

Environmental Assessment

**For the Stationing, Construction, and Operation of
an Army Aviation Support Facility (AASF),
Fielding of CH-47 “Chinook” Aircraft, and
Restationing of UH-60 “Black Hawk” Aircraft by
the MNARNG**

St. Cloud, Sherburne County, Minnesota



Minnesota Army National Guard

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ACRONYMS AND ABBREVIATIONS

AASF	Army Aviation Support Facility	NRHP	National Register of Historic Places
AAMTP	Army Aviation Modernization and Transformation Plan	NWI	National Wetlands Inventory
AGL	above ground level	Pb	Lead
AIRFA	American Indian Religious Freedom Act of 1978	PEIS	Programmatic Environmental Impact Statement
AR	Army Regulation	PL	Public Law
ARNG	Army National Guard	PM-10	Particulate Matter less than 10 microns
ARPA	Archaeological Resources Protection Act of 1979	O ₃	Ozone
AVN	Aviation	RC	Readiness Center
BMP	Best Management Practice	RCRA	Resource Conservation and Recovery Act
BN	Battalion	REC	Recognized Environmental Conditions
CAA	Clean Air Act	SCRA	St. Cloud Regional Airport
CBS	County Biological Survey	SEL	Sound Exposure Level
CEQ	Council on Environmental Quality	SHPO	State Historic Preservation Office
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act	SO ₂	Sulfur Dioxide
CFR	Code of Federal Regulations	SSURGO	Soil Survey Geographic (SSURGO) Database
CH-47	CH-47 “Chinook” Helicopter	TSCA	Toxic Substances Control Act
CO	Carbon Monoxide	UH-60	UH-60 “Black Hawk” Helicopter
DASB	Division Aviation Support Battalion	USACE	United States Army Corps of Engineers
dB	Decibels	USACHPPM	United States Army Center for Health Promotion and Preventative Medicine
DNL	Day-Night Sound Level	USC	United States Code
DoD	Department of Defense	USDA	United States Department of Agriculture
EA	Environmental Assessment	USFWS	United States Fish and Wildlife Service
EBS	Environmental Baseline Survey	VFR	Visual Flight Rules
ENMP	Environmental Noise Management Program	WMA	Wildlife Management Area
EO	Executive Order		
EPA	Environmental Protection Agency		
FAA	Federal Aviation Administration		
FEMA	Federal Emergency Management Agency		
FMS	Field Maintenance Shop		
GSAB	General Support Aviation Battalion		
ICRMP	Integrated Cultural Resources Management Plan		
IFR	Instrument Flight Rules		
IONMP	Installation Operational Noise Management Plan		
LRCP	Long-Range Construction Plan		
MNDNR	Minnesota Department of Natural Resources		
MN TAG	Minnesota Adjutant General		
MNARNG	Minnesota Army National Guard		
MNDA	Minnesota Department of Administration		
MPCA	Minnesota Pollution Control Agency		
NAAQS	National Ambient Air Quality Standards		
NAGPRA	Native American Graves Protection and Repatriation Act of 1990		
NEPA	National Environmental Policy Act		
NGB	National Guard Bureau		
NHP	Natural Heritage Program		
NHPA	National Historic Preservation Act of 1966		
NPDES	National Pollutant Discharge Elimination System		
NO ₂	Nitrogen Dioxide		
NRCS	Natural Resources Conservation Service		

EXECUTIVE SUMMARY

INTRODUCTION

This Environmental Assessment (EA) evaluates the potential environmental effects that would occur as a result of the proposed action, *Stationing, Construction and Operation of an Army Aviation Support Facility (AASF), Fielding of CH-47 “Chinook” Aircraft, and restationing of UH-60 “Black Hawk” Aircraft by the MNARNG in St. Cloud, Sherburne County, Minnesota.*

PROPOSED ACTION

The proposed action is being driven by the Army’s Aviation Modernization and Transformation Plan (AAMTP) which is transforming both active and reserve component units to meet current and future anticipated security challenges. As part of this process the AAMTP proposes adding to the current CH-47 fleet nationwide of the Army National Guard. The plan would field six CH-47 aircraft and necessary supporting personnel to the MNARNG to augment the current fleet of sixteen UH-60s. The existing AASF at Holman Field is inadequate to accommodate the maintenance and operational requirements of the new CH-47 unit as well as all of the requirements of the currently assigned UH-60 fleet. Therefore the MNARNG, after completion of a comprehensive needs analysis and planning process, has determined to construct a new AASF at the St. Cloud Regional Airport, station the six CH-47 aircraft there and restation four to six of the existing UH-60 fleet from the inadequate facility in St. Paul to St. Cloud also. The existing facility in St. Paul would be retained to support the ten to twelve UH-60s that would remain there.

