

Final

**ENVIRONMENTAL ASSESSMENT
FOR
RELOCATION OF THE MARINE CORPS RESERVE TRAINING CENTER,
MILITARY POLICE COMPANY C, 4TH FORCE SERVICE SUPPORT GROUP
FROM
ARMED FORCES RESERVE CENTER, DAYTON, OHIO
TO
WRIGHT-PATTERSON AIR FORCE BASE, OHIO**

February 23, 2006

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14. ABSTRACT This Environmental Assessment (EA) was developed to assess the potential environmental consequences associated with the construction of a new Marine Corps Reserve Training Center (MCRTC) and Vehicle Maintenance Facility (VMF). The MCRTC and VMF will be for the United States Marine Corps (USMC) Reserve Military Police Company C, 4th Force Service Support Group (FSSG) currently located at the (AFRC) in Dayton, Ohio. The proposed action is the relocation of the Marine MCRTC and VMF for Company C, Reserve Military Policy (MP) Company, 4th Force Service Support Group to Wright-Patterson Air Force Base (WPAFB) located in southwestern Ohio. MP Company C is a unit consisting of approximately 170 Marine reservists supported by 11 full-time, active-duty Marines. The city of Dayton owns the AFRC, which was constructed in 1947, and renews the lease with the USMC Reserves. This lease expires on 30 June 2008. The USMC Reserves has decided not to renew this lease in the future due to (1) cost, (2) lack of security, (3) condition of facilities, and (4) desire to be located at DoD facilities. The AFRC is located in a high-crime area and does not meet local codes for fire, emergency response, plumbing, and electrical systems, and lacks secure ingress and egress. Four alternatives were considered for construction of a MCRTC and VMF at WPAFB, including No Action. Alternative 1, the preferred alternative, is located near the State Route 844 Interchange (adjacent to the Veterinarian Clinic, Building 1435). Alternative 2 is located at the intersection of National Road and Kauffman Avenue (near Building 450), and Alternative 3 is near Wright Airfield (Runway 9/27), in the vicinity of the National Museum of the United States Air Force.		
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**DEPARTMENT OF DEFENSE
UNITED STATES MARINE CORPS
UNITED STATES AIR FORCE**

**FINDING OF NO SIGNIFICANT IMPACT
FOR RELOCATION AND CONSTRUCTION OF MARINE CORPS RESERVE
TRAINING CENTER AT
WRIGHT-PATTERSON AIR FORCE BASE, OHIO**

Pursuant to Council on Environmental Quality regulations (40 Code of Federal Regulations [CFR] §§ 1500 to 1508) implementing the National Environmental Policy Act (NEPA), 42 U.S.C. § 4331 *et seq.*, and in accordance with the Department of the Navy (Navy) regulations implementing the NEPA (32 CFR 775), the Marine Corps Order P5090.2A, *Environmental Compliance and Protection Manual*, and Air Force Instruction (AFI) 32-7061, *Environmental Impact Analysis Process*, which is referenced to 32 CFR 989, the Marine Corps gives notice that an Environmental Assessment (EA) has been conducted of the probable consequences of constructing a new Marine Corps Reserve Training Center (MCRTC) and Vehicle Maintenance Facility (VMF) for the United States Marine Corps (USMC) Reserve Military Police (MP) Company C, 4th Force Service Support Group (FSSG) at Wright-Patterson Air Force Base (AFB), Ohio (OH).

Description of Proposed Action and Alternatives

The proposed action is the relocation of the MCRTC and VMF for USMC Reserve MP Company C, 4th FSSG to Wright-Patterson AFB. The MP Company C is a unit consisting of approximately 170 Marine reservists supported by 11 full-time, active duty Marines. The MCRTC and VMF are currently located at the Armed Forces Reserve Center (AFRC) in Dayton OH. The City of Dayton owns the existing AFRC, which was constructed in 1947. The AFRC is located in a high-crime area and does not meet local codes for fire, emergency response, plumbing, electrical systems, and lacks secure ingress and egress (EA Section 1.4, page 1-6). The USMC Reserve has decided not to renew this lease in the future due to (1) cost, (2) lack of security, (3) condition of facilities, and (4) desire to be located at Department of Defense (DoD) facilities.

Four alternatives were considered for construction of a MCRTC and VMF at Wright-Patterson AFB, including no action. Alternative 1, the preferred alternative, is located at Patterson Field near State Routes 844 and 444 interchange adjacent to the Veterinarian Clinic, Building 1435 and would be accessed from Gate 444 (Figure 1-3, page 1-4). Alternative 2 is located in the northern portion of Area B at the intersection of National Road and Kauffman Avenue, north of Building 450 and would be accessed from Gate 19B via Fifth Street (Figure 1-3, page 1-4). Alternative 3 is located adjacent to Harshman Road immediately north of the Army Reserve Center near Wright Airfield in the vicinity of the National Museum of the United States Air Force (Figure 1-3, page 1-4). Alternative 3 would be accessed via a county maintenance road (Figure 1-3, page 1-4). All three alternative sites are approximately 10 acres in size and consist of undeveloped property at Wright-Patterson AFB. Under the no action alternative, the MP Company C would remain at the AFRC in Dayton OH and no new construction would occur (Figure 1-3, page 1-4).

Specific elements of the action alternatives include (EA Section 2, page 2-4):

- Construction of a new VMF, including built-in maintenance equipment with a lubrication system (approximately 2,605 square feet (sf))
- Construction of a reserve training building which includes administrative and classroom facilities, a drill hall with adequate capacity for indoor training of 170 reservists during inclement weather, an exercise facility, and a padded room for hand-to-hand combat training (approximately 36,680 sf)

- Construction of a parking lot with adequate capacity for parking of personal vehicles during drill weekends (approximately 35,500 sf) and a separate parking lot for DoD-owned vehicles including 10 high-mobility, multi-purpose wheeled vehicles, three seven-ton vehicles, and three small trailers (approximately 11,000 sf)
- Provision for anti-terrorism security in accordance with Unified Facilities Code for proposed facilities
- Construction of a warehouse for general storage (approximately 4,370 sf)

Alternatives Eliminated from Detailed Analysis (EA Section 2.5, page 2-5)

Relocation and construction of the MCRTC to a non-DoD facility would not have control perimeter fencing, manned guard gates, and 24-hour security in place as directed by anti-terrorism standards and would not provide long-term sustainability thus reducing the unit's ability to meet mission requirements. Camp Atterbury is operated by the ANG and is over 200 miles from Dayton, which exceeds the 50-mile travel distance limit for reserve training. Springfield ANG was dismissed from further consideration because it is more than 80 miles from Cincinnati, a main USMC reservist recruitment area, and it lacks desirable support facilities. Refurbishment of Building 79 at Wright-Patterson AFB from a laboratory configuration into an MCRTC would be cost-prohibitive and would likely exceed funding limits for facility renovation costs. Building 79 does not have sufficient space for the approximately 37,000 sf reserve training building including a 4,000 sf supply department or the 2,600 sf VMF. Construction on Area C south of Building 89 would not allow for sufficient base perimeter setback per the Uniform Facilities Code. Area C along Schuster Road would require demolition of existing facilities and would be cost-prohibitive. The location on Area C near the Fairborn Well Field lacks available utilities and exhibits land use constraints due to groundwater protection requirements. Building 17 within Area B lacks space for a vehicle wash rack, has limited parking, and rehabilitation of the building would exceed the proposed funding. For these reasons, these alternatives have been eliminated from further consideration and were not analyzed in detail.

Environmental Consequences

All three action alternatives would have minimal environmental consequences on the following resource categories: biological resources, topography, water resources, wetlands, utilities and infrastructure, transportation, and socioeconomic resources, including Environmental Justice considerations (EA Sections 4.1, 4.2, and 4.3).

Soils (EA Section 4.1.1, page 4-1)

For all action alternatives, clearing, grubbing, excavating, and grading during construction of the MCRTC and VMF would disturb approximately 10 acres of land and would require a notice of intent (NOI) for ground disturbance in accordance with Storm Water Phase II rules. Erosion control measures are required by local land use, Air Force regulations, and Federal requirements under the National Pollutant Discharge Elimination System Permit for Storm Water Associated with Construction Activities that affects more than one acre of land. There would be minor, localized, and short-term impacts to soils as a result of construction, as required as part of the NOI, erosion would be minimized through implementation of erosion control measures such as silt fences, mulching, hay bales, and sediment collection basins (EA Section 1.5, pages 1-6 and 1-7).

Land Use (EA Section 4.3.1, page 4-10)

There are no munitions operations or explosive clear zones impacting or impacted by the action alternatives. Additionally, all action alternatives are located outside designated accident potential zone. For all action alternatives, the architectural design of the proposed MCRTC will comply with current Wright-Patterson AFB standards, and design plans will be submitted for approval to the appropriate Wright-Patterson AFB personnel. Thus, the action alternatives represent compatible land use at Wright-Patterson AFB.

Floodplain (EA Section 4.1.3, page 4-4)

All the action alternative sites are located outside the 100-year floodplain elevation of 814.3 feet above mean sea level. The proposed MCRTC and VMF would meet floodplain management criteria consistent with existing Wright-Patterson AFB development. No adverse impacts are expected to occur to floodplains as a result of implementation of any of the Action Alternatives.

Air Quality (EA Section 4.1.2, pages 4-2 and 4-3)

There would be air emissions generated during construction and excavation associated with the implementation of the action alternatives at Wright-Patterson AFB. Minor amounts of particulate matter (PM, PM₁₀, and PM_{2.5}) would be generated during parking lot construction, utilities installation and relocation, land stabilization, construction of erosion control structures, earthmoving, and aggregate handling. In addition to dust and exhaust emissions from construction and demolition equipment, such as pile drivers, jackhammers, soil compactors, bulldozers, trucks, front-end loaders, geotechnical boring rigs, and track hoes, other heavy diesel-powered construction equipment could generate minor air emissions including CO, NO_x, SO₂, particulate matter (PM, PM₁₀, and PM_{2.5}) and VOCs from fossil fuel combustion. Construction air quality impacts would be temporary and localized. The implementation of the proposed action is not expected to impact conformity or delay compliance with the Clean Air Act Amendments. No transportation-related impacts to air quality caused by vehicle travel would occur because many of the 11 active duty Marines already live on base and would travel a shorter distance to report to work, thereby reducing daily vehicular air emissions. The 170 Marine reservists would travel the same or similar distances to attend scheduled weekend training, and no increase in emissions would be expected as result of implementing any action alternative.

Noise (EA Section 4.1.4, page 4-5)

Implementation of the action alternatives would result in construction of buildings; installation of utilities; excavation and earthmoving; and construction of roads, sidewalks, and erosion control 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(s). There may be temporary, sporadic noise level increases that would be perceptible to receptors at neighboring industrial facilities during the construction period. To minimize the potential impacts of construction noise to the surrounding area, construction may be limited to daylight hours when occasional loud noises are more tolerable. Extended disruption of normal U.S. Air Force activities is not considered likely because construction activities would be performed on a staggered schedule depending on available budgets. It is expected that there would be relatively minor, short-term noise exposure periods at any one receiver during the construction period.

Cultural Resources (EA Section 4.1.7, page 4-8)

No cultural resources impacts are expected from the proposed construction and operation of the MCRTC and VMF. No known National Register of Historic Places eligible sites occur at any of the action alternative sites. For the action alternatives, an inadvertent finds legal provision must be made a part of all undertakings and included with site development specifications. In the event that archaeological materials are encountered during ground-disturbance activities, work will cease in the immediate area until the base archeologist is notified and consultation with the State Historical Preservation Officer (SHPO) is conducted. Through coordination with the SHPO and implementation of protective covenants and mitigation measures, no adverse impacts to cultural resources would result from implementation of any of the action alternatives.

Installation Restoration Program (EA Section 4.1.6, page 4-8)

Wright-Patterson AFB has been placed on the National Priorities List, and site investigation and remedial action planning are ongoing with respect to specific geographic areas within defined Operable Units (OUs). Action Alternative 1 is located south of OU-4, Alternative 2 is located within OU-9, and Alternative 3 is located adjacent to the southeastern edge of OU-6. No installation restoration sites are known to exist at the proposed action alternatives. No long-term adverse impacts to or as a result of the presence of hazardous materials or waste are anticipated as a result of the implementation of proposed action alternatives.

Cumulative Impacts (EA Section 4.4, page 4-13)

The proposed relocation and construction of MCRTC Dayton at Wright-Patterson AFB would not affect population, demographics, housing, or transportation characteristics of the area, as USMC staff and reservists are already present in the region. A temporary increase in economic activity, air emissions, and noise levels is expected during the construction of the proposed facilities. Relocation and construction of the proposed facilities are not expected to require additional future facilities construction or induce further development in the community or at Wright-Patterson AFB. The proposed project would not create additional long-term demands on local resources. This action, when combined with other actions completed or proposed for Wright-Patterson AFB, would result in no cumulative impacts to soils, land use, cultural resources, or Installation Restoration Program sites. When viewed in a regional context, cumulative impacts would not be anticipated.

Public Notice

The document was made available for public review from 9 October – 8 November 2005. No public comments were received.

**DEPARTMENT OF DEFENSE
UNITED STATES MARINE CORPS
UNITED STATES AIR FORCE**

**FINDING OF NO SIGNIFICANT IMPACT FOR RELOCATION AND CONSTRUCTION
OF MARINE CORPS RESERVE TRAINING CENTER AT WRIGHT-PATTERSON AIR
FORCE BASE, OHIO**

FINDING OF NO SIGNIFICANT IMPACT (FONSI)

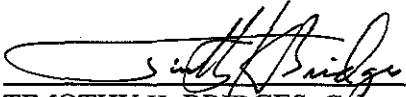
Based on my review of the facts and the environmental analysis contained in the attached EA and summarized above, I find the proposed decision of the Air Force allowing the United States Marine Corps Reserve Military Police Company C, 4th Force Service Support Group to construct a MCRTC and VMF at Wright-Patterson AFB, OH, will not have a significant impact on the human or natural environment; therefore, an environmental impact statement is not required. This analysis fulfills the requirements of the National Environmental Policy Act, the President's Council on Environmental Quality, and 32 CFR Part 989.



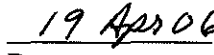
RUSSELL C. DUMAS
Colonel, MARFORRES



Date



TIMOTHY K. BRIDGES, Colonel, USAF
Command Civil Engineer
Directorate of Installation and Mission Support



Date

ENVIRONMENTAL ASSESSMENT

Responsible Agency:

United States Marine Corps Reserve
4400 Dauphine Street
New Orleans, Louisiana

Title:

Environmental Assessment for the Relocation of the Marine Corps Reserve Training Center, Military Police Company C, 4th Force Service Support Group from Armed Forces Reserve Center, Dayton, Ohio, to Wright-Patterson Air Force Base, Ohio

Additional Information:

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Abstract:

This Environmental Assessment (EA) was developed to assess the potential environmental consequences associated with the construction of a new Marine Corps Reserve Training Center (MCRTC) and Vehicle Maintenance Facility (VMF). The MCRTC and VMF will be for the United States Marine Corps (USMC) Reserve Military Police Company C, 4th Force Service Support Group (FSSG) currently located at the (AFRC) in Dayton, Ohio.

