (ML), dark brown, dry to moist, loose with roots.</p> <p><u>COVER</u>, consisting of SANDY SILT to SANDY LEAN CLAY (ML-CL), brown, dry to moist, firm, with gravel to cobbles.</p>	<p>Start Excavation @ 09:05</p> <p>Background Readings</p> <p>OVM = 0.00 ppm</p> <p>LEL = 0.0 %</p> <p>O₂ = 21 %</p>
1.5			<p><u>POSSIBLE NATIVE SOIL</u>, consisting of SILT (ML), black, moist, stiff, with trace gravel.</p>	
2.6			<p>END EXCAVATION @ 2.6 FEET</p> <p>Notes:</p> <p>1. Unless otherwise noted no health and safety readings above background concentrations were recorded above the collected soil samples from the borehole, around the backhoe, or in the breathing zone.</p>	<p>End Excavation @ 09:25</p>



PROJECT NUMBER GL070157.F11C	TEST PIT NUMBER OU4-SH-25	SHEET 1 OF 1.
SHALLOW TEST HOLES		

PROJECT WPAFB-OU-4 RI/FS LOCATION LANDFILL 6 LOGGER L.S. BRYSON
 ELEVATION 818.13 MSL CONTRACTOR ETI, Madison, WI
 EXCAVATION EQUIPMENT JD310-A Backhoe DATE EXCAVATED 5/01/93
 WATER LEVEL AND DATE Not Encountered APPROX. DIMENSIONS: Length 6.0 ft Width 1.8 ft Max Depth 3.0 ft

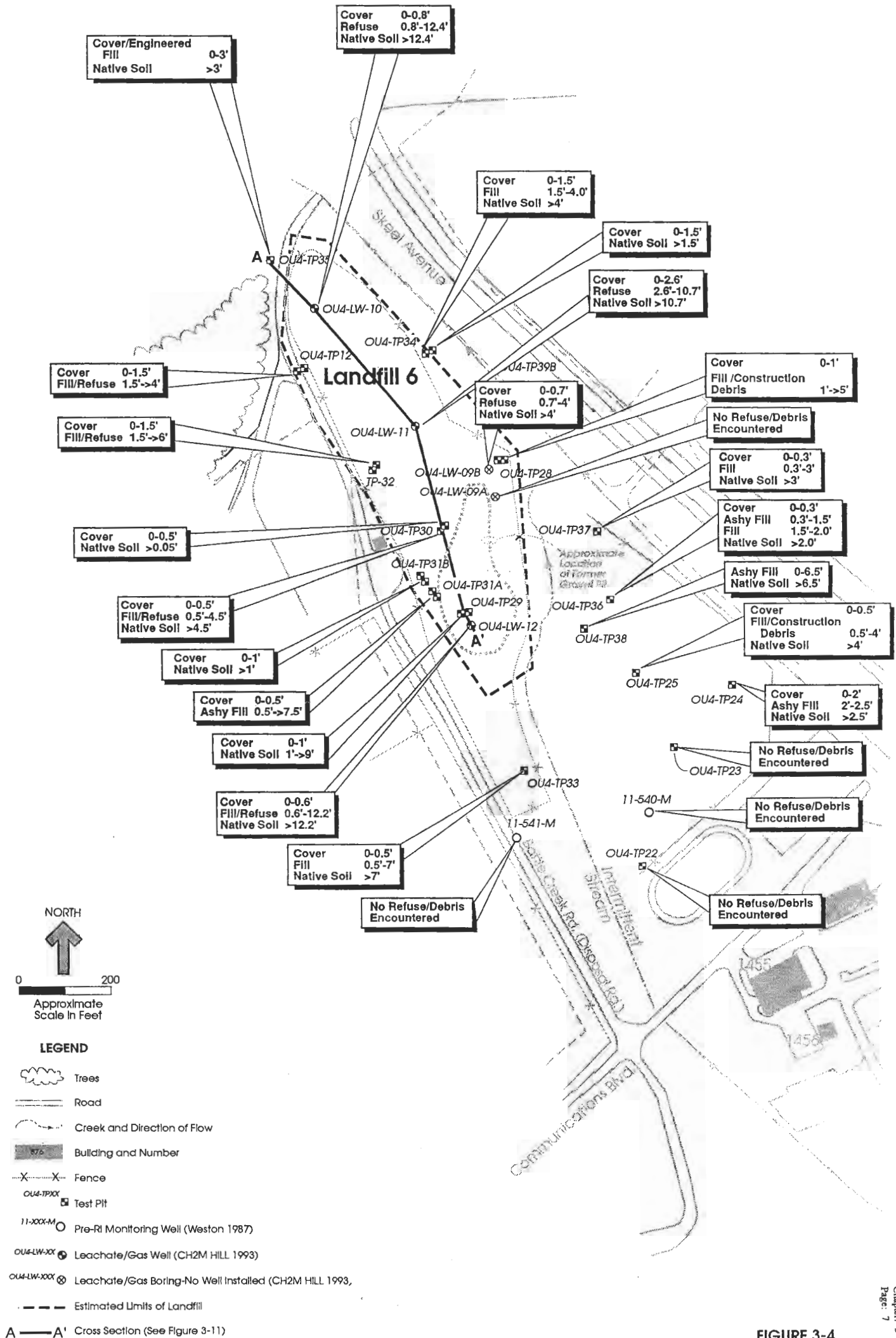
DEPTH BELOW SURFACE (FT)	SAMPLE		SOIL DESCRIPTION	COMMENTS
	INTERVAL	NUMBER AND TYPE	SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	DIFFICULTY IN EXCAVATION, RUNNING GRAVEL CONDITION, COLLAPSE OF WALLS, SAND HEAVE DEBRIS ENCOUNTERED, WATER SEEPAGE GRADATIONAL CONTACTS, TESTS, INSTRUMENTATION
1			<u>POSSIBLE NATIVE</u> , consisting of SILTY SAND (SM), yellow-brown, dry to moist, medium, trace clay, some rock, 1 inch of grass on surface.	Start Excavation @ 09:30 Background Readings OVM = 0.00 ppm LEL = 0.0 % O ₂ = 21 %
2				
3			END EXCAVATION @ 3.0 FEET	End Excavation @ 09:50
4			Notes: 1. Sample collected but not submitted for laboratory analyses. 2. Unless otherwise noted no health and safety readings above background concentrations were recorded above the collected soil samples from the borehole, around the backhoe, or in the breathing zone.	
5				