ALTERNATIVES

The no action alternative is the only alternative to the proposed action considered in this EA, and serves as a benchmark against which the proposed action can be evaluated. This action would be to continue with facilities, aircraft and operations as currently conducted and to not implement the proposed action elements.

ENVIRONMENTAL CONSEQUENCES

This EA analyzes the potential effects, both positive and negative, of the proposed action on the natural and human environment in the vicinity of the proposed action site, the St. Cloud Regional Airport and the surrounding community. Resource areas unaffected or minimally affected by the proposed action were excluded from detailed analysis of potential affects.

CONCLUSIONS

Implementation of the proposed action as analyzed in the EA would have the following effects:

- Long-term and short-term beneficial effects to land use, socioeconomics, and infrastructure;
- Short-term, less than significant adverse effects to air quality, noise, geology and soils, and water resources due to construction activities;
- Long-term, less than significant adverse effects to air quality, noise, geology and soils, biological, and infrastructure resources due to operations and loss of habitat.

Based on the foregoing findings and conclusions, issuance of a Finding of No Significant Impact would be appropriate.

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1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 Introduction

This Environmental Assessment (EA) was developed by the Minnesota Army National Guard (MNARNG) to consider and document the potential environmental effects associated with the *Stationing, Construction and Operation of an Army Aviation Support Facility (AASF), Fielding of CH-47 “Chinook” Aircraft, and restationing of UH-60 “Black Hawk” Aircraft by the MNARNG in St. Cloud, Sherburne County, Minnesota (Figure 1-1)*. The EA is used by the MNARNG as a part of the decision process in selecting the most feasible and prudent alternative for the stationing, construction, and operation of an AASF, which would include fielding of an initial fleet of 6 CH-47s heavy-lift utility helicopters and restationing of part of the UH-60 fleet. The MNARNG anticipates construction of the AASF to begin in Fiscal Year 2007. This EA was prepared in accordance with the National Environmental Policy Act (NEPA 42 U.S. Code (USC) 4321 et seq.), the Council on Environmental Quality (CEQ) regulations, 40 Code of Federal Regulations (CFR) 1500, National Guard Bureau (NGB) NEPA Handbook (NGB 2002b), and 32 CFR Part 651 (Environmental Analysis of Army Actions, March 2002) guidelines.

The current facilities used by MNARNG aviation units include an AASF at Holman field, a multi-unit Readiness Center (RC)/Armory and space in a number of other Readiness Centers/Armories in Saint Paul, Minnesota. The size and age of the AASF facility severely limits the future flexibility and readiness potential of the guard units. Affected units include the 147th General Support Aviation Battalion (GSAB), 834th Division Aviation Support Battalion (DASB), 211 Aviation (AVN) Battalion (BN), and the 34th Aviation Brigade. The proposed AASF project is to be constructed in two phases which are listed as priorities 1 and 2, in a list of 63 prioritized projects in the MNARNG’s Long-Range Construction Plan (LRCP).

A combined Environmental Baseline Study (EBS) (MNARNG 2004a, b, and c) series and Charrette process (MNARNG 2004d) were initiated to analyze potential sites, needs, and costs of the proposed construction project. The Phase I EBS effort analyzed three potential sites; the current Holman field site in St. Paul and the St. Cloud and Mankato regional airports, for recognized environmental conditions (RECs). The results of the EBS effort were used to guide the Charrette process of analyzing facility requirements, site analysis, and the development of an implementation plan and Proposed Action, leading to this EA.

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1.2 Purpose and Need

The Army is in the process of a 30-year program to transform both Active and Reserve components to meet current and future security challenges. As part of the process, the Army Aviation Modernization and Transformation Plan (AAMTP, February 1, 2002) proposed adding to the current CH-47 fleet nationwide of the Army National Guard (ARNG). The additional CH-47s would allow reserve units to acquire and maintain proficiency in the same systems used by the Army's Active Component, aid in over-all readiness of the affected units, and allow seamless integration with Active units upon mobilization (NGB 2003). To comply with the AAMTP and the Army Transformation vision, the MNARNG is augmenting its current fleet of 16 UH-60s with 6 CH-47s.