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ABBREVIATIONS AND ACRONYMS

AFRC	Armed Forces Reserve Center
AICUZ	Air Installation Compatible Use Zone
ANG	Army National Guard
APZ	Accident Potential Zone
AT	Anti-Terrorism
BMPs	Best Management Practices
BRAC	Base Realignment and Closure
Bu	Brookston-Urban land complex
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CDP	Census Designated Place
C.E.P.	Certified Environmental Professional
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cm	centimeter
CO	carbon monoxide
dB	decibel
dBA	A-weighted decibels
DNR	Department of Natural Resources
DoD	U.S. Department of Defense
DPL	Dayton Power & Light
DSTL	Determination of Suitability to Terminate Lease
EA	Environmental Assessment
EBS	Environmental Baseline Survey
EFDZ	Earth Fill Disposal Zone
e.g.	<i>exempli gratia</i> , for example
EMS	Emergency Medical Services
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESQD	Explosive Safety Quantity Distance
<i>et seq</i>	<i>et sequentia</i> , and the following ones
F	Fahrenheit
FEMA	Federal Emergency Management Agency
FSSG	Force Service Support Group
GCR	General Conformity Rule
gpd	gallons per day
gpm	gallons per minute
HAZMAT	Hazardous Material
HMMVs	High-Mobility Multi-Purpose Wheeled Vehicles
hp-hr	horsepower hour
IH	Interstate Highway
i.e.	<i>id est</i> , that is
Inc.	Incorporated
IRP	Installation Restoration Program
kV	Kilovolt
lb	pound
LOS	level of service

ABBREVIATIONS AND ACRONYMS

MAGTF	Marine Air Ground Task Force
MCL	Maximum Contaminant Level
MCRC	Marine Corps Reserve Center
MCRTC	Marine Corps Reserve Training Center
MG	million gallon
mgd	million gallons per day
mg/m ³	milligrams per cubic meter
µg/m ³	micrograms per cubic meter
MCO	Marine Corps Order
MP	Military Police
mph	miles per hour
MrB	Miamian-Urban land complex undulating
MrC	Miamian-Urban land complex
msl	mean sea level
NA	Not applicable
NAAQS	National Ambient Air Quality Standards
Navy	Department of the Navy
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NO _x	nitrogen oxides
NO ₂	nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
O ₃	ozone
ODOT	Ohio Department of Transportation
OEPA	Ohio Environmental Protection Agency
OSHA	Occupational Safety and Health Administration
Pb	lead
pCi/L	picoCuries per Liter
P.E.	Professional Engineer
P.G.	Professional Geoscientist
PM	particulate matter
PM _{2.5}	particulate matter less than 2.5 microns in diameter
PM ₁₀	particulate matter less than 10 microns in diameter
ppm	parts per million
QA	Quality Assurance
QC	Quality Control
RAPCA	Regional Air Pollution Control Agency
RCRA	Resource Conservation and Recovery Act
RdB	Raub silt loam
sf	square foot/feet
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO ₂	sulfur dioxide
SH	State Highway
SWPPP/SWP3	Storm Water Pollution Prevention Plan

ABBREVIATIONS AND ACRONYMS

TCB	Turner Collie & Braden
Ud	Udorthents
UFC	Unified Facilities Criteria
U.S.	United States
US	U.S. Highway
USC	United States Code
USDA	United States Department of Agriculture
USMC	United States Marine Corps
VMF	Vehicle Maintenance Facility
VOCs	volatile organic compounds
WPAFB	Wright-Patterson Air Force Base
WW II	World War II
§	Section
§§	chapter
°	degree

1.0 PURPOSE OF AND NEED FOR ACTION

1.0 PURPOSE OF AND NEED FOR ACTION

1.1 INTRODUCTION

This Environmental Assessment (EA) was developed to assess and present the potential environmental consequences associated with the construction of a new Marine Corps Reserve Training Center (MCRTC) and Vehicle Maintenance Facility (VMF) for the United States Marine Corps (USMC) Reserve Military Police (MP) Company C, 4th Force Service Support Group currently stationed in Dayton, Ohio.

This EA was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, Marine Corps Order (MCO) P5090.2A *United States Marine Corps Environmental Compliance and Protection Manual*, and Air Force Instruction (AFI) 32-7061, *Environmental Impact Analysis Process*, which is referenced to 32 Code of Federal Regulations (CFR) 989.

1.2 BACKGROUND

MP Company C is a unit consisting of approximately 170 Marine reservists supported by 11 full-time, active-duty Marines. The city of Dayton owns the Armed Forces Reserve Center (AFRC), which was constructed in 1947, and leases the facility to the Marine Corps Reserve (*Figure 1-1*). This lease expires on 30 June 2008. The USMC Reserves has decided not to renew this lease in the future due to (1) cost, (2) lack of security, (3) condition of facilities, and (4) desire to be located at DoD facilities. The AFRC is located in a high-crime area and does not meet local codes for fire, emergency response, plumbing, and electrical systems, and lacks secure ingress and egress. The mission of the MP Company C is "To provide dynamic, positive and confident control of the battlefield to the 4th Marine Division Base and/or Marine Air Ground Task Force (MAGTF) Commander during amphibious assaults and subsequent operations ashore utilizing route reconnaissance and classification, battlefield circulation and control law and order operations and enemy prisoner of war operations in direct support of ground combat operations as directed by the MAGTF Commander" (U.S. Department of the Navy 2001).

1.3 SUMMARY OF THE PROPOSED ACTION

The proposed action is construction of a new MCRTC and VMF for MP Company C at WPAFB (*Figures 1-2 through 1-3*). The proposed action would include construction of administrative, classroom, drill hall, medical, equipment storage, personal vehicle parking for reservists, and vehicle maintenance facilities to support the mission of the MP Company C (*Figure 1-4*).

1.4 PURPOSE OF AND NEED FOR ACTION

The purpose of the proposed action is to provide adequate and efficiently configured facilities so that MP Company C reservists are able to effectively train for self-defense and battlefield control, and maintain operational readiness in accordance with their mission. The need for action is great: the AFRC is outdated, poorly maintained, located in a high-crime area, and lacks adequate heating, ventilation, and air conditioning. The AFRC does not meet local building codes or federal security standards.

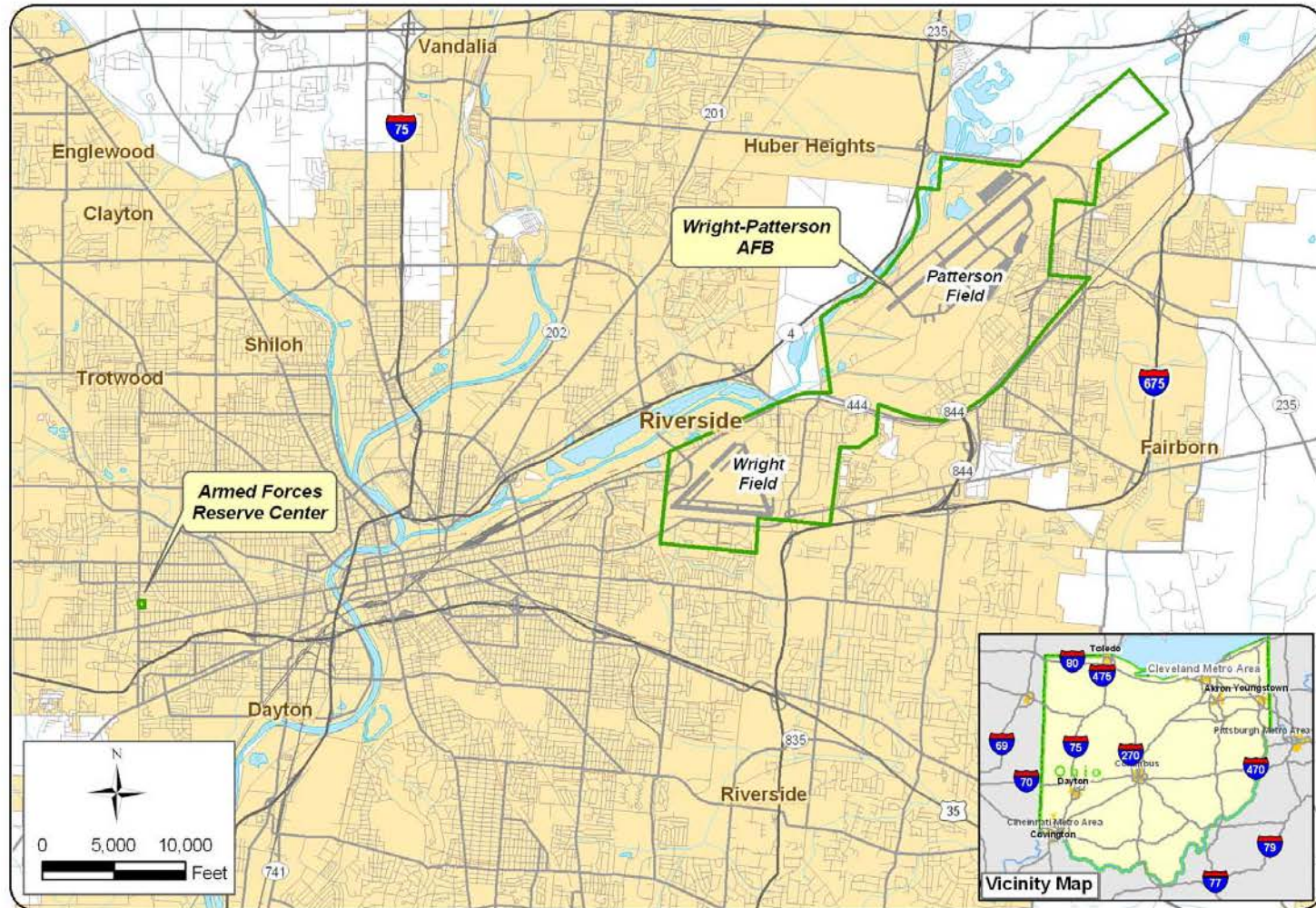
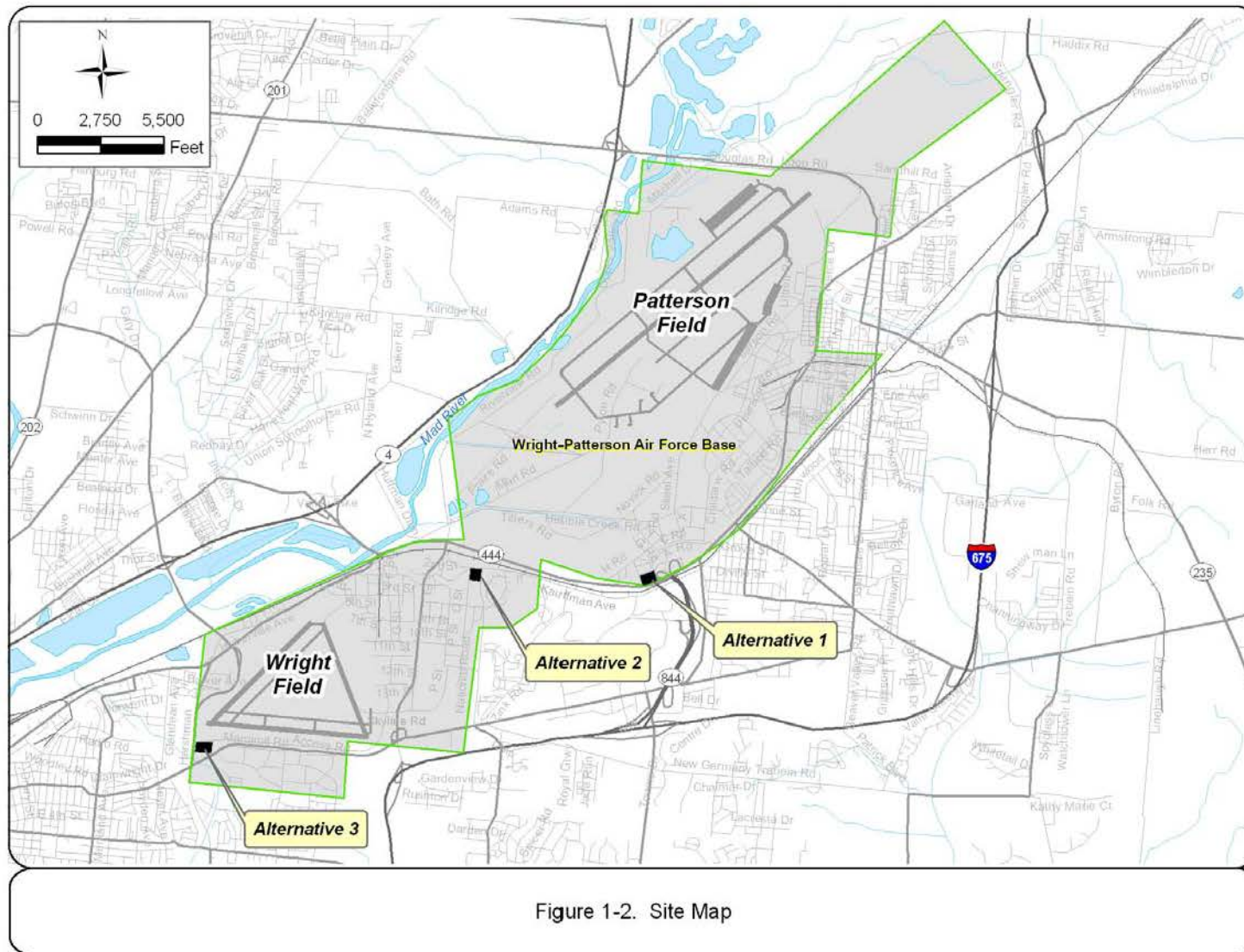