PROJECT NUMBER GLO70157.F1.LC	TEST PIT NUMBER OU4-SH-26	SHEET 1 OF 1
SHALLOW TEST HOLES		

PROJECT WPAFB-OU-4 RI/FS LOCATION LANDFILL 6 LOGGER L.S. BRYSON
 ELEVATION 816.54 MSL CONTRACTOR ETI, Madison, WI
 EXCAVATION EQUIPMENT JD310-A Backhoe DATE EXCAVATED 5/01/93
 WATER LEVEL AND DATE Not Encountered APPROX. DIMENSIONS: Length 6.0 ft Width 1.8 ft Max Depth 2.7 ft

DEPTH BELOW SURFACE (FT)	SAMPLE		SOIL DESCRIPTION SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS DIFFICULTY IN EXCAVATION, RUNNING GRAVEL CONDITION, COLLAPSE OF WALLS, SAND HEAVE DEBRIS ENCOUNTERED, WATER SEEPAGE GRADATIONAL CONTACTS, TESTS, INSTRUMENTATION
	INTERVAL	NUMBER AND TYPE		
1	0.4		<u>TOPSOIL</u> , consisting of SILTY SAND (SM), brown, dry to moist, loose with roots, trace gravel.	Start Excavation @ 11:05 Background Readings OVM = 0.00 ppm LEL = 0.0 % O ₂ = 21 %
	1.0		<u>COVER</u> , consisting of WELL GRADED SAND (SW), brown, moist, loose with gravel, rock, cobbles, some roots, trace silt.	
			<u>FILL</u> , consisting of SANDY SILT (ML), black, moist, loose, some gravel.	
2	2.0		<u>POSSIBLE NATIVE</u> , consisting of SILTY SAND (SM), brown, moist, loose, some gravel.	
	2.7		END EXCAVATION @ 2.7 FEET	
3			Notes: 1. The fill appears to be an ash. 2. Unless otherwise noted no health and safety readings above background concentrations were recorded above the collected soil samples from the borehole, around the backhoe, or in the breathing zone.	End Excavation @ 11:25
4				
5				



Note: All locations are approximate.