The existing AASF at Holman Field in St. Paul, Minnesota does not meet the current needs of the MNARNG for the operation and maintenance of the UH-60 fleet. The addition of the CH-47s, which have a larger overall footprint than the UH-60, would not be feasible at the existing Holman field site. The proposed AASF hangar would be necessary for maintenance of the CH-47s due to the heavy-lift utility helicopter's larger size. The proposed AASF would also be used to support restationing between four and six of the existing UH-60 fleet from Holman Field in St. Paul in addition to the new CH-47 fleet. The new AASF would provide an indoor environment for CH-47 and UH-60 maintenance and storage without the time and effort of removing the rotors necessary for use of smaller facilities. The existing AASF would be maintained for tactical and strategic reasons, but a new AASF is needed in addition to the existing facility to support the current and future readiness requirements of the MNARNG.

1.3 Scope of the Document

The scope of this EA includes descriptions of two possible alternatives, summarized as follows:

- **Alternative 1: Proposed Action Alternative** – The proposed action alternative is for stationing, construction, and operation of the AASF, fielding of 6 CH-47s, and restationing of 4 to 6 UH-60s from Holman Field in St. Paul to the St. Cloud Regional Airport.
- **Alternative 2: No-Action Alternative** – Continue with facilities and operations as currently conducted and do not implement the proposed action.

A detailed description of the Proposed Action is provided in **Section 2.0**. Descriptions of the No-Action Alternative, as well as descriptions of alternatives eliminated from detailed study are provided in **Section 3.0**.

1.4 National Environmental Policy Act

NEPA of 1969 requires that federal agencies consider and document the potential environmental effects associated with major federal actions conducted within the United States, its territories, and its possessions, including all waters and airspace subject to the territorial jurisdictions of the United States. This EA was prepared in accordance with NEPA (42 USC 4321 et seq.), the CEQ regulations, 40 CFR 1500, NGB NEPA Handbook (NGB 2002b), and 32 CFR Part 651 guidelines. This EA was prepared in addition to the Final Programmatic Environmental Impact Statement for Army Transformation (U.S. Army 2002), the overall NEPA document for the Army Transformation effort, the Programmatic Environmental Assessment for Fielding of CH-47 “Chinook” Helicopters for the Army National Guard (NGB 2003), which did not include the proposed Minnesota addition, and the Programmatic Environmental Assessment for Fielding of UH-60 “Black Hawk” Helicopters (NGB 2000).

Except in some state emergency situations, the ARNG acts as a federal agency, and must comply with the requirements of NEPA, its implementing regulations, and other related federal statutes as well as state laws. The NEPA process ensures that federal agencies consider environmental factors in conjunction with the technological, economic, and mission-related components of a decision and that the public is informed and appropriately involved in the decision-making process.

1.5 Interagency Consultation and Coordination

The MNARNG consulted with appropriate federal, state, and local agencies to seek input on the Proposed Action. The information collected from the coordination process was used to evaluate potential impacts and is incorporated into this EA. Copies of agency correspondence received are included in **Appendix A**.

As part of this process, the MNARNG is requesting input from federally-recognized Native American tribes as required under DoD Annotated Policy Document (27 October 1999 Memorandum) for the DoD American Indian and Alaska Native Policy. The MNARNG submitted letters to all thirteen tribes listed in the statewide Integrated Cultural Resources Management Plan (ICRMP) (MNARNG 2002) and two additional out-of-state tribal groups with ancestral ties to the area. These entities were all invited to participate in the EA process as Sovereign Nations per Executive Order (EO) 13027. Copies of tribal correspondence are included in **Appendix B**.

2.0 DESCRIPTION OF PROPOSED ACTION

The Proposed Action is to add Det 1, B Co, 2-211 General Support Aviation Battalion, consisting of six CH-47s, to the current MNARNG force structure consisting of 16 UH-60s and would include constructing the proposed AASF at the SCRA to house and maintain the new CH-47 MNARNG fleet and between four and six of the existing UH-60 fleet. Such fielding activity is part of the larger Force Transformation currently planned for the U.S. Military by the Department of Defense, outlined in the Programmatic Environmental Impact Statement (PEIS) for Army Transformation (US Army 2002).