Figure 1-1. Vicinity Map



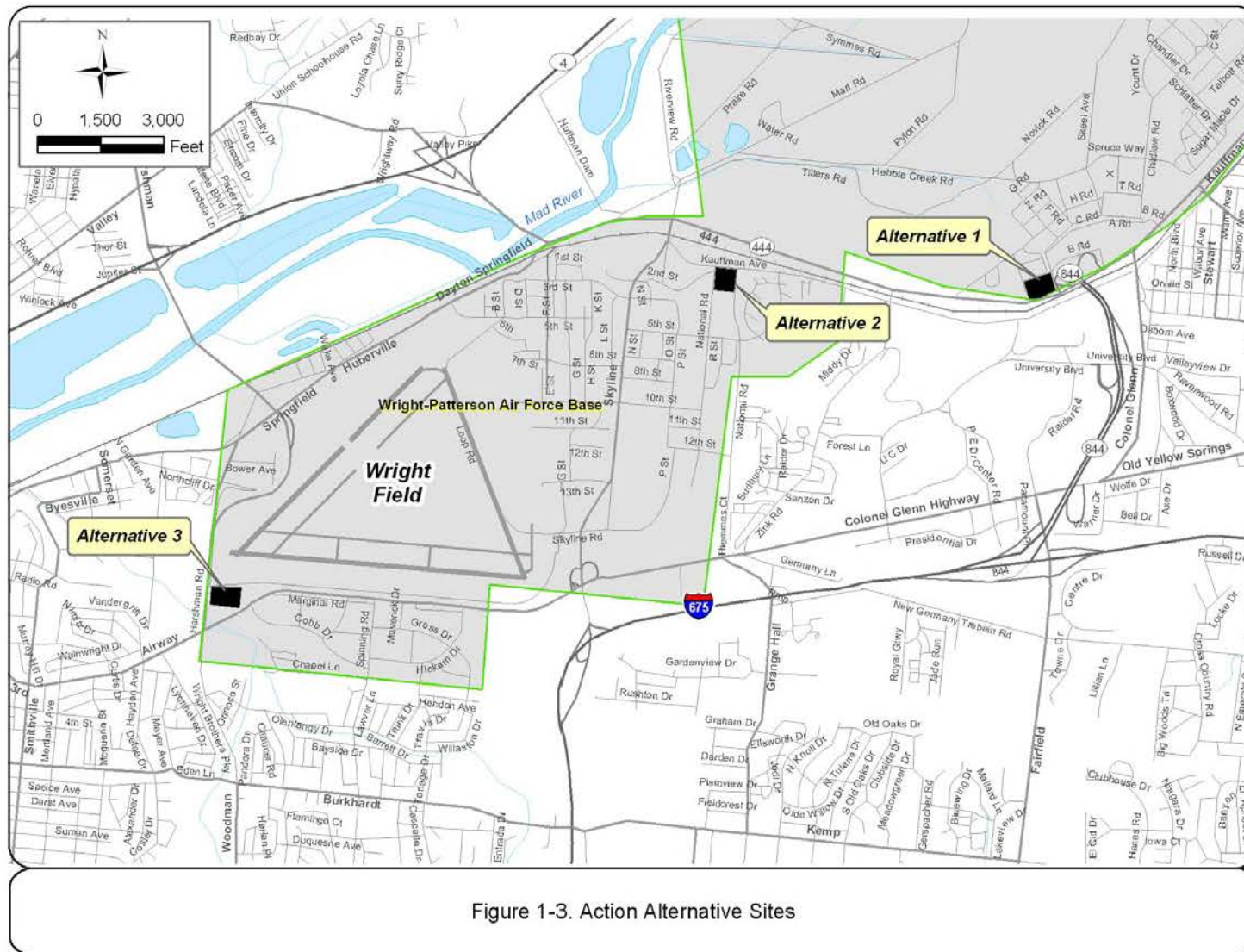
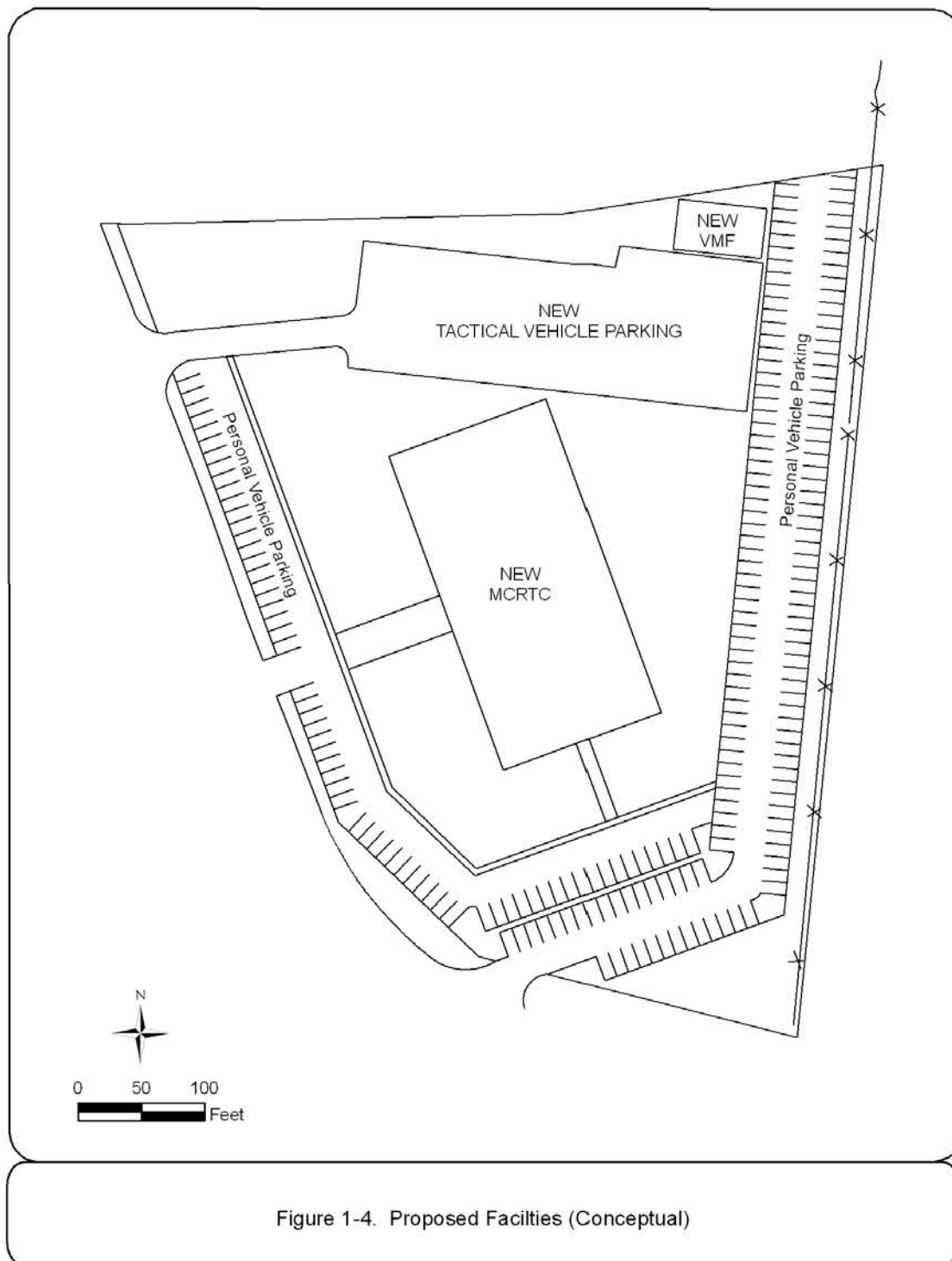


Figure 1-3. Action Alternative Sites



More specifically (From project kick-off meeting at WPAFB for the relocation of the AFRC Dayton to WPAFB meeting minutes dated May 26, 2005, Houston, Texas):

- The AFRC lacks operational showers, toilets, and sinks to support reservist hygiene requirements.
- The AFRC requires substantial maintenance and repairs to upgrade the facilities to meet Anti-Terrorism (AT) requirements.
- The AFRC lacks acceptable facilities for routine maintenance and storage of equipment, including riot gear, combat gear, new recruit equipment, and replacement gear and vehicles. The VMF lacks large storage bays, multiple vehicle maintenance pits, operational garage access doors, and adequately heated maintenance and storage areas. The weapons maintenance room is too small to allow all the reservists to clean their weapons at the same time, forcing some reservists to use the drill hall to clean weapons, which creates safety hazards.
- Secure parking facilities are inadequate for reservists' vehicles and for government-owned vehicles and equipment. The AFRC is located in a high-crime area with robberies and burglaries occurring on a routine basis; occasionally, drive-by shootings occur in the area. Despite the recent addition of perimeter fencing and controlled access gate, a security force of 10 reservists must remain at the AFRC to guard and protect the facility, equipment, and vehicles during drill weekends involving travel off-site.
- Wiring dates from the late 1940s and consists of aluminum wire with copper fixtures, causing electrolysis. An insufficient number of electrical outlets cause overloading of circuits, creating fire hazard conditions.
- Communication systems are inadequate; there are no telephones available in the supply warehouse, VMF, or several offices, including the Commanding Officer's.
- Only a single classroom exists for hand-to-hand combat training. The walls and floors are not padded to prevent injury during required training exercises.
- The medical facility is located in an office area that lacks privacy and proper sanitation.
- The building does not have an adequate loading dock, so new equipment must be off-loaded by hand and then placed into the building using dollies or pallet jacks.
- The roof of the AFRC leaks, causing standing water to accumulate when it rains. Floor tile, asbestos-containing ceiling tiles, and wallboard have become saturated and fungal growth has and would continue to occur, increasing maintenance costs.

To maintain operational readiness, MP Company C needs efficiently configured and integrated reserve training facilities to support classroom training, including hands-on security and proficiency, and martial arts training. The MP Company C must also support and retain reserve forces to satisfy its mission and maintain operational readiness.

1.5 PERMITS/AUTHORIZATIONS

The proposed action is the construction of a new MCRTC and VMF for Company C at WPAFB. Implementation of the proposed action would include the construction of a 36,800 sf reserve training building and a 2,600 sf VMF. Any construction activity that would disturb more than one acre of land requires a National Pollutant Discharge Elimination System (NPDES) permit application to be

submitted to the Ohio Environmental Protection Agency (OEPA). Before any soils are disturbed or exposed, a Storm Water Pollution Prevention Plan would need to be submitted to the Storm Water Management Program Manager at WPAFB for review and approval. The Storm Water Pollution Prevention Plan (SWPPP) would describe the plan for controlling erosion at the job site, including a site plan that would show the area(s) to be disturbed and the placement of erosion control structures. The purpose is to eliminate survey water runoff into streams and storm sewer systems. When the excavation, clearing, grubbing, etc. exceeds five acres, it is the responsibility of the owner to submit a Notice of Intent for coverage under the Ohio EPA's Storm Water General Permit.

The proposed Action Alternatives are located in mapped upland areas and would not be subject to the jurisdiction of the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act. No Section 404 permits would be required for the proposed construction.

Best management practices to ensure proper storage, handling, use, and/or production of regulated substances to prevent their introduction into shallow groundwater. Particular care must be taken on projects which lie within WPAFB's and the City of Dayton's water well five-year capture zones. The Ohio Administrative Code (OAC 3745-91) requires that modifications to drinking water systems including tapping into or rerouting of an existing water main must submit a Plans Approval package.

Hazardous materials used during construction would require a Hazardous Materials Management Plan, Pollution Prevention Management Plan, and Spill Prevention Control and Countermeasures (SPCC) Plan depending on the type and volume of materials used for construction. The Contractor would also be required to prepare and issue a Hazardous Material Notification (WPAFB Form 1414).

A Permit to Install (PTI) is required under the OAC 3745-31 when a sanitary line is modified or a new line is installed. A PTI application would include information about the project's scope and would include anti-degradation provisions, as applicable.

The Ohio EPA has established air pollution control requirements for construction activities. During construction, fugitive emissions (dust) would need to be controlled to meet opacity limits of OAC 3745-17-07 or 20 percent opacity as a three-minute average. Reasonably available control measures must be used to prevent fugitive dust from becoming airborne. These measures may include the periodic use of water for demolition, construction or operations during land clearing; containment during sandblasting or other operations; periodic application of water or the use of canvas covers on stockpiles; and covering of open-bodied vehicles during transport of materials that may become airborne. In addition, earth and other materials from paved streets must be promptly removed to avoid pollution of stormwater runoff or air dispersion of such materials.

All solid waste must be managed and disposed of off-site in conformance with all applicable laws and regulations. Litter would be controlled and containerized at all times during construction.

2.0 ALTERNATIVES

2.0 ALTERNATIVES

This section describes the proposed action alternatives and the No Action alternative, and the criteria used to evaluate the potential MCRTC alternative locations. The evaluation criteria include design and location or constraints that may affect the degree to which an alternative can meet the project need. Evaluation criteria identified for alternatives analysis are:

- Vehicular site access, perimeter control, and adequate access roadway level of service (LOS)
- Sufficient land area, 10 acres, and location to maintain AT requirements
- Compliance with Base Realignment and Closure (BRAC) goals and objectives of cost reduction through the establishment of Joint Services Facilities
- Adequate land for administration, training, medical, vehicle and equipment parking, and maintenance facilities; parking space available for at least 10 High-Mobility Multi-Purpose Wheeled Vehicles (HMMVs), 3 seven-ton vehicles, and 3 small trailers
- Use of existing Department of Defense (DoD)-owned property in western Ohio to the extent practicable to minimize per diem and other expenses related to reservist travel
- Minimize interruption of other military missions
- Minimize soil erosion and impacts to air quality
- Areas not encumbered by flight path height restrictions, Explosive Safety Quantity Distance (ESQD) arcs, unexploded ordnance, or other constraints such as regulated hazardous materials or waste
- Constructibility
- Outside the 100-year floodplain and potential wetland areas
- Avoid or minimize impacts to cultural resources
- Avoid or minimize impacts to the biological and natural environment, including habitat for threatened and endangered species
- Land use compatibility and maintenance of open space
- Minimize personal safety concerns for reservists
- In proximity to a major metropolitan area to help maintain recruitment levels

A summary of the alternatives analysis is provided in *Table 2-1* (U.S. Department of the Navy 2005) and in *Section 2.2*.

2.1 PROPOSED ACTION

The proposed action is construction of a new MCRTC and VMF for MP Company C at WPAFB. The proposed action would include construction of administrative, classroom, drill hall, medical, equipment storage, personal vehicle parking for reservists, and vehicle maintenance facilities to support the mission of the MP Company C.