FIGURE 3-4
Landfill 6
Physical Characteristics
 OU-4 RI Report
 Wright-Patterson Air Force Base, Ohio





PROJECT NUMBER GLO70157.FI.T3	TEST PIT NUMBER OU4-TP22
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TEST PIT WALL LOG

SHEET 1 OF 1

DEPTH BELOW SURFACE (FT)	SAMPLE		PROJECT Wright Patterson AFB	LOCATION Landfill No. 6, In Area N of Cinder Track	MAP OF SE WALL OF PIT	
	INTERVAL	NUMBER AND TYPE	ELEVATION _____	CONTRACTOR ETI, Madison, WI	DATE EXCAVATED 4-15-93	
			WATER LEVEL AND DATE None Observed 4-15-93		EXCAVATION METHOD JD310A Backhoe	
			LOGGER A. Estabrook			
	APPROXIMATE DIMENSIONS:		LENGTH 9 1/2 ft.	WIDTH 1 1/2 ft.	DEPTH 8 ft.	
			REMARKS			
0						<p align="center">COMMENTS</p> <ul style="list-style-type: none"> Background Readings: LEL = 0% O₂ not functioning OVN = 0 ppm Ludlum Geiger Counter = 0.3 mR/hr
5						<p>Started Excavation @ 0845</p> <p>At 1 1/2' all instruments = background</p> <p>At 8' all instruments = background</p> <p>Finished Excavation @ 0900</p>
10			<p>TOPSOIL consists of <u>SILTY SAND (SM)</u>, dark yellowish brown, dry, loose with leaves, roots, occasional gravel</p> <p>NATIVE SOIL consists of <u>SILTY GRAVEL (GM)</u>, moderate yellowish brown, dry, loose (top 1') grading to <u>POORLY GRADED SAND (SP)</u>, moderate yellowish brown, moist, medium dense, very fine, occasional coarse sand to small gravel to 1/4" maximum size observed (approximate 7') grading to <u>WELL GRADED SAND (SW)</u>, moderate yellowish brown to brownish gray, moist, medium dense (bottom 6")</p>			
			LENGTH (f)			

GLO70157.FI.T3 OU4-TP22 4-8-93CS



PROJECT NUMBER GLO70157.FI.T3	TEST PIT NUMBER OU4-TP23
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TEST PIT WALL LOG

SHEET 1 OF 1

DEPTH BELOW SURFACE (FT)	SAMPLE		PROJECT	LOCATION	MAP OF	WALL OF PIT	
	INTERVAL	NUMBER AND TYPE					
			Wright Patterson AFB	Landfill No. 6, Field N of Cinder Track	SW		
			ELEVATION	CONTRACTOR ETI, Madison, WI	DATE EXCAVATED	4-15-93	
			WATER LEVEL AND DATE	None Observed 4-15-93	EXCAVATION METHOD	JD310A Backhoe	
			LOGGER	A. Estabrook			
			APPROXIMATE DIMENSIONS:	LENGTH 11 ft.	WIDTH 1 1/2 ft.	DEPTH 6 1/2 ft.	
			REMARKS				
0							<p>COMMENTS</p> <p>Background Readings: LEL = 0% O₂ = 21.0% OVM = 0.0 ppm Ludlum Geiger Counter = 0.2 mR/hr</p> <p>Started Excavation @ 0940</p> <p>At 2' all instruments = background</p> <p>All soil appears to be Native. Black soil encountered does not appear to be refuse as encountered at Landfill No. 7</p> <p>All instruments = background throughout entire excavation</p> <p>Finished Excavation @ 1015</p>
5							
10							
			<p>TOPSOIL consists of <u>SILTY SAND (SM)</u>, moderate yellowish brown, dry, loose, with leaves & roots, occasional gravel (top 4") grading to <u>WELL GRADED SAND WITH SILT AND GRAVEL (SW-SM)</u>, moderate yellowish brown, moist, loose, gravel to 1 1/2" maximum size observed (approx. 1') grading to <u>SILTY SAND (SM)</u> moderate yellowish brown, moist, medium dense (approx. 2')</p> <p>ORGANIC SOIL consists of <u>SILTY SAND (SM)</u>, dark yellowish brown to black, moist, medium dense with organics, fine roots (approx. 6")</p> <p>FINE SAND consists of <u>POORLY GRADED SAND (SP)</u>, light gray, mottled with light brown, moist, medium dense, very fine. Mottling may be due to groundwater percolation</p>				
			LENGTH (FT)				