The stationing, construction, and operation of the AASF, fielding of the CH-47s, and restationing of a portion of the UH-60 fleet from Holman Field in St. Paul would be accomplished in a construction/fielding/restationing plan beginning in FY 2007. This action includes the two phased construction of the AASF, assessed in this EA, including all associated aircraft storage areas, support facilities, administrative space and parking areas. Potential future projects associated with construction of the AASF include construction of a supporting Field Maintenance Shop (FMS) and a RC for the personnel of the MNARNG Aviation Units who would work/train in the new AASF. These projects would be separate but associated actions, and would be addressed by separate environmental analysis/analyses if there is a determination made to implement either/both. Additional information regarding these projects can be found in the Cumulative Effects section (**Section 5.14**).

The proposed AASF would be constructed within the existing boundaries of the SCRA (**Figure 2-1**). The SCRA owns the land and historically leased it out on an annual basis for agricultural use. The MNARNG completed an EBS on the property to verify suitability for construction in 2004 (MNARNG 2004(b)). The MNARNG subsequently completed a 100-year lease agreement with the City of St. Cloud for construction of the proposed AASF on April 15, 2005. The proposed project would require about 53.6 acres (see **Figure 2-2** and **Table 2-1**).

Facility	Description	Acreage
Hangar Space	Heated Aircraft Storage	1.7
	Unheated Aircraft Storage	1.8
Office Space	Admin Area / Personnel	0.8
Other Facilities	Storage / Maintenance Facilities	0.7
Paved Areas	Facility Parking / Aircraft Operations	20.8
Open Space	Remainder of the Fenced Area	27.8
Total		53.6

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Figure 2-1: Project Site Location Map

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Figure 2-2: Proposed Construction Map

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The proposed AASF would likely require several permits and authorizations for construction and operation (see **Table 2-2** and **Appendix A**).

Table 2-2: Major Permits and Authorizations Required for the AASF Project	
Agency	Permit/Authorization
National Guard Bureau	Approval of EA
Minnesota Pollution Control Agency	NPDES
Benton County/Sherburne County	Construction Permit
Benton County/Sherburne County	Wetland Conservation Act
Federal Aviation Administration	Approval of Construction Plan
Minnesota Environmental Quality Board	Approval of EA
Sherburne County	Stormwater NOI
Minnesota Pollution Control Agency	Title V Air Permit

The proposed AASF would be designed to fall within the Federal Aviation Administration (FAA) building height restriction, defined as the maximum elevation falling within a 7-degree angle originating perpendicular from the center of the runway.

Fielding of the CH-47s and restationing of the UH-60s would result in an anticipated additional 6 flight operations per day at the SCRA, about a three percent increase from current levels. The MNARNG would utilize federal airspace within the local flying area. Although the local flying area for St. Cloud has not been defined yet, it would likely be an approximate 100-mile circle with major airports as boundary definitions. MNARNG aircraft would conduct hovering flight, takeoffs and landings at the SCRA. Tactical training would be concentrated at Camp Ripley, Minnesota. Visual Flight Rules (VFR) and Instrument Flight Rules (IFR) training would likely be concentrated in the St. Cloud and Minneapolis metropolitan areas. Instrument and general flight training would be conducted at remote airports that are currently utilized for UH-60 training.

The MNARNG currently does not use any off-airport landing zones other than Camp Ripley and the Foothills Training Area, just north of Pine River, MN, for any sort of tactical training. Any off-airport landing area request for additional training sites would be submitted through MN ARNG Joint Force Headquarters for approval. As part of this approval process, an environmental analysis is conducted. The new CH-47 fleet would predominantly utilize training areas already used by the existing UH-60 fleet.

MNARNG aircraft are operated in accordance with National Guard Regulation 95-210 and local regulations requiring aircraft to operate no lower than 500 feet above the surface unless on approach or required by an emergency. As part of their “fly neighborly” policy, MNARNG aircraft avoid built-up areas and concentrate repetitive flying over major transportation routes to reduce additional noise complaints. Flight

paths are adjusted as necessary to maintain harmony and community relations. Although ingress and egress flight routes have not yet been established for St. Cloud, routes to the south would likely be oriented on I-94. Routes to the north would likely be oriented on Highway 10.