**Table 2-1
Alternatives Matrix**

Alternative Sites	Evaluation Criteria										
	Adequate Land Area (Acres)	Traffic Concerns/Parking	Owned by DoD in Ohio	ESQD or Flight Pattern Arcs	Buildings Meet Local Codes and Standards ¹	Hazardous Wastes or Materials (OU Sites)	Soil Constraints	Security or Personal Safety Concerns	100-Year Floodplain/Wetlands	T&E Species Present	Land Use Change
Alternative 1 (Preferred) adjacent to Veterinarian Clinic, Building 435	Yes	No	Yes	No	Yes	Yes	No	No	No	No	Yes
Alternative 2 located near the intersection of National Road and Kauffman Avenue	Yes	No	Yes	No	Yes	Yes	Yes	No	No	No	Yes
Alternative 3 near Wright Airfield (Runway 9/27)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes
Alternative 4 No Action Armed Forces Reserve Center Dayton, OH	Yes	Yes	No	No	No	No	No	Yes	No	No	No
Alternative 5 (Not Fully Evaluated and Eliminated from Environmental Review) Relocate to Army National Guard Camp Atterbury or Springfield	Yes	ND	No	No	ND	ND	ND	No	ND	ND	ND
Alternative 6 (Not Fully Evaluated and Eliminated from Environmental Review) Area C, south of Building 89, along Schuster Road, or near Route 235 and Fairborn Well Field	No	ND	Yes	ND	Yes	ND	ND	No	ND	No	ND

Table 2-1
Alternatives Matrix (cont.)

Alternative Sites	Evaluation Criteria										
	Adequate Land Area (Acres)	Traffic Concerns/Parking	Owned by DoD in Ohio	ESQD or Flight Pattern Arcs	Buildings Meet Local Codes and Standards ¹	Hazardous Wastes or Materials (OU Sites)	Soil Constraints	Security or Personal Safety Concerns	Located in 100-Year Floodplain	T&E Species Present	Land Use Change
Alternative 7 (Not Fully Evaluated and Eliminated from Environmental Review) Area B near Building 17	No	Yes	Yes	ND	Yes	ND	ND	No	ND	No	ND
Alternative 8 (Not Evaluated and Eliminated from Environmental Review) Refurbishment of Building 79	No	Yes	Yes	ND	ND	ND	ND	No	ND	No	ND

Note ¹: Existing or Proposed Buildings, as applicable

Abbreviations:

DoD = Department of Defense

ESQD = Explosive Safety Quantity Distance

N/A = Not Applicable

ND = Not Determined (i.e., not evaluated further)

T&E = Threatened and Endangered species

2.2 ALTERNATIVES

This section describes the three action alternatives, the No Action alternative, alternatives eliminated from detailed analysis, and the operational criteria used to evaluate the potential site. Operational criteria are important to design and location, or are construction features that affect the degree to which the proposed action can meet project needs and objectives.

2.3 ACTION ALTERNATIVES

Three action alternatives were identified at WPAFB (*Figures 1-2 and 1-3*). Alternative 1, the preferred alternative, is located near the State Routes 844 and 444 Interchange adjacent to the Veterinarian Clinic, Building 1435. Alternative 1 is an open area located at Patterson Field that is the site of demolished WW II era buildings. Alternative 1 would be accessed from Gate 444. Alternative 2 is located in the northern portion of Area B at the intersection of National Road and Kauffman Avenue, north of Building 450. Alternative 2 exhibits an open landscape and would be accessed through Gate 19B via Fifth Street. Alternative 3 is near Wright Airfield (Runway 9/27), in the vicinity of the National Museum of the United States Air Force. Alternative 3 is located adjacent to Harshman Road immediately north of the Army Reserve Center. Alternative 3 would be accessed via a county maintenance road and the area exhibits an open landscape. All three Action Alternative sites are approximately 10 acres in size. *Table 2-1* is a summary of these alternatives.

Specific elements of the three alternatives include:

- Construction of a new VMF, including built-in maintenance equipment with a lubrication system (approximately 2,605 square feet [sf])
- Construction of a reserve training building that includes administrative and classroom facilities, a Drill Hall with adequate capacity for indoor training of 170 reservists during inclement weather, an exercise facility, medical facility, and a padded room for hand-to-hand combat training (approximately 36,680 sf)
- Construction of a parking lot with adequate capacity for parking of personal vehicles during drill weekends (approximately 35,500 sf) and a separate parking lot for DoD-owned vehicles (10 HMMVs, 3 seven-ton vehicles, and 3 small trailers [approximately 11,000 sf])
- Provision for AT security in accordance with Unified Facilities Code (UFC) for proposed facilities
- Construction of a warehouse for general storage (approximately 4,370 sf)

2.4 ALTERNATIVE 4: NO ACTION

The Council on Environmental Quality's (CEQ) regulations implementing NEPA requires that a No Action alternative be evaluated. The No Action alternative is to maintain the status quo. This alternative would continue Marine Corps reservist training at the AFRC in Dayton, Ohio, on property owned by the city of Dayton. Upgrade of the existing MCRTC facility at AFRC Dayton is not reasonable or cost-effective. The AFRC is inadequate due to high cost for maintenance and repair, lack of security, and personal safety of reservists (*Section 1.4*).

2.5 ALTERNATIVES ELIMINATED FROM DETAILED ANALYSIS

The following alternatives for the construction/relocation of the proposed MCRTC were identified, but did not meet the defined operational criteria identified above:

- At a non-DoD facility
- At the Army National Guard's (ANG) Camp Atterbury in Indiana (Alternative 5)
- At Springfield ANG (Alternative 5)
- Refurbishment of Building 79 at WPAFB (Alternative 8)
- Within Area C, south of Building 89 (Alternative 6)
- Within Area C, along Schuster Road (Alternative 6)
- Within Area C, near coal pile site in the vicinity of State Route 235 and Fairborn Well Fields (Alternative 6)
- Within Area B, refurbishment of Building 17 (Alternative 7)

Relocation and construction of the MCRTC to a non-DoD facility would not have control perimeter fencing, manned guard gates, and 24-hour security in place as directed by AT. Implementing these measures would be cost-prohibitive and could exceed funding approval limits for use of a non-DoD facility. In addition, relocation of the MCRTC to a non-DoD property would not provide long-term sustainability and would reduce the unit's ability to meet mission requirements. Camp Atterbury is operated by the ANG and is over 200 miles from Dayton, which exceeds the 50-mile travel distance limit for reserve training. Springfield ANG was dismissed from further consideration because it is more than 80 miles from Cincinnati, a main USMC reservist recruitment area, and it lacks desirable support facilities. Refurbishment of Building 79 at WPAFB from a laboratory configuration into an MCRTC would be cost-prohibitive and would likely exceed funding limits for facility renovation costs. According to Facilities Engineering Command, Building 79 does not have sufficient space for the approximately 37,000 sf reserve training building including a 4,000 sf supply department or the 2,600 sf VMF. These facilities require roll-up doors, high ceilings, clear expanses without columns or obstructions, and outside access for vehicles or forklifts. Construction on Area C south of Building 89 would not allow for sufficient base perimeter setback per the UFC. Area C along Schuster Road would require demolition of existing facilities and would be cost-prohibitive. The location on Area C near the Fairborn Well Field lacks available utilities and exhibits land use constraints due to groundwater protection requirements. Building 17 within Area B lacks space for a vehicle wash rack, has limited parking, and rehabilitation of the building would exceed the proposed funding. For these reasons, these alternatives have been eliminated from further consideration and will not be further analyzed in this EA.

3.0 AFFECTED ENVIRONMENT

3.0 AFFECTED ENVIRONMENT

This section contains a description of the affected environment in the vicinity of the AFRC Dayton and WPAFB. This section also provides information to serve as a baseline from which to identify and compare potential environmental consequences of the alternatives. Resources compared are presented in three major categories, physical, biological, and socioeconomic, representing the major environmental components of the area. The region of influence and study area for the majority of resources is the immediate vicinity of the proposed MCRTC at WPAFB. The primary area of potential impact is in the immediate vicinity of potential construction and operation.

3.1 PHYSICAL ENVIRONMENT

WPAFB is located in Montgomery and Greene Counties, Ohio, and AFRC Dayton is located at 410 North Gettysburg Road in western Dayton, Montgomery County, Ohio. WPAFB occupies approximately 8,145 acres of property, including 516 acres of easements or permits, located in the northeast portion of the Dayton, Ohio area (*Figure 1-1*). The base includes airfield operations, housing and administration areas, medical and outdoor recreation areas, munitions storage, research facilities, weapons systems testing, and maintenance operations. AFRC Dayton occupies approximately 6 acres of land approximately 6.6 miles southwest of WPAFB.

3.1.1 Topography and Soils

WPAFB is located in the glaciated till plain within the Lowlands Physiographic Province. The majority of the base is located on the alluvial plain of the Mad River. The area exhibits rolling hills with meandering rivers and associated riparian habitat along the Mad River with interspersed native prairie.

Topography for WPAFB is generally rolling, with the land surface elevation ranging from approximately 760 feet above mean sea level (msl) to 980 feet above msl. Topography at the three Action Alternative sites is fairly level with slopes less than 5 percent (WPAFB 2001).

The soils in the WPAFB area generally range from well-drained loams to muck soils. Soil wetness ranges from moderately well-drained to very poorly drained. Miamian-Urban land complex undulating (MrB) and Udorthents (Ud) are the two soil types mapped at Alternative 1. MrB has been disturbed through urban development and is well-drained. No construction limitations are known for this soil mapping unit. Ud soils have been disturbed from human activity. Disturbance could include the removal of the top layers, fill, or past construction. Ud soil properties vary; common uses often include recreation areas and building sites. MrB and Ud are not prime farmland soils (NRCS 2005).

Alternative 2 is underlain with Miamian-Urban land complex (MrC) and Raub silt loam (RdB). MrC has been disturbed through urban development and is well-drained. MrC is not a prime farmland soil. No construction limitations are assigned to this soil mapping unit. RdB consist of very deep, somewhat poorly drained soils. This soil type exhibits an intermittent perched high water table at a depth ranging from 0.5 to 2.0 feet during the winter and spring months. RdB has a severe construction limitation due to wetness. RdB is prime farmland when drained. RdB occurs in a developed area of the base near a busy roadway intersection; this portion of the base is not currently used for agricultural production (NRCS 2005).

Alternative 3 is underlain with Brookston-Urban land complex (Bu). Bu is a deep, poorly drained soil that has been disturbed through urban development. The Brookston series has severe construction limitation due to surface ponding. Bu is not a prime farmland soil (NRCS 2005).

3.1.2 Climate and Air Quality

The climate is characterized by warm summers and cool winters with high humidity. Average daily temperatures range from 21 degrees Fahrenheit (F) to 36 degrees F in January (winter) and range from 45 to 85 degrees F in July (summer). Typically, June has the highest amount of precipitation and October has lowest amount of precipitation; the average annual precipitation is 38.43 inches. The direction and strength of prevailing winds vary with the season. Typically prevailing winds come from the southwest with average monthly speeds that range from 3.5 to 8.1 miles per hour (mph) (WPAFB 2001).

The Federal Clean Air Act Amendments (CAAA) of 1990 directed the U.S. Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) to protect public health and the environment and procedures for determining conformity. The six criteria pollutants regulated by the Clean Air Act (CAA) are ozone (O₃), lead (Pb), carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO₂) particulate matter smaller than 10 microns in diameter (PM₁₀), and particulate matter smaller than 2.5 microns in diameter (PM_{2.5}), as summarized by Table 3-1. The CAAA classifies areas in terms of *non-attainment*, *attainment*, *maintenance*, or *unclassified*. If a standard is not met for pollutants in a particular area, the area is designated as *non-attainment*, and if the standard is met in that area, it is designated as *attainment* for those pollutants. In areas where background monitoring data is not available for certain criteria pollutants, these areas are considered “unclassified” for those criteria pollutants. An area designated in *maintenance* was formerly in *non-attainment* status for a criteria pollutant but is currently under a maintenance program to reach attainment status after a designated period of time determined by the EPA. The CAA also requires that *non-attainment* areas for criteria pollutants prepare and implement State Implementation Plans (SIPs) to achieve these standards.

The proposed project is located within the Dayton-Springfield air quality area. The OEPA Division of Air Pollution Control has adopted the NAAQS as the Ohio air quality standards. According to the Regional Air Pollution Control Agency (RAPCA), the Montgomery/Greene County region is currently classified as *non-attainment* for newly designated NAAQS: O₃ (8-hour) and PM_{2.5} (<http://www.epa.gov/pmdesignations/regs.htm> and <http://www.epa.gov/ozonedesignations/regs.htm>). The latest O₃ (8-hour) standard became effective on June 15, 2004, and the latest PM_{2.5} standard became effective in December 2004. The OEPA is authorized to enforce compliance with these air quality standards. OEPA has a contract with RAPCA to enforce state and local air pollution control regulations in Montgomery and Greene Counties in a six-county region.

Section 176(c) of the CAA, as amended, stipulates that federal actions occurring in *non-attainment* or *maintenance* areas are required to demonstrate conformity with the air pollutant emissions policies and controls in the state implementation plan before they can be implemented. Conformity is defined as conformity with the state’s plan to eliminate or reduce the severity and number of violations of the NAAQS and achieving expeditious *attainment* of such standards. The federal General Conformity Rule (GCR) states that a federal action cannot:

- Adversely affect or delay air quality plan maintenance

- Contribute to any new violations of an air quality standard
- Increase the frequency or severity of an existing violation
- Delay achieving attainment or emission reductions in any area

This GCR applies to all federal actions, but there is an existing list of actions exempted from conformity determination that include, but not limited to those listed below:

- Actions resulting in emissions below the threshold levels specified in 40 CFR Part 51.583(b)
- Actions specifically listed as exempt because they have been determined to result in no emissions increase or an emission increase that is clearly *de minimis* (e.g., routine maintenance and repair of facilities; issuance of licenses, leases, or permits to ongoing operations, etc.)
- Actions taken in response to emergencies or natural disasters

Table 3-1
National Ambient Air Quality Standards

Pollutant	Averaging Time	National Standards	
		Primary	Secondary
Ozone	8-hour ⁵ 1-hour	0.08 ppm 0.12 ppm	Same as Primary
Lead	Quarterly Average	1.5 µg/m ³	Same as Primary
Carbon Monoxide	8-hour ¹ 1-hour ¹	9 ppm (10 mg/ m ³) 35 ppm (40 mg/m ³)	None
Nitrogen Dioxide	Annual (Arithmetic Mean)	0.053 ppm (100 µg/ m ³)	Same as Primary
Sulfur Dioxide	Annual (Arithmetic Mean) 24-hour ¹ 3-hour ¹	0.03 ppm 0.14 ppm -----	----- ----- 0.5 ppm (1,300 µg/m ³)
Particulate Matter (PM ₁₀)	Annual (Arithmetic Mean) ² 24-hour ¹	50 µg/ m ³ 150 µg/ m ³	Same as Primary
Particulate Matter (PM _{2.5})	Annual (Arithmetic Mean) ³ 24-hour ⁴	15 µg/ m ³ 65 µg/ m ³	Same as Primary

Notes:

¹ Not to be exceeded more than once per year.

² To attain this standard, the 3-year average of the weighted annual mean PM₁₀ concentration at each monitor within an area must not exceed 50 µg/m³.

³ To attain this standard, the 3-year average of the weighted annual mean PM_{2.5} concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m³.