GLO70157.FI.T3 OU4-TP23 4-8-93CS



PROJECT NUMBER GLO70157.FI.T3	TEST PIT NUMBER OU4-TP24
TEST PIT WALL LOG	
SHEET 1 OF 1	

DEPTH BELOW SURFACE (FT)	SAMPLE		PROJECT	LOCATION	MAP OF	WALL OF PIT	
	INTERVAL	NUMBER AND TYPE	ELEVATION	CONTRACTOR	DATE EXCAVATED		
			Wright Patterson AFB	Landfill No. 6, Field N of Cinder Track	N		
				ETI, Madison, WI	4-15-93		
			WATER LEVEL AND DATE None Observed 4-15-93	EXCAVATION METHOD JD310A Backhoe	LOGGER	A. Estabrook	
			APPROXIMATE DIMENSIONS: LENGTH 10 ft. WIDTH 1 1/2 ft. DEPTH 7 ft.			REMARKS	
0						COMMENTS	
						Background Readings: LEL = 0% O ₂ = 21.0% OVM = 0.0 ppm Ludlum Geiger Counter = 0.2 mR/hr	
						Started Excavation @ 1040	
						All instruments = background throughout entire excavation	
5						Layer of ashy fill appears to tail out at W end of trench	
						Collected jar sample of ashy FILL for CSL analysis at 2 1/2' approximately.	
10						Finished Excavation @ 1120	
			TOPSOIL consists of <u>SILTY SAND (SM)</u> , dark yellowish brown, dry, loose, with roots, leaves, organics COVER consists of <u>WELL GRADED GRAVEL WITH SILT AND SAND (GW-GM)</u> , moderate yellowish brown to black, dry, loose to medium dense FILL consists of <u>SILTY SAND (SM)</u> , grayish black, dry, loose, ashy, occasional fragments of burnt material, nails NATIVE SOIL consists of <u>SILT WITH SAND (ML)</u> , dark brownish black, dry, hard, with traces of roots, organic SILT layer is underlain by <u>LEAN CLAY (CL)</u> , gray, dry, firm mottled with lenses of <u>POORLY GRADED SAND (SP)</u> , very fine, dark yellowish orange to light brown, dry				
			LENGTH (F)				