3.0 ALTERNATIVES CONSIDERED

The MNARNG proposes to construct the proposed AASF as described in **Section 2**. This would include the associated elements described in **Table 2-1**. The MNARNG has also developed a No-Action Alternative as discussed in **Section 3.3**. Three sites were initially considered as part of a Charrette process, a collaborative multi-day planning environment including multiple disciplines and all interested parties. Through this process, two of the sites were determined to be unfeasible and were removed from further consideration but are listed in **Section 3.4** for reference.

3.1 Alternatives Development

The Charrette process undertaken by the MNARNG identified three potential locations for the proposed AASF: Holman Field in St. Paul, the SCRA, and the Mankato Regional Airport (MNARNG 2004d). Originally only the Holman Field site in St. Paul was under consideration; however, information discovered in the EBS process led to the inclusion of two additional sites in the study (MNARNG 2004a, b, c). The MNARNG prepared an EBS, preliminary geotechnical investigation, and construction feasibility analysis for each of the three sites. The feasibility of each site was evaluated using four constraints that had potential to negatively impact the proposed project.

- *Regulatory Constraints*: included the ability to execute project construction within known and determined physical and logistical constraints and within scheduled timeframes in order to meet the MNARNG's assigned mission(s).
- *Construction Constraints*: included the ability to execute project construction within known and determined physical and logistical constraints and within scheduled timeframes in order to meet the MNARNG's assigned mission(s). Of this criteria set, particular emphasis was placed on geological/geotechnical constraints and opportunities, including the availability of stable soils and subsurface materials, as this factor may create the potential for economic constraints.
- *Environmental Constraints*: Included
 - Threatened and Endangered Species constraints, including the potential to secure required permits and/or regulatory reviews in a timely manner in order to meet project and/or mission requirements.
 - Regulatory constraints, including the potential to secure required permits and/or regulatory reviews in a timely manner in order to meet project and/or mission requirements.
 - Hydrological constraints, including potential for flooding.
 - Noise generation / complaint potential and constraints, including proximity to potential sensitive receptors, as well as current and projected land use and development patterns, and land ownership. Emphasis was placed on

the fact that in addition to the existing UH-60 rotary-wing aircraft that the MNARNG currently fields, six CH-47 twin-rotor aircraft would be added to the MNARNG inventory.

- Airspace availability, usage, and constraints, including proximity to potential sensitive receptors.
- *Temporal constraints*: included the ability to secure military construction (MILCON) funding in a suitable manner, and the ability to execute project construction within scheduled timeframes in order to meet the MNARNG’s assigned mission(s).

Each of the sites was ranked based on a fixed point scoring system where the site with the lowest score was rated the best (**Table 3-1**). The potential sites at St. Paul, Mankato, and St. Cloud were ranked based on a five point scale based on the potential for each constraint to affect the implementation of the project. The scale is listed below;

- 1 – Highly Feasible; No Constraints Noted;
- 2 – Feasible; Mitigable Constraints Noted;
- 3 – Moderately Feasible;
- 4 – Poor Feasibility;
- 5 – Not Feasible; Potential Project Failure.

Table 3-1: AASF Site Feasibility Analysis			
	Holman Field	Mankato	St. Cloud
Regulatory Constraints	3.7	1.6	1.6
Construction Constraints	4.0	1.3	1.0
Environmental Constraints	2.8	1.4	1.0
Timetable Constraints	2.8	1.4	1.4
AVERAGE SCORE	3.3	1.4	1.2
AGGREGATE SCORE	13.3	5.7	5.0
RANK	3	2	1
Source: Feasibility Analysis.			

3.2 Proposed Action Alternative

The Proposed Action Alternative is for stationing, construction, and operation of the AASF, fielding of 6 CH-47s at the SCRA, and restationing 4 to 6 of the UH-60 fleet from Holman Field to the site. The St. Cloud site is located 4 miles east of the city of St. Cloud, about 76 miles northwest of St. Paul. The site has a 10,000 square foot terminal, 7,000 foot runway with a crosswind runway and new control tower. The airport is planned for progressive expansion over the next 20 years, including the possible inclusion of the proposed AASF. The SCRA established or matched the best scores for all constraints listed in **Table 3-1** for the three alternative sites. The site did not have the

monetary, permitting, time, or space constraints of the St. Paul site or the potential noise problems of the Mankato site (MNARNG 2004d). The MNARNG ultimately selected the SCRA as the Proposed Action based on site suitability and the ability to meet DoD timelines for construction.