⁴ To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 65 µg/m³.

⁵ To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.

Abbreviations:

ppm = parts per million

mg/m³ = milligrams per meter

µg/ m³ = micrograms per meter

Source: EPA 2005

The proposed MCRTC is located in Greene and Montgomery Counties, designated as non-attainment for the new O₃ (8-hour) and the new PM_{2.5} NAAQS. The GCR needs to be updated to address the new 8-hour O₃ and the new PM_{2.5} NAAQS and, as such, *de minimis* concentrations have not yet been established for these new NAAQS. The initial timeline for GCR revision calls for an August 2005 publication of the Proposed Rule. The EPA had some delays with the drafting of the rule revisions and these revisions are expected now to be published by late spring 2006 and out for public comment in early 2007 (email from Tom Coda, EPA, 1/24/06). As such, a general conformity determination for the newly-designated 8-hour O₃ and PM_{2.5} NAAQS would not be possible until the GCR revision and conformity analysis procedure has been developed.

WPAFB operates under a Title V Operating Permit. The Title V Operating Permit for WPAFB lists 1,050 emission sources that include all stationary, on-base, air pollution sources. Updates to the Title V permit are submitted to the OEPA annually to include new emission sources.

3.1.3 Water Resources

Surface Water

WPAFB is located within the Mad River Basin. The Mad River originates northeast of the base and flows along the western boundary of Area C and north and northwest of Area B. The Mad River continues flowing in a southwesterly direction until its confluence with the Great Miami River near Dayton. Hebble Creek, Trout Creek, and Mud Run are the main tributaries at WPAFB that flow into the Mad River. Stormwater runoff is directed to the Mad River through outfalls. WPAFB has obtained a NPDES permit (OH0010243) to comply with the federal and state stormwater control standards. WPAFB has developed and currently implements a (SWPPP). The SWPPP was developed to comply with the NPDES Individual Permit, developed to protect water quality. As part of the SWPPP, Best Management Practices (BMPs) are implemented for all construction activities and some day-to-day operations (WPAFB 2001).

There are four lakes that occur on WPAFB—Bass Lake, Twin Lakes, and Gravel Lake. These lakes encompass approximately 62 acres and are primarily used for non-contact recreation (WPAFB 2001). No surface water features occur at any of the three Action Alternative sites.

Floodplains

Executive Order (EO) 11988 requires that federal agencies identify and consider practicable alternatives for location of projects in areas identified as floodplains. Where practicable alternatives are not available, construction of federal structures and facilities must be in accordance with, and be consistent with the intent of, the standards and criteria under the National Flood Insurance Program. The Federal Emergency Management Agency (FEMA) defines the 100-year floodplain as areas being subject to a 1.0 percent or greater chance of flooding in any given year. The 100-year floodplain at WPAFB is primarily limited to the Patterson Field area. The estimated 100-year flood elevation for the Mad River is approximately 814 feet, msl (WPAFB 2001). The three Action Alternative sites are located outside of the 100-year floodplain.

Wetlands

EO 11990 – Protection of Wetlands directs federal agencies to take action to minimize the destruction of wetlands on their property. Section 404 of the Clean Water Act regulates the discharge of dredged or fill materials into waters of the United States and adjacent wetlands.

Thirty-three wetlands encompass approximately 22.2 acres on WPAFB. The wetlands range in size from 0.01 acre to 7.58 acres (WPAFB 2001). The wetlands on WPAFB range from providing a low ecological function to providing a high ecological function. The wetlands on WPAFB provide valuable wildlife habitat, surface water storage and purification, ground water storage, and sediment control (WPAFB 2001). No wetlands occur on any of the Action Alternatives.

3.1.4 Sound Environment

Existing sources that generate noise include aircraft operations, trucks, and automobile traffic. Alternative 1 is located near the State Route 844 interchange. The majority of the noise generated at this site is from automobile traffic along the adjacent highway. Alternative 1 is located outside the 65 decibel (dB) noise contour for aircraft operations. Alternative 2 is located adjacent to the National Road and Kauffman Road intersection. The primary noise generators at this site are vehicular traffic along National Road and Kauffman Avenue, and aircraft operations. Alternative 2 is located between the 70 and 75 dB noise contours for aircraft operations. Alternative 3 is located near the end of runway 9/27 at Wright Field and adjacent to Harshman Road. Aircraft operations and vehicular traffic along Harshman Road would be the primary noise generators at this site. Alternative 3 is located outside the 70 dB noise contour for aircraft operations (WPAFB 2001).

3.1.5 Utilities, Facilities, and Infrastructure

Potable Water

Potable water is supplied to WPAFB via the aquifer underlying the base, except for Manor Housing, which obtains water from Montgomery County. Wells are drilled 50 to 80 feet below ground level into the aquifer and have the capability to produce 500 to 2,000 gallons per minute (gpm). The Action Alternatives are located outside well-head protection areas. Currently there are six active community wells and five inactive wells. The five inactive wells could be used as backup supply for Wright Field. Raw well water is treated and the finished water meets Safe Drinking Water Act standards for potable water. Treated water is stored in either ground-level or elevated storage tanks. Daily water demand for Patterson Field is estimated at 1,800,000 gallons per day (gpd) and 1,620,000 gpd for Wright Field (WPAFB 2001).

Wastewater

WPAFB produces, on average, 4.5 million gallons per day (mgd) of wastewater. The majority of wastewater from WPAFB is treated by municipal wastewater treatment facilities. Wastewater from the West Ramp and a small portion of Patterson Field is discharged to the city of Fairborn wastewater treatment plant. The remainder of Patterson Field, Wright Field, and all base housing discharge to the city of Dayton wastewater treatment plant (WPAFB 2001).

Heating System

There are four central boilers located on WPAFB and 65 remote boilers located in individual buildings, which are not on the central system. Natural gas lines are available at the three Action Alternative sites. Steam is available at the Alternative 2; Alternative sites 1 and 3 do not have access to steam lines.

Electricity and Natural Gas

Dayton Power & Light (DPL) supplies electricity to WPAFB. 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 (WPAFB 2001).

The natural gas on WPAFB is owned and supplied 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 (WPAFB 2001).

Armed Forces Reserve Training Center, Dayton

Based on the updated Environmental Baseline Survey (EBS), the AFRC Dayton consists of the following facilities:

- Two-story training center—48,491 sf
- Garage and paint locker—2,228 sf
- Army maintenance shop—2,570 sf
- Pump shed—160 sf
- *USS Buttercup* underwater training facility—440 sf (U.S. Department of the Navy 2005)

The AFRC is outdated, poorly-maintained, and lacks adequate heating, ventilation, and air conditioning. The AFRC does not meet local building codes or federal security standards. The AFRC lacks operational showers, toilets, and sinks to support reservist hygiene requirements. Secure parking facilities are inadequate for reservists' vehicles and for government-owned vehicles and equipment. Wiring dates from the late 1940s and consists of aluminum wire with copper fixtures, causing electrolysis. Electrical outlets are limited and circuits are overloaded, creating a potential fire hazard. There are no telephones available in the supply warehouse, VMF, or several offices, including the Commanding Officer's. The roof leaks, causing standing water to accumulate after rains. Floor tile, asbestos-containing ceiling tiles, and wallboard have become saturated and fungal growth has and would continue to occur, increasing maintenance costs.

3.1.6 Hazardous Materials/Waste

In fulfillment of mission requirements, a large variety and quantity of hazardous materials (HAZMAT) are used daily at WPAFB. HAZMAT must be managed in a manner that ensures the safety of base personnel, minimizes the amount of hazardous waste generated, protects the local

environment, and provides for the efficient and cost-effective operation of base activities. HAZMAT management encompasses the entire life cycle of HAZMAT from procurement, receipt, labeling, storage, issue, use, to final disposition. The WPAFB Hazardous Waste Management Plan describes the identification, tracking, handling, and disposal of hazardous waste.

Installation Restoration Program

Initial identification of possible Installation Restoration Program (IRP) sites on WPAFB began in 1981. After the EPA placed WPAFB on the National Priorities List (NPL) in October 1989, the base entered into a Federal Facilities Agreement with the EPA for establishing a procedural framework and schedule for the IRP. All known WPAFB sites requiring further action were grouped into Operable Units (OUs) by geographic location:

- OU-1—capping, leachate collection and treatment, and methane control for Landfill (LF) 8 and LF 10. Provision of potable water through public water supply to adjacent off-site areas.
- OU-2—natural attenuation for Spill Sites (SS) 2, 3, and 10
- OU-3—capping of LF 11, excavation and disposal of contaminated soil from LF 12
- OU-4—cap upgrades for LFs 6 and 7 and methane monitoring for LFs 3, 4, 6, and 7, possible groundwater remediation
- OU-5—capping LF 5 and groundwater extraction and treatment
- OU-6—cap upgrades for LFs 1 and 2
- OU-7—cap upgrade for Pit C and fencing for Pits A and B and LF 9
- OU-8—fuel recovery, soil vapor extraction, and treatment at SP 5, and installation of a French drain to recover fuel contamination at SP 11
- OU-9—located in the south-central and northern portion of Area B. Comprises IRP sites Earth Fill Disposal Zones (EFDZ) 2, 3, 4, 5, 6, 7, 8, 9, and 10; Burial Site 3; and Heating Plant 5.
- OU-10—groundwater monitoring
- OU-11—field investigation in 1996 showed no significant risk, Record of Decision of No Further Action signed September 1998

Alternative 1 is located south of OU-4. The types, quantities, physical states, hazardous constituents, and pollutants disposed of in OU-4 LFs 3, 4, 6, and 7 are not known. However, during their operation, general base refuse containing unknown quantities of oily wastes, solvents, organic and inorganic chemicals, hospital wastes, pesticides, and polychlorinated biphenyls (PCBs) were reportedly disposed. The groundwater immediately downgradient of OU-4 is contaminated, primarily with chlorinated volatile organic carbons (VOCs) and metals, largely in the upper sand and gravel zone. Where present, volatile contaminants were detected at concentrations only one to five times greater than Maximum Contaminant Levels (MCLs) set by the EPA. Groundwater contamination issues are being addressed by the Basewide Monitoring Program.

Alternative 2 is located within OU-9. There is no indication that hazardous materials were disposed of at EFDZs 2, 3, 4, 5, 6, 7, 8, and 9. However, materials similar to those disposed of at other landfills on the Base may have been transported to this site, including unknown quantities of oily

wastes, solvents, organic and inorganic chemicals, and hospital wastes. At EFDZ 10, surface evidence indicates past backfilling activities and the presence of construction and demolition debris, including broken concrete, asphalt, and lumber products. The site may contain radioactive material because a storage building used in the late 1960s and early 1970s for small quantities of radioactive material stands within the fill area. It is suspected that Burial Site 3 may have been used to dispose of fuel sludge. Based on existing conditions it has been determined that no significant risk exists. Central Heating Plant 5 contains three coal-fired boilers and two gas-fired boilers. The plant began operation in 1956 and was expanded in 1980. Identified contamination is thought to be the result of former coal activities at the site and residual ash. Surface and near surface soil sampling was conducted to delineate the extent of the polycyclic aromatic hydrocarbon (PAH) contamination. A portion of the yard denoted as the scrap metal pile area was found to be the most contaminated. A removal action is proposed for the elevated PAHs in this area and along the adjacent fence line perimeter road.

Alternative 3 is located adjacent to the southeastern edge of OU-6. LF 1 was operated from the 1920s through 1940. Land filling operations consist of surface disposal and burning. The facility served only Area B and received small quantities of chemical wastes from research facilities. The site encompasses about 6.5 acres and is located in an old gravel quarry. An aerial photograph from 1948 locates the landfill area. Most of LF 1 now appears to be covered by Perimeter Road on Base and extends as far west as the northbound exit ramp from Harshman Road to Springfield Pike. LF 2, also called Tillman Pit, was initially a gravel pit, about 23 acres in size. From the early 1940s to 1951, the landfill was operated as a surface dump for general refuse from Area B. Refuse was placed into gravel pits in direct contact with groundwater. From 1951 to 1975, after the landfill was closed, the site was used as a surficial fill disposal area.

The base Solid Waste Management Plan addresses the disposal of solid wastes generated by civil engineering contractors, industrial operations on base, and military family housing occupants. Thirty-five percent of the total 15,293 tons of solid waste generated at WPAFB in FY 00 was recycled. The recycling goal set by EO 13101 and Department of Defense Directive 4715.4 is 40 percent of the solid waste stream. The Qualified Recycling Program oversees the entire solid waste disposal and recycling operation. No known Resource Conservation and Recovery Act (RCRA) permitted treatment storage and disposal facilities or underground storage tanks greater than 5,000 gallons are located at any of the three Action Alternative sites (WPAFB 2001).

The EBS for AFRC Dayton was initiated in 1998 and updated for the Marine Corps Reserve Center in 2005 (U.S. Navy 2005). In 1999, on the basis of the findings of the EBS, the Commander Naval Reserve Force issued a Determination of Suitability to Terminate Lease (DSTL). Subsequently, the Navy entered into a new lease with the city of Dayton for use of the property by the Marine Forces Reserve which expires in 2008. The EBS was updated to analyze for any changes to the environmental property since the initial EBS. In 2001, the Navy released a radon study of the AFRC Dayton showing that some of the training buildings had radon exposure greater than 4 picoCuries per Liter (pCi/L), the regulatory level, and mitigation was recommended, implemented and deemed successful (U.S. Navy 2005). No release of hazardous material or petroleum products has occurred since the initial EBS, and the property was classified as suitable for lease termination by the Naval Reserve in 1999 with no further restrictions or environmental actions necessary on the part of the Navy (U.S. Navy 2005).

3.1.7 Cultural Resources

Cultural resources include archaeological and historical objects, sites, and districts; historic buildings and structures; cultural landscapes; and sites and resources of concern to local Native Americans and other ethnic groups.

Typical prehistoric resources at WPAFB include campsites, material procurement sites, and food processing areas. Typical historic resources are buildings, village sites, and historic houses. There are 304 known cultural resource sites that occur on WPAFB and 268 of these represent historic structures. The remaining sites consist of archaeological sites, historic districts, and cultural landscapes. Three sites are currently included on the National Register of Historic Places (NRHP): Wright Brothers Memorial Mound Group, Wright-Patterson Air Force Base Mound on Wright Field, and the Wright Brothers' Huffman Prairie Flying Field. The Huffman Prairie Flying Field is also a National Historic Landmark. Several hundred structures, four historic districts, and numerous associated landscapes are eligible for the NRHP (WPAFB 2001). No historic structures are present at any of the three Action Alternative sites, nor are there any known or recorded archeological sites.