GLO70157.FI.T3 OU4-TP24 4-8-93CS

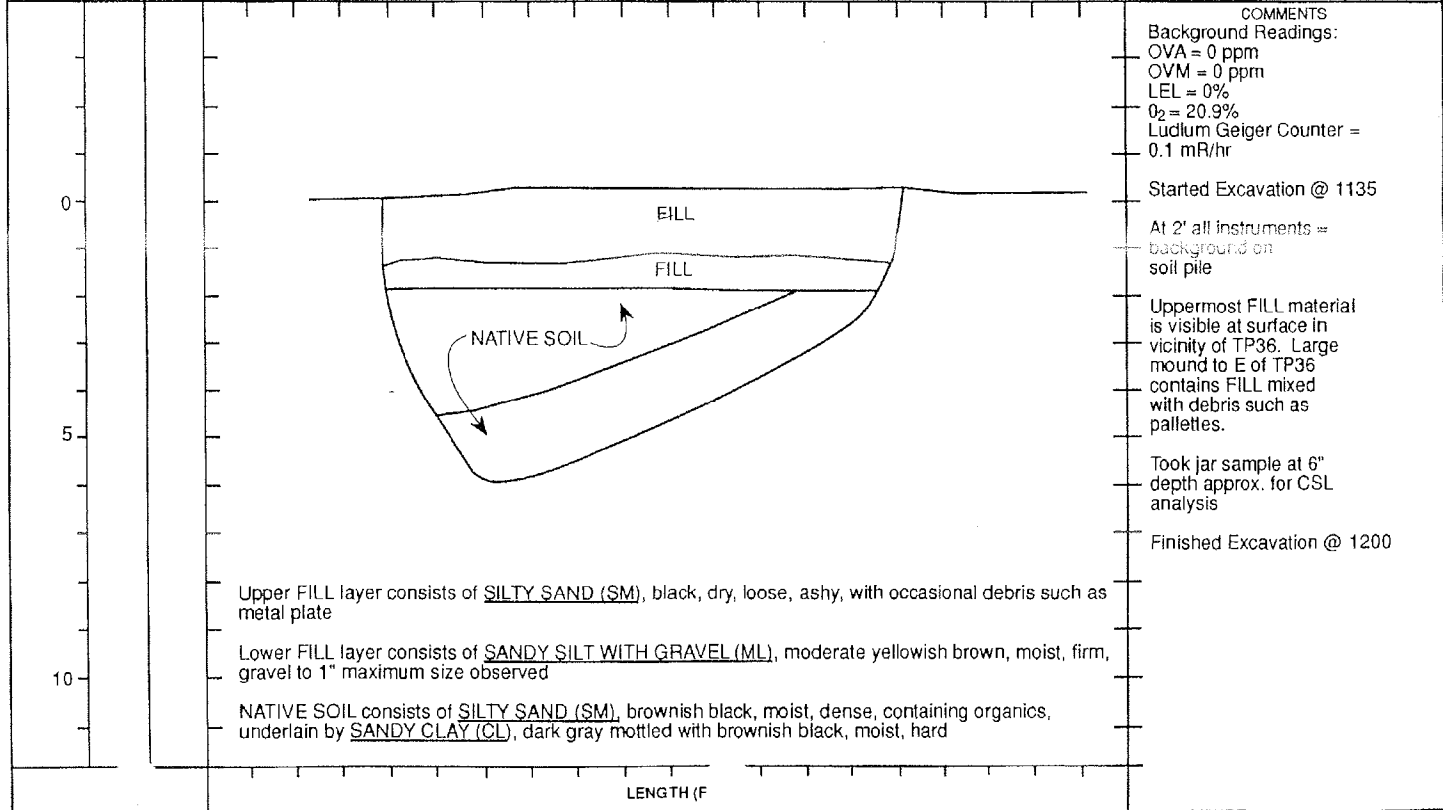


PROJECT NUMBER GLO70157.FI.T3	TEST PIT NUMBER OU4-TP36
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TEST PIT WALL LOG

SHEET 1 OF 1

DEPTH BELOW SURFACE (FT)	SAMPLE		PROJECT Wright Patterson AFB	LOCATION Landfill No. 6, In Clearing N of Trees N of Cinder Track	MAP OF W WALL OF PIT
	INTERVAL	NUMBER AND TYPE	ELEVATION _____	CONTRACTOR ETI, Madison, WI	DATE EXCAVATED 4-17-93
			WATER LEVEL AND DATE None Observed 4-17-93	EXCAVATION METHOD JD310A Backhoe	LOGGER A. Estabrook
			APPROXIMATE DIMENSIONS: LENGTH 11 ft. WIDTH 1 1/2 ft. DEPTH 4 ft. to 6 ft. REMARKS		



COMMENTS
 Background Readings:
 OVA = 0 ppm
 OVM = 0 ppm
 LEL = 0%
 O₂ = 20.9%
 Ludlum Geiger Counter = 0.1 mR/hr

Started Excavation @ 1135

At 2' all instruments = background on soil pile

Uppermost FILL material is visible at surface in vicinity of TP36. Large mound to E of TP36 contains FILL mixed with debris such as pallettes.