3.2 BIOLOGICAL ENVIRONMENT

3.2.1 Vegetation

Native vegetation on WAFB is separated into four cover types. These four cover types include: woodlands, old fields, grassland/prairie, and wetlands. Sycamore (*Platanus occidentalis*), green ash (*Fraxinus pennsylvanica*), white oak (*Quercus alba*), and sugar maple (*Acer saccharum*) are examples of trees that occur in the woodlands vegetation community. Vegetation such as Canada goldenrod (*Solidago canadensis*) and thoroughworts (*Eupatorium* spp.) comprise the old field cover type. Species that occur in the grassland/prairie include brome grass (*Bromus* spp.), little bluestem (*Andropogon scoparius*), and Indian grass (*Sorghastrum nutans*) (WPAFB 2001). Sedges (*Carex* spp.) and spikerushes (*Eleocharis* spp.) are examples of wetland vegetation on WPAFB.

The three Action Alternative sites occur on a disturbed landscape. Lawn grasses are the dominant vegetation type on all three sites. No woody vegetation is present at Alternative Sites 2 and 3. One large ash (*Fraxinus* sp.) is present at Alternative 1. No wetlands occur on any of the three Action Alternative sites (Turner Collie & Braden [TCB] 2005).

3.2.2 Wildlife

Numerous species of wildlife occur at WPAFB. The Action Alternative sites consist of mowed lawn grasses that provide little wildlife habitat. Mammals that occur in open disturbed habitats on the base include woodchucks (*Marmota monax*), raccoons (*Procyon lotor*), and eastern cottontail rabbits (*Sylvilagus floridanus*). Birds that use open habitats include American robin (*Turdus migratorius*) and European starling (*Sturnus vulgaris*) (Ohio History Central 2005). Due to the disturbed nature of the Action Alternative sites and lack of surface water, these sites provide limited habitat for amphibians or reptiles (herptiles); herptiles are not a common occurrence at WPAFB.

3.2.3 Threatened and Endangered Species

A number of federal and state-listed plant and animal species occur or potentially occur at WPAFB. WPAFB environmental staff indicated that no federal or state-listed species occur at the Action

Alternative sites (TCB 2005). Table 3-2 presents the federal and state listing of threatened, endangered, or species of concern for WPAFB (Ohio Department of Natural Resources (DNR) 2005 and WPAFB 2001).

The majority of the species listed in Table 3-2 occur in or near the Mad River, various wooded areas at WPAFB, or within the Huffman prairie area. The three Action Alternative sites are located in

Table 3-2
Federal- and State-Listed Threatened and Endangered Species at WPAFB

Common Name	Scientific Name	Status Federal/State
Mammals		
Indiana bat	<i>Myotis sodalist</i>	E/E
Birds		
Bald Eagle	<i>Haliaeetus leucocephalus</i>	T/E
Common Tern	<i>Sterna hirundo</i>	*/E
King Rail	<i>Rallus elegans</i>	*/E
Osprey	<i>Pandion haliaetus</i>	*/E
Peregrine Falcon	<i>Falco peregrinus anatum</i>	*/E
Sedge Wren	<i>Cistothorus platensis</i>	*/E
Upland Sandpiper	<i>Bartramia longicauda</i>	*/T
Reptile		
Eastern Massasauga rattlesnake	<i>Sistrurus catenatus</i>	SC/E
Mussel		
Clubshell	<i>Pleurobema berriana</i>	E/E
Arthropod		
Beer's Noctuid (Moth)	<i>Papaipema berriana</i>	*/E
Plants		
Fringetree	<i>Chionanthus virginicus</i>	*/T
Whorled water milfoil	<i>Myriophyllum verticillata</i>	*/E

SC – Species of concern; T – Threatened species; E – Endangered species; * Not listed

Table Source: Ohio DNR 2005 and WPAFB 2001

urbanized areas and the dominant vegetation consist of lawn grasses. The urbanized environment does not present suitable habitat for any rare or protected species.

3.3 SOCIOECONOMIC ENVIRONMENT

3.3.1 Land Use

WPAFB is located in the greater Dayton, Ohio region. Dayton, Fairborn, Huber Heights, Beaver Creek, and Riverside are the communities surrounding the base (Figure 1-1). Land use in and around Dayton is predominantly residential and commercial. WPAFB is subdivided into Areas A, B, and C. Areas A and C are within the boundaries of Patterson Field and Wright Field is in Area B.

There are land-use constraints related to military operations at WPAFB. These include areas with ordnance, and air operations and land-use compatibility for flight operations as implemented under

the Air Installation Compatible Use Zone designation (AICUZ). Designated land uses at WPAFB include airfield, community (commercial), community (service), housing, industrial, medical, open space, outdoor recreation, and research and development. Designated land use at Alternative 1 is industrial and open space. Alternatives 2 and 3 are both designated as open space (WPAFB 2001).

Any landing, take-off, or movement through airspace under the jurisdiction of WPAFB is considered a single operation. The flight patterns of aircraft may vary, although there are several commonly used fixed-wing aircraft flight tracks. The goal of the AICUZ is to encourage continued land-use compatibility of air flight training exercises, military training and support activities of the base, and land-use constraints imposed by local communities and counties. The AICUZ consists of Accident Potential Zones (APZs) and noise contours associated with flight patterns of aircraft. The purpose of the APZ is to control land use for the protection of human health and property on the ground. The concept describes the probable impact area if an accident were to occur, but does not address the probability of such an impact. APZs are usually based on historical data and military guidelines and include three categories: the Clear Zone, APZ I, and APZ II. The Runway Clear Zone has the highest potential for aircraft accidents, and the potential for accidents decreases in APZs I and II, respectively. None of the Action Alternatives is located in an APZ. However, Alternative 3 is located near Runway 9/27 and building height restrictions would apply at this location. A photographic target and instrument test area is located near the Alternative 3 site.

WPAFB operations require large quantities and varieties of munitions. The majority of all munitions are stored or handled at Patterson Field. The Action Alternative sites are located outside munitions operations or explosive clear zones.

DoD has established noise compatibility criteria for various land uses. According to these criteria, sound levels up to 65 dB are compatible with land uses such as residents, transient lodging, and medical facilities.

3.3.2 Population and Demographics

In 2000, WPAFB Census Designated Place (CDP), Greene County, and Montgomery County had populations of 6,656; 147,886; and 559,062 persons, respectively (U.S. Census Bureau 2000). Additionally, a population of 339 was listed as living in military group quarters. The U.S. Census defines a CDP as a place without legally defined corporate limits or corporate powers in cooperation with state officials and local data users. Since it is not incorporated, WPAFB CDP does not have clearly defined boundaries. Since there are no legally defined limits for CDPs, the total population counts within these areas tabulated by the Census Bureau may not correspond with the population statistics tabulated by local planning offices. For instance, according to the WPAFB Economic Impact Analysis report in 2004, the population of WPAFB was 31,960, which is significantly higher than that tabulated by the Census Bureau for WPAFB CDP in 2000. The MP Company C has approximately 170 Marine reservists supported by 11 full-time, active-duty Marines. The average household size for WPAFB CDP, Greene County and Montgomery County was 3.60, 2.53, and 2.37 people, respectively, and the median age of these populations was 22.7, 35.6, and 36.4 years old (U.S. Census Bureau 2000).

3.3.3 Economic Activity

As of June 2005, the civilian workforce reported for Greene and Montgomery Counties was 77,400, and 275,700, respectively, with unemployment rates of approximately 6.0 and 6.7 percent (Ohio

Department of Job and Family Services 2005). The median household income in 2000 for WPAFB CDP, Greene County, and Montgomery County was \$43,342; \$48,656; and \$40,156, respectively (U.S. Census Bureau 2000). As of September 30, 2004, approximately 20,204 people, including 5,659 military personnel; 2,257 trainees and reservists; 11,106 civilians; and 1,182 non-appropriated fund civilians and private businesses worked at WPAFB, which equates to a gross annual payroll of \$1,172,849,479 (WPAFB 2004).

3.3.4 Environmental Justice

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was enacted on February 11, 1994, and mandates that federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of programs on minority and low-income (i.e., people living below the national poverty level) populations. Disproportionate environmental impact occurs when the risk or rate for a minority population or low-income population from exposure to an environmental hazard exceeds the risk or rate of the general population and, where available, to another appropriate comparison group (DoD 1995; EPA 1998). A minority population is defined as a group of people and/or a community experiencing common conditions of exposure or impact that consists of persons classified by the U.S. Census Bureau as Black or African-American; Asian; American Indian or Alaskan Native; Native Hawaiian or other Pacific Islander; Hispanic or Latino; or other non-white persons, including those persons of two or more races. A low-income population is defined as a group of people and/or a community that, as a whole, lives below the national poverty level. The poverty threshold for a family of four people in 1999, as defined by the U.S. Census Bureau, was a total annual household income of \$17,029, which increased to \$18,660 in 2003. The poverty guideline for a family of four people in 2000, as defined by the U.S. Department of Health and Human Services, was a total annual household income of \$17,050, which increased to \$19,350 in 2005.

WPAFB is located primarily within Greene and Montgomery Counties, with a small portion located within Clark County. The Action Alternatives are located within the WPAFB boundaries. The proposed alternatives are bordered by the Cities of Riverside, Dayton, and Fairborn, Ohio. As of September 2004, 676 active-duty military and 914 active-duty dependents lived on base. The 11 active-duty and 170 reservists associated with MP Company C already live on base or in the greater Dayton, Ohio area.

In 2000, WPAFB CDP had a total population of 6,656 (U.S. Census Bureau 2000). According the 2000 U.S. Census, the racial/ethnic distribution within the WPAFB CDP was 74.1 percent white, 15.1 Black or African-American, 2.2 percent Asian, 4.4 Hispanic or Latino, and 4.2 percent Other non-white persons. The racial/ethnic distribution within Greene and Montgomery Counties was 88.5 and 75.9 percent white, 6.3 and 19.8 Black or African-American, 2.0 and 1.3 percent Asian, 1.2 and 1.3 Hispanic or Latino, and 2.0 and 1.7 percent Other non-white persons. These figures indicate that the overall minority population of WPAFB CDP is roughly similar to Greene and Montgomery Counties as a whole, and Greene County has a higher Caucasian population than WPAFB CDP.

Median household income for WPAFB CDP was estimated at \$43,342 in 2000, and the median household income for Greene and Montgomery Counties was \$48,656 and \$40,156, respectively. Median household income for WPAFB CDP is consistent with median household income for Greene and Montgomery Counties. In 2000, the percent low-income at WPAFB CDP was 1.8 percent

compared to 8.5 percent and 11.3 percent within Greene and Montgomery Counties, respectively. The low-income population within WPAFB CDP is substantially lower than Greene and Montgomery Counties (1.8 percent vs. 8.5 and 11.3 percent); however, this would be expected because federal government employees make up the majority of persons living on base.

The data provided above suggest that WPAFB as a “community” does not encompass a disproportionately high minority population or low-income population when compared to county demographic areas; there is little or no potential for environmental justice issues for residential populations.

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, mandates that federal agencies identify and assess environmental health and safety risks that may disproportionately affect children as a result of the implementation of federal policies, programs, activities, and standards (62 *Federal Register* 19883-19888 April 23, 1997). All full-time public schools are located off base. There are four early child development centers: Kitty Hawk Community Center is located in Building 31235; New Horizons in Building 11403, located near Alternative 1; Wright Field North and South Units, located in Building 20630 in the southeast corner of Area B; and Wright Care, located in Building 26933 in the Prairie’s military housing. A pre-school is also located on base in Building 1172. Alternative 1 is located in the Fairborn School District. Alternatives 2 and 3 are located in the Mad River School District.

WPAFB provides education impact aid to local school districts because children of WPAFB employees make up a percentage of their student enrollment. These impact aids are distributed annually to school districts that meet eligibility requirements. This program helps compensate local school districts for losses in tax revenue due to the presence of federal property. In 2004, the Mad River and Fairborn School Districts received \$968,265 and \$878,927, respectively, in education aid (WPAFB 2004).

3.3.5 Transportation

Interstate Highway (IH) 75 and IH 675 provide regional access to WPAFB to the south and IH 70 provides east and west regional access. State Routes 4, 844, and 444 provide local highway access to WPAFB (*Figure 1-1*). Community streets providing direct access to the base include Springfield Pike, Kauffman Avenue, National Road, and Colonel Glenn Highway/Airway Road. WPAFB has an extensive internal roadway system with major and minor arterials and collector streets to serve the base traffic. A transportation plan has been developed to ensure vehicle circulation and safety. Alternative 1 would be accessed through the WPAFB on-base road system via State Routes 444 and 844 and Gates 844 and 444 (*Figure 1-2*). The major base road near Alternative 1 is Communications Boulevard. The existing traffic volume for Communications Boulevard near Alternative 1 is 586 vehicles per day (vpd) (WPAFB 2005). Alternative 2 would be accessed through the local roadway system via National Road or Kauffman Avenue (*Figure 1-2*). No traffic numbers are available for Alternative 2. Alternative 3 is located east of Harshman Road and north of Airway Road (*Figure 1-2*). The existing traffic volume for Harshman Road near Alternative 3 is 32,100 vpd (Jason Hawk of the [Ohio Department of Transportation] ODOT in an e-mail dated June 6, 2005).

3.3.6 Security

DoD Directive 2000.12, a.k.a. DoD AT Program, dated August 18, 2003, addresses national security interests. This DoD Directive establishes policies and responsibilities for combating terrorism in

response to a report issued by the Vice President's task force and describes AT standards required for controlled-perimeter facilities. The minimum standoff distance for primary gathering buildings (MCRTC) is 148 ft from the perimeter fencing and minimum standoff distance from adjacent roadways and privately owned vehicle parking is 82 feet.

Currently the AFRC Dayton does not meet the AT requirements. Secure parking facilities are not available for reservists' vehicles and for government-owned vehicles and equipment. The AFRC is located in a high-crime area with robberies and burglaries occurring on a routine basis; occasionally, drive-by shootings occur in the area. Despite the recent addition of perimeter fencing and controlled access gate, a security force of 10 reservists must remain at the AFRC to guard and protect the facility, equipment, and vehicles during drill weekends involving travel off-site.

Medical, Police, and Fire

WPAFB operates and provides police and fire protection. The station also provides emergency response services. The station provides emergency medical services (EMS) for off-station transport. Military personnel are provided medical care at the on-base medical clinics for minor illnesses and injuries and at Wright-Patterson Medical Center for surgeries or major illnesses. WPAFB includes minimum standoff distances from perimeter fencing and security control (TCB 2005).

4.0 ENVIRONMENTAL CONSEQUENCES

4.0 ENVIRONMENTAL CONSEQUENCES

This section describes anticipated direct and indirect environmental impacts of the proposed action and alternatives in terms of the physical, biological, and socioeconomic environments, with respect to applicable laws, ordinances, and statutes, for each resource category. The No Action alternative is also considered, consistent with CEQ regulations implementing NEPA.

Impacts could be generated by the following activities:

- Clearing, grading (site preparation), and removing surface cover
- Control of surface water runoff during land preparation
- Soil stability engineering and construction of building and foundation supports
- Installation or re-routing/extension of utility lines
- Shipping and trucking construction materials to the site, stockpiling materials and excavated soils, machining or fabricating materials, handling construction and demolition waste and byproducts of machining and fabricating, and handling special and hazardous wastes
- Storing construction-related materials (e.g., steel beams, supports, paint, lumber, electrical wiring, dry wall materials, floor tiles, ceiling tiles, glass, nails, bolts, and staples)
- Providing for sanitary and solid waste management, stormwater and pollution prevention planning, disposal of water and wastewater, and control of construction noise

The area of potential impact for physical and biological resources, such as topography, soils, air quality, water resources, and floodplains, is in the immediate vicinity of potential construction. Unless otherwise noted, operational impacts are not expected since reservist training would occur inside the proposed facilities or at off-site locations the unit currently trains at.

4.1 PHYSICAL ENVIRONMENT

4.1.1 Topography and Soils

Topography

No Action

The No Action alternative would continue reservist training at AFRC on property owned by the city of Dayton. Topography would not be affected with implementation of the No Action alternative.

Action Alternatives

Site grading at any of the Action Alternative sites would result in minor, localized, and temporary impacts to topography. When constructed, the MCRTC and VMF would be approximately 10 acres in size. This represents less than one percent of the impervious cover at WPAFB.

Soils

No Action

The No Action alternative would continue reservist training at AFRC on property owned by the city of Dayton. Soils would not be affected during implementation of the No Action alternative.

Action Alternatives

The soils at Alternative 1 have no construction limitations (NRCS 2005). Alternative 2 is partially underlain by RdB, which exhibits a high water table during winter and early spring (NRCS 2005). Due to wetness caused by the high water table, fill material would be needed to construct on the site. The fill material would be clean soil and/or subsoil brought from an off-site source. Alternative 3 is underlain with Bu soils, which have a severe construction limitation due to the ponding of surface water (NRCS 2005). During construction of Alternative 3, fill material would be brought from an off-site source. The fill material would consist of clean soil and/or subsoil.

For all Action Alternatives, clearing, grubbing, excavating, and grading during construction of the MCRTC and VMF would disturb approximately 10 acres of land. When constructed, the proposed buildings would total approximately 1 acre in size. Roadways and parking lots would cover an area estimated at 9 acres; the remainder of the proposed facility would be lawn or some other maintained type of vegetation.

Construction activities would not affect overall soil characteristics, but may cause the uppermost soil layers to mix. Erosion during construction would be minimized through implementation of erosion control measures such as silt fences, mulching, hay bales, and sediment collection basins. Such measures are required by local land use, Air Force regulations, and federal requirements under the NPDES Permit for Storm Water Associated with Construction Activities that would affect more than 1 acre of land (*see Section 1.5*).

4.1.2 Air Resources

Air Quality

No Action

The No Action alternative would continue reservist training at AFRC on property owned by the city of Dayton. Air quality would not be affected during implementation of the No Action alternative.

Action Alternatives

There would be air emissions generated during construction and excavation associated with the implementation of the Action Alternatives at WPAFB. Minor amounts of particulate matter (PM, PM₁₀, and PM_{2.5}) would be generated during parking lot construction, utilities installation and relocation, land stabilization, construction of erosion control structures, earthmoving, and aggregate handling. In addition to dust and exhaust emissions from construction and demolition equipment, such as pile drivers, jackhammers, soil compactors, bulldozers, trucks, front-end loaders, geotechnical boring rigs, and track hoes, other heavy diesel-powered construction equipment could generate minor air emissions including CO, NO_x, SO₂, particulate matter (PM, PM₁₀, and PM_{2.5}) and

VOCs from fossil fuel combustion. Construction air quality impacts would be temporary and localized.

The Action Alternatives would generate air emissions at WPAFB during construction of proposed facilities. The GCR states that a federal agency cannot engage in, support, or approve any activity that does not conform to an SIP. Conformity to an SIP means that the activity must not:

- Adversely affect or delay air quality plan maintenance
- Contribute to any new violations of an air quality standard
- Increase the frequency or severity of an existing violation
- Delay achieving attainment of any standard, interim emission reduction, or milestone

However, until the GCR is revised to address the newly-designated 8-hour O₃ and PM_{2.5} NAAQS, a conformity analysis and conformity determination are not possible.

No transportation-related impacts to air quality caused by vehicle travel would occur because many of the 11 active-duty Marines already live on base and would travel a shorter distance to report to work, thereby reducing daily vehicular air emissions. The 170 Marine reservists would travel the same or similar distances to attend scheduled weekend training, and no increase in emissions would be expected as result of implementing any Action Alternative.

4.1.3 Water Resources

Surface Water

No Action

The No Action alternative would continue reservist training at AFRC on property owned by the city of Dayton. Surface water would not be affected at WPAFB or AFRC as a result of the No Action alternative.

Action Alternatives

No surface waters are present at the Action Alternative sites. Construction activities that affect 1 acre or more require an NPDES Stormwater Permit. Ohio is a delegated NPDES state, and has authority to administer the NPDES program. The Ohio EPA Division of Surface Water is responsible for the enforcement of the NPDES stormwater construction permits (*see Section 1.5*). Implementation of the Action Alternatives would disturb approximately 10 acres of land. To comply with the NPDES General Permit for Construction Activities, erosion and sediment controls BMPs will be implemented including interim and permanent stabilization practices. Upon completion of construction, the USMC would comply with the existing WPAFB SWPPP. The SWPPP would be updated to include the proposed MCRTC and VMF, and the appropriate facility-specific BMPs would be implemented. Additionally, the USMC would comply with all applicable federal, state, and local laws and regulations related to the prevention and mitigation of accidental spills of hazardous substances to the extent practicable (33 USC 1251 *et seq.*; 42 USC 6901 *et seq.*; 42 USC 9607 *et seq.*). With the implementation of BMPs along with compliance of SWPPP, no adverse impacts to surface waters would occur as a result of the implementation of any of the Action Alternatives.

Floodplains

Federal regulations require an analysis to avoid impacts to the 100-year floodplain. Federal regulations stipulate that in the case of a “significant encroachment” on the floodplain by a proposed project, a finding of an “only practicable alternative” is required.

No Action

The No Action alternative would continue reservist training at AFRC on property owned by the city of Dayton. Floodplains would not be affected at WPAFB or AFRC as a result of the No Action alternative.

Action Alternatives

All the Action Alternative sites are located outside the 100-year floodplain. The proposed MCRTC and VMF would meet floodplain management criteria consistent with existing WPAFB development. No adverse impacts are expected to occur to floodplains as a result of implementation of any of the Action Alternatives.

Wetlands

No Action

The No Action alternative would continue reservist training at AFRC on property owned by the city of Dayton. Wetlands would not be affected at WPAFB or AFRC as a result of the No Action alternative.

Action Alternatives

No wetlands occur on the Action Alternative sites. No impacts to wetlands are expected as a result of the implementation of any of the Action Alternatives.

4.1.4 Sound Environment

No Action

The No Action alternative would continue reservist training at AFRC on property owned by the city of Dayton. Compared to baseline conditions, the sound environment would not be affected at WPAFB or AFRC as a result of the No Action alternative.

Action Alternatives

Implementation of the Action Alternatives would result in construction of buildings; installation of utilities; excavation and earthmoving; and construction of roads, sidewalks, and erosion control 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(s). Construction-related equipment noise levels at the source generally range from 76 A-weighted decibels (dBA) for hoist operations or chain saw operations to 85 dBA for backhoe operations to a maximum of 100 dBA for pneumatic hammers. Noise levels related to the proposed construction activities at a given receptor would vary widely,

depending on the phase of construction and attenuation distance. There may be temporary, sporadic noise level increases that would be perceptible to receptors at neighboring industrial facilities during the construction period. To minimize the potential impacts of construction noise to the surrounding area, construction may be limited to daylight hours when occasional loud noises are more tolerable. Extended disruption of normal U.S. Air Force activities is not considered likely because construction activities would be performed on a staggered schedule depending on available budgets. It is expected that there would be relatively minor, short-term noise exposure periods at any one receiver during the construction period.

The EPA has established noise emission standards for a number of types of construction equipment including emission standards for pile drivers, compressors, graders, bulldozers, pavers, pumps, boring machines, generators, pavement breakers, and a broad range of construction-related heavy trucks (EPA 1971). Although temporary noise impacts may occur in the local area during project construction, since the project would involve a variety of construction activities, construction noise levels would not affect existing operations at WPAFB. Since the alternative action sites are owned and controlled by the U.S. Air Force, there would be no effect on the public during construction or operation. Noise mitigation strategies, such as those listed below, would be employed, as appropriate, to limit potential noise impacts:

- Source control – all exhaust systems in good working order, also use of properly designed engine enclosures and intake silencers; regular equipment maintenance
- Site control – placement of stationary equipment as far away from sensitive receptors (i.e., away from base housing that is 1,600 feet from Alternative 1, 300 feet from Alternative 2, and 700 feet from Alternative 3); appropriate selection of construction sites and haul routes; and use of noise-shielding barriers, where appropriate
- Time and activity constraints – schedule of operations to coincide with periods when people would likely be least affected; limiting working hours and workdays to least noise-sensitive times

In general, noise from future operations would be minor and consistent with operations that are already occurring at WPAFB; therefore, no impacts are expected.

4.1.5 Utilities, Facilities, and Infrastructure

No Action

The No Action alternative would continue reservist training at AFRC on property owned by the city of Dayton, and the MP Company would continue to occupy the current building. Under the No Action Alternative, the MP Company C would continue to occupy the AFRC building. The building does not meet local building codes for electrical wiring, plumbing, and fire alert systems. To ensure safety, the building needs major renovation and updating to meet current building codes. Utilities and infrastructure at WPAFB would not be affected with implementation of the No Action alternative.

Action Alternatives

Potable Water

For Alternatives 1 and 2, potable water would be provided by WPAFB from groundwater supplies. The water distribution system was developed to meet the demands of a larger daytime population, not the current population of approximately 21,000 (WPAFB 2001). Existing water lines would be extended to provide an adequate supply of potable water at MCRTC. For Alternative 3, potable water would be provided by Montgomery County or the local municipality and costs per connection would be negotiated with the provider.

Wastewater

For Alternatives 1 and 2, industrial wastewater produced would be routed through an oil/water separator prior to introduction to WPAFB's wastewater system. Unauthorized discharges to potable, wastewater or stormwater systems would not occur. An upgrade to existing sanitary sewer lines adjacent to Alternative 1 may be needed prior the construction of the MCRTC. Additional line work would be installed to access the existing wastewater lines, which would include minor excavation activities. All line work will meet the appropriate plumbing codes and this will aid in the prevention of backflow. It is expected that the increase in wastewater due to the proposed construction and future MCRTC operation would be minor and that the WPAFB treatment and disposal system would be able to provide necessary service to the proposed facility.

For Alternative 3, potable water, wastewater treatment, and stormwater utilities would be provided by Montgomery County or the local municipality, and costs per connection would be negotiated with the provider. Waste and wash water generated during vehicle maintenance would be recycled through an on-site wash system prior to discharge to the County's or city's wastewater system. Unauthorized discharges from wastewater or stormwater systems would not occur for any alternative.

Heating System

All the Action Alternative sites have access to natural gas lines for heat. Additionally, Alternative 2 has access to steam lines. Alternatives 1 and 3 may require a natural gas boiler since the sites do not have access to steam. If a boiler is installed, a permit to install will be required prior to construction. All connections will be in accordance with local and WPAFB codes.

Electricity and Natural Gas

For all Action Alternatives, the existing electricity supply and natural gas distribution system is adequate to support the proposed MCRTC and VMF. Connections to existing electrical lines and gas lines will be needed for the proposed facilities. WPAFB electrical and natural gas systems are operating at 50 percent capacity (WPAFB 2001). It is expected that the increase in electrical and natural gas usage due to the proposed construction and future MCRTC operation would be minor and that WPAFB and the local utility providers would be able to provide necessary service to the proposed facility.

4.1.6 Hazardous Materials/Waste

The RCRA and subsequent amendments established a cradle-to-grave system for the tracking, management, generation, transportation, treatment, storage, disposal, and recycling of waste materials.

No Action

The No Action alternative would continue reservist training at AFRC on property owned by the city of Dayton. No change in hazardous materials use would occur during implementation of the No Action alternative.

Action Alternatives

During construction of proposed facilities and site preparation, all construction would conform to Occupational Safety and Health Administration (OSHA) requirements such as described by the *OSHA Guidance Manual for Hazardous Waste Site Activities, Standard Operating Safety Guides* (EPA 1992), and Safety and Health Regulations for Construction (29 CFR 1926). Health and safety plans would be developed and would include environmental exposure monitoring. Construction contractors would maintain compliance with all environmental regulations and permits that apply to the work being performed. Periodic environmental health and safety monitoring may be needed to verify that employees are protected and exposure limits are not exceeded. Each contractor would maintain an OSHA 200 log. Pollution source reduction techniques and prevention strategies, as appropriate, recommended by the EPA's Office of Pollution Prevention, would be incorporated into the design of proposed projects. If unexpected conditions are encountered during construction, work would stop and the appropriate environmental and health protection actions would be taken in accordance with project specifications. To mitigate for potential impacts associated with future construction and to protect human health and the environment, the following general actions would be performed:

- All materials (hazardous and non-hazardous) and wastes generated from construction activities would be handled, stored, and disposed in accordance with applicable federal, state, and local regulations.
- Strict contract specifications would be established for construction contractors requiring proper management and disposal of materials and waste.
- Waste generation would be minimized to the extent possible.
- Excavated soils would be used as fill material, as appropriate.
- Procedures, plans, and programs would be developed to prevent risk to workers and public health, which could result from exposure to hazardous materials, contaminated soils, and hazardous waste.
- Proper storage and containment structures would be provided for all hazardous materials so that hazardous constituents are not released to the environment.
- Health and safety plans would be developed by all construction contractors to address potential hazards, including potentially contaminated soils, under the guidance of a recognized safety and health professional.

- Access to the construction sites would be controlled with security gates and fencing.