Took jar sample at 6" depth approx. for CSL analysis

Finished Excavation @ 1200

Upper FILL layer consists of SILTY SAND (SM), black, dry, loose, ashy, with occasional debris such as metal plate

Lower FILL layer consists of SANDY SILT WITH GRAVEL (ML), moderate yellowish brown, moist, firm, gravel to 1" maximum size observed

NATIVE SOIL consists of SILTY SAND (SM), brownish black, moist, dense, containing organics, underlain by SANDY CLAY (CL), dark gray mottled with brownish black, moist, hard

GLO70157.FI.T3 OU4-TP36 4-B-95CS



PROJECT NUMBER GLO70157.FI.T3	TEST PIT NUMBER OU4-TP37
TEST PIT WALL LOG	
SHEET 1 OF 1	

DEPTH BELOW SURFACE (FT)	SAMPLE		PROJECT	LOCATION	MAP OF	WALL OF PIT
	INTERVAL	NUMBER AND TYPE	ELEVATION	CONTRACTOR	DATE EXCAVATED	
			Wright Patterson AFB	Landfill No. 6, Near Old Fence in Clearing N of Trailers	N	
				ETI, Madison, WI	4-17-93	
			WATER LEVEL AND DATE	EXCAVATION METHOD	LOGGER	
			None Observed 4-17-93	JD310A Backhoe	A. Estabrook	
			APPROXIMATE DIMENSIONS: LENGTH 10 ft. WIDTH 1 1/2 ft. DEPTH 4 1/2 ft.			REMARKS
0						COMMENTS Background Readings: OVA = 0 ppm OVM = not functioning LEL = 0% O ₂ = 20.9% Ludlum Geiger Counter = 0.1 mR/hr Started Excavation @ 1315 At 2' all instruments = background in trench and above soil pile FILL appears clean, no sign of debris or ashy fill seen in TP37 Finished Excavation @ 1335
5						
10						
			FILL/COVER consists of <u>WELL GRADED SAND WITH SILT & GRAVEL (SW-SM)</u> , moderate yellowish brown to brownish black, moist, medium dense, gravel to 4" maximum size observed NATIVE SOIL consists of <u>SANDY LEAN CLAY (CL)</u> , dark gray, mottled with brownish black, moist, hard, occasional gravel to 1/2" maximum size observed, occasional roots			
			LENGTH (FT)			

GLO70157.FI.T3 OU4-TP37 4-8-96CS



PROJECT NUMBER GLO70157.FI.T3	TEST PIT NUMBER OU4-TP38
TEST PIT WALL LOG	
SHEET 1 OF 1	

DEPTH BELOW SURFACE (FT)	SAMPLE		PROJECT	LOCATION	MAP OF	WALL OF PIT	
	INTERVAL	NUMBER AND TYPE	ELEVATION	CONTRACTOR	DATE EXCAVATED		
			Wright Patterson AFB	Landfill No. 6, N of Trailers in Trees	E		
				ETI, Madison, WI	4-17-93		
			None Observed 4-17-93	Excavation Method JD310A Backhoe	Logger A. Estabrook		
			APPROXIMATE DIMENSIONS: LENGTH 11 ft. WIDTH 1 1/2 ft. DEPTH 8 1/2 ft.			REMARKS	
0			<p>FILL</p> <p>NATIVE SOIL</p> <p>FILL consists of <u>SILTY SAND (SM)</u>, grayish black, moist, loose, ashy</p> <p>NATIVE SOIL consists of <u>WELL GRADED SAND AND GRAVEL (SW)</u>, moderate yellowish brown to brown gray, moist, loose, gravel to 3" maximum size observed. Native soil is mixed in with fill sporadically (apparently used as cover)</p>			<p>COMMENTS</p> <p>Background Readings:</p> <p>OVA = 0 ppm</p> <p>OVM = not functioning</p> <p>LEL = 0%</p> <p>O₂ = 20.9%</p> <p>Ludlum Geiger Counter = 0.1 mR/hr</p> <p>Started Excavation @ 1405</p> <p>At 2' all instruments = background in trench and over soil pile</p> <p>Finished Excavation @ 1435</p>	
5							
10							
			LENGTH (F)				

GLO70157.FI.T3 OU4-TP38 4-8-93CS