Wastes typically generated during construction include lumber, concrete, metal, glass, plastics, solvents, and empty containers. Local contractors would be required to comply with federal, state, and local requirements for waste classification, recordkeeping, reporting, and disposal. During construction, contractors would be required to develop a Construction Management Plan that would include measures to be employed if drums or contaminated soil and groundwater were encountered or required management or disposal. Stationary fuel tanks would have secondary containment and would be managed so that spills are prevented. Hazardous material containers would have proper labeling as required under OSHA's Hazard Communication Standard. Spill Prevention and Response Plans would be developed and implemented. Material safety data sheets would be available for review. The construction contractor would be responsible for the proper identification, containerization, labeling, storage, manifesting, reporting, transport, and disposal of all hazardous materials and regulated wastes generated during construction. Handling and storage of hazardous materials would be performed in accordance with the manufacturer's specifications.

No long-term adverse impacts to or as a result of the presence of hazardous materials or waste are anticipated as a result of the implementation of proposed Action Alternatives, since construction and future operational activities would be performed in accordance with applicable laws and pertinent regulations. In general, it is anticipated that hazardous materials handled and wastes generated during operations at WPAFB would be minor and consistent with baseline conditions already occurring. The VMF would likely use fuels, oils, and lubricants during vehicle maintenance. In compliance with OSHA requirements and WPAFB and USMC instruction, materials used by the USMC would be consistent with the Authorized Use List (AUL). Hazardous materials would be managed in compliance with applicable programs. Major vehicle repairs would occur off base.

WPAFB has been placed on the NPL, and site investigation and remedial action planning are ongoing with respect to geographic location within defined OUs. Action Alternative 1 is located south of OU-4; Alternative 2 is located within OU-9, and Alternative 3 is located adjacent to the southeastern edge of OU-6.

4.1.7 Cultural Resources

No Action

The No Action alternative would continue reservist training at AFRC on property owned by the city of Dayton. Cultural resources would not be affected during implementation of the No Action alternative.

Action Alternatives

No cultural resources impacts are expected from the proposed construction and operation of the MCRTC and VMF. No known NHRP eligible sites occur at any of the Action Alternative sites. For the Action Alternatives, an INADVERTENT FINDS legal provision must be made a part of all undertakings and included with site development specifications. In the event that archaeological materials are encountered during ground-disturbance activities, work will cease in the immediate area until the base archeologist is notified and consultation with the State Historical Preservation Officer (SHPO) is conducted. The base archeologist will develop a plan for the mitigation of the unanticipated discovery, in consultation with the SHPO. The plan would be developed in accordance with the Secretary of the Interior's *Standards and Guidelines for Archaeological Documentation*

(48 *Federal Register* 4477344-37). The mitigation plan would include research design, field work methodologies, analyses, preparation and dissemination of reports, disposition of artifacts and other materials, consultation with Native American Tribes and/or other organizations, and if necessary, reinterment of human remains. Through coordination with the SHPO and implementation of protective covenants and mitigation measures, no adverse impacts to cultural resources would result from implementation of any of the Action Alternatives.

4.2 BIOLOGICAL ENVIRONMENT

4.2.1 Vegetation

No Action

The No Action alternative would continue reservist training at AFRC on property owned by the city of Dayton. Existing vegetation communities would remain unchanged from their present condition, and no impacts are expected.

Action Alternatives

The dominant vegetation community at the Action Alternative sites is lawn grasses, which are mowed on a regular basis. The Action Alternatives occur in a disturbed urban environment with little to no erect vegetation present at the sites, except for one large ash tree located at Alternative 1. The proposed MCRTC site will be mostly cleared during construction; areas with exposed soil will be re-vegetated with grasses and landscaped vegetation upon completion of construction activities. Due to the lack of native vegetation on the sites, minimal impacts to vegetation communities are expected to occur as a result of construction at the Action Alternative sites.

4.2.2 Wildlife

No Action

The No Action alternative would continue reservist training at AFRC on property owned by the city of Dayton. Existing wildlife communities would remain unchanged from their present condition, and no impacts are expected under No Action.

Action Alternatives

The Action Alternative sites contain little vegetation that provides breeding habitat or significant cover for wildlife. Grasses could provide foraging opportunities for small numbers of wildlife. The soil does provide sufficient structure to support woodchuck burrows. Woodchucks and other rodents would move to adjacent habitats or would be crushed during construction. The loss of any small mammals would be insignificant to the overall population in the area. Other wildlife species occur on a transient basis and would avoid the area once construction is initiated. If feasible, construction will occur outside the migratory bird breeding season to comply with the Migratory Bird Treaty Act, although it is unlikely that birds would nest on the sites due to the lack of vegetation and other vertical structures. There would be minimal impacts to wildlife populations with implementation of any action alternative.

4.2.3 Threatened and Endangered Species

The Endangered Species Act (ESA) requires that any action authorized by a federal agency would not jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse modification of habitat of such species that is determined to be critical.

No Action

The No Action alternative would continue reservist training at AFRC on property owned by the city of Dayton. For this reason, there would be no impacts to threatened or endangered species or associated habitats potentially occurring in the vicinity of WPAFB or AFRC.

Action Alternatives

There are no known occurrences of the species listed in *Table 3-2* within the area of the proposed Action Alternative sites. The Action Alternatives occur in disturbed urban environments. No adverse impacts to threatened or endangered species are expected as a result of the implementation of any of the Action Alternatives.

4.3 SOCIOECONOMIC ENVIRONMENT

4.3.1 Land Use

No Action

The No Action alternative would continue reservist training at AFRC on property owned by the city of Dayton. For this reason, there would be no change in land use at WPAFB or in the Dayton, Ohio area.

Action Alternatives

The location of Alternative 1 is at the northwest corner of the intersection of State Routes 844 and 444, adjacent to the veterinarian clinic at Patterson Field. This area was the site of WW II era buildings that were demolished due to their poor condition. Based on the 2001 General Plan for WPAFB, the future land use for this area is open space and industrial. Alternative 2 is located at the southwest corner of the intersection of Kauffman Avenue and National Road at Wright Field. Future land use for this location is designated as open space by the 2001 General Plan for WPAFB. Alternative 3 is located north of the intersection of Harshman Road and Airway Road near the Army Reserve Center and south of runway 9/27 at Wright Field. Future land use for Alternative 3 is identified as open space. Runway 9/27 is currently used to land aircraft for the National Museum of the United States Air Force and could be used for future additional air operations. Building height restrictions would apply to any proposed structures at the Alternative 3 site. The USMC will comply with any height restrictions enforced at the Alternative 3 location. Additionally, a photographic target and instrument test area are located near Alternative 3. The footprint of the proposed facility would be designed and constructed so as not to interfere with the photographic target or instrument test area. There are no munitions operations or explosive clear zones impacting or impacted by the Action Alternatives. Additionally, all Action Alternatives are located outside designated APZs. For all Action Alternatives, the architectural design of the proposed MCRTC will comply with current

WPAFB standards, and design plans will be submitted for approval to the appropriate WPAFB personnel. Thus, the Action Alternatives represent compatible land use at WPAFB.

4.3.2 Population and Demographics

No Action

The No Action alternative would continue reservist training at AFRC Dayton. For this reason, there would be no change in population or demographics at WPAFB or the city of Dayton as a result of No Action.

Action Alternatives

The 11 active-duty Marines and the 170 reservists currently live in WPAFB housing or in the Dayton area. The Action Alternatives would not require the relocation of active-duty Marines or Marine reservists. Thus, no change would occur in population or demographics in the area or at WPAFB.

4.3.3 Economic Activity

No Action

The No Action alternative would continue reservist training at AFRC on property owned by the city of Dayton. For this reason, there would be no impact to economic activity at WPAFB or in the greater Dayton area.

Action Alternatives

Construction activities required by implementation at WPAFB would afford a short-term beneficial effect to the area's economy through short-term construction work to build the new training facility. All MCRTC personnel would transfer from the existing facility with no additional full-time active-duty Marine personnel. No measurable long-term effect to the local economy would occur as a result of implementing the proposed action.

4.3.4 Environmental Justice

No Action

The No Action alternative would continue reservist training at AFRC Dayton. Environmental justice would not be an issue under No Action.

Action Alternatives

EOs 12898 and 13045 mandate that federal agencies identify disproportionately high and adverse human health or environmental effects on minority and low-income populations and children. Minority or low-income individuals or communities would not be disproportionately and/or adversely affected by the implementation of Action Alternatives. Additionally, no disproportionate environmental health or safety risks to children would occur as a result of the implementation of the proposed Action Alternatives (see *Section 3.3.4*). No family housing units are currently planned, and there are no public schools in the immediate vicinity of Action Alternative sites.

4.3.5 Transportation

No Action

The No Action alternative would continue reservist training at AFRC on property owned by the city of Dayton. Existing transportation facilities would remain unchanged from their present condition, and no impacts are expected under No Action.

Action Alternatives

Implementation of the Action Alternative would result in a minor and short-term increase in weekend use of adjacent roadways to WPAFB. These impacts are expected to be minor and short-term since a maximum of 170 reservists are accommodated during a training weekend and arrival and departure times would be constrained. Vehicle miles traveled will be negligible since reservists live in the Dayton area. No appreciable effect on traffic conditions during drill weekends would occur. Alternative 1 would be accessed through the WPAFB on-base road system via State Routes 444 and 844. The on-base road system is sufficient to handle the minor increase in traffic from the proposed MCRTC. Alternative 2 is located at the southwest corner of National Road and Kauffman Avenue, and the site is accessible through the local roadway system. Level of service (LOS) near this intersection allows for reasonable free flow and traffic control measures would not be needed (TCB 2005). Adverse impacts to transportation resources are not expected with the implementation of Alternatives 1 and 2.

Alternative 3 is located east of Harshman Road and north of Airway Road. This portion of Harshman Road exhibits a high volume of traffic during peak traffic hours. The LOS exhibits breakdowns in vehicular flow and the proposed MCRTC would exacerbate this condition. Traffic control measures, such as addition of turn lanes at intersections, would be needed. For all Action Alternatives, vehicular traffic associated with construction would be temporary and minimal.

4.3.6 Security

No Action

The No Action alternative would continue reservist training at the AFRC on property owned by the city of Dayton. There would be no impacts to local or WPAFB fire, EMS, hospital, or security/police services under No Action. Under the No Action alternative, MP Company C would remain in a building that does not meet the AT requirements. Additionally, reservists and active-duty staff would continue to work and train in a high-crime area that jeopardizes their personal safety. During off-site training sessions, a 10-person security force is left behind to guard the facility. The 10-person security force misses valuable training time and this lack of training opportunity jeopardizes MP Company C's military mission.

Action Alternatives

WPAFB would provide fire and EMS response services to the Action Alternatives. During weekend training, minimal impact to local fire protection and EMS occur since few minor accidents or injuries would be expected to occur at any one time. WPAFB military police would patrol the area. During off-site training sessions, the 10-person MCRTC security force would no longer be needed, since the proposed MCRTC would be located behind WPAFB's perimeter fence, thus decreasing the amount of

lost training time for MP Company C. Negative impacts to security as a result of implementation of any Action Alternative are not expected.

4.4 CUMULATIVE IMPACTS

Cumulative impacts are those changes to the physical, biological, and socioeconomic environments that would result from the combination of construction, operation, and associated impacts of the proposed action when added to other past, present, and reasonably foreseeable actions. Past projects, or those implemented or built before 2005, are considered part of the existing conditions or environmental baseline for this EA. Included within the concept of past projects are the maintenance activities, land development projects, and other actions that occurred before detailed analysis began.

The proposed relocation and construction of MCRTC Dayton at WPAFB would not affect population, demographics, housing, or transportation characteristics of the area, as USMC staff and reservists are already present in the region. A temporary increase in economic activity, air emissions, and noise levels is expected during the construction of the proposed facilities. Relocation and construction of the proposed facilities are not expected to require additional future facilities construction or induce further development in the community or at WPAFB. The proposed project would not create additional long-term demands on local resources. When viewed in a regional context, cumulative impacts would not be anticipated.

4.5 ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL

Energy in the form of various fossil fuels, electricity, and natural gas would be required during construction and operation of new buildings and facilities. Construction of new buildings would incorporate energy-efficient design. Building envelopes, heating, ventilation, air conditioning, domestic hot water systems, and appliances would comply with recommendations of the U.S. Department of Energy's "Energy Star" program. DPL and WPAFB have adequate capacity to service future development under the Action Alternatives. Energy requirements for potential construction, maintenance, and occupancy of the buildings and facilities would not have an adverse impact on the energy requirements of the overall region.

4.6 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Construction, maintenance, and occupancy of the proposed facilities would require the commitment of various resources. These resources include the commitment of labor, capital, energy, building materials, land resources, and minor losses of existing biological resources, including vegetation. However, some of these losses may be regained with landscaping. Short-term commitments of labor, capital, and fossil fuels would result directly from construction and indirectly from the provisions of services to the site during construction. Long-term commitments of land resources would result directly from maintenance and occupancy of the buildings and facilities, and indirectly from the provisions of water, sewage, electricity, gas, and solid waste services. Building materials would also be long-term commitments. Site development would result in the permanent conversion of up to 10 acres of lawn grass vegetation to structures, hard surface, and landscaping.

4.7 RELATIONSHIP BETWEEN SHORT-TERM USE OF THE HUMAN ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Short-term commitments would include labor, capital, and fossil fuels that result directly from construction activities and indirectly from the provision of services to the site during construction. Physical systems would be modified due to the effects of the construction. The necessity for infrastructure would exert a long-term impact on the environment of the area of the site, but no impact on the area-wide environment. Over the long-term, implementation of the proposed action would improve the quality of life of USMC reservist personnel.

4.8 UNAVOIDABLE ADVERSE IMPACTS

Short-term impacts from construction of new buildings and facilities would include: soil disturbance and erosion, increased air emissions, and noise. Long-term impacts include loss of grass cover and minor increase in utility use. These unavoidable impacts and related mitigation or funding solutions are discussed in previous sections of this EA.

4.9 MEANS TO MITIGATE ADVERSE ENVIRONMENTAL IMPACTS

The construction contractor would implement soil erosion control techniques (BMPs) during construction, such as the use of hay bales and silt fences, to minimize soil erosion and discharge of sediments to sensitive aquatic environments. After construction is complete, the construction area would be vegetated using regionally native grasses, shrubs, and trees. The construction contractor would implement a spill contingency plan prior to construction to reduce or eliminate the potential for contamination of soils from accidental spills and releases. Fugitive dust from construction and renovation would be prevented from becoming airborne through compliance with local ordinances and implementation of dust control measures, such as application of water to dirt paths, gravel roads, materials, stockpiles, and other surfaces. Noise mitigation strategies, as described in *Section 4.1.4*, will be implemented during construction.

During construction, temporary access facilities for materials staging would be required, potentially resulting in minor surface water discharge. Stormwater runoff from impervious surfaces would occur during and after construction. To protect aquatic habitat, runoff from potential new development would be managed and controlled so that post-development loadings would be comparable to pre-development conditions. Non-point source discharges and resultant sediment loadings would be controlled to the extent possible during and after construction.

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