3.3 No-Action Alternative

The MNARNG evaluated the maintenance of existing facilities and force structure against requirements for the proposed Force Transformation. This alternative, if selected, would effectively reduce future funding opportunities for the MNARNG as the NGB and DoD focus on the Force Transformation. Not accepting the Force Transformation would have the potential to negatively impact recruiting within the state and weaken the MNARNG's ability to meet their readiness and training requirements. If this alternative were selected, the MNARNG would maintain the existing AASF at Holman Field and continue external storage of the existing fleet of 16 UH-60s while not accepting the addition of 6 CH-47s or building an additional facility. Selection of the No-Action alternative would adversely impact the overall readiness and long term viability of the MNARNG and the Federal and State missions that the MNARNG supports.

3.4 Alternatives Eliminated From Further Consideration

NEPA, CEQ regulations, and 32 CFR Part 651 require all reasonable alternatives to be rigorously explored and objectively evaluated. Alternatives that are eliminated from detailed study must be identified along with a brief discussion of the reasons for eliminating them. Action Alternatives 2 and 3 were analyzed and removed from further consideration as part of the Charrette process documented in **Sections 3.1** and **3.2**.

3.4.1 Action Alternative 2

The MNARNG considered stationing, construction, and operation of the AASF and fielding of 6 CH-47s at the Mankato Regional Airport. The Mankato Regional Airport site is located outside of the city of Mankato, about 87 miles southwest of St. Paul. The airfield has a pair of runways, 5,400' and 4,000' long, and is surrounded by land in agricultural use. The site allowed for sufficient building space, and had costs on par with the St. Cloud proposal. However, the close proximity of residences would introduce noise encroachment issues into the process (MNARNG 2004d). While construction of an AASF at the site would be possible, the negative factors identified in the planning process led the MNARNG to consider the site unfeasible for meeting its readiness training requirements.

3.4.2 Action Alternative 3

The MNARNG considered stationing, construction, and operation of the AASF and fielding of 6 CH-47s at a new site at Holman Field. The Holman Field site is located

about 1 mile from the business district of downtown St. Paul. It has a 6,711 foot runway, instrument landing system, FAA control tower, and multiple associated airport facilities. The current AASF is located on the west side of the airport property, encompassing all available space in its vicinity. During the Charrette process, numerous problems with an expansion of the site were discovered including: positioning within a flood hazard area, soil stability issues, extended periods of permitting as compared to the other sites, excessive additional costs to complete, and a lack of physical space required to meet potential future needs of the MNARNG. The existing AASF at Holman Field would be maintained for tactical and strategic reasons, but a new AASF is needed in addition to the existing facility to support the current and future readiness requirements of the MNARNG. This alternative is not considered feasible by the MNARNG for meeting its readiness training requirements.

4.0 AFFECTED ENVIRONMENT

This section discusses the physical, biological, cultural, and socioeconomic environment for the proposed AASF at the SCRA in Sherburne County, Minnesota. Resource areas include:

- geographic setting and climate,
- land use,
- air quality,
- noise,
- geology and soils,
- water resources and water quality,
- floodplains,
- wetlands,
- biological resources,
- cultural resources,
- socioeconomics,
- protection of children,
- environmental justice,
- infrastructure, and
- hazardous/toxic materials and wastes.

Resource areas unlikely to sustain any measurable impacts (positive or negative) from the proposed AASF are addressed in this EA as mandated by NEPA, but are discussed in a relatively limited manner. Resource areas potentially affected (positive or negative) by the implementation of the Proposed Action are discussed in more detail.

4.1 Location Description

The proposed site for the stationing, construction, and operation of the AASF would occupy about 54 acres within the boundaries of the SCRA. The airport is located at 1550 45th Ave SE, approximately 4 miles east of the city of St. Cloud in Sherburne County, Minnesota (**Figure 1-1**). The proposed AASF building site is located within portions of Sections 3, 4, 9, 10, and 11, Township 35 North, Range 30 West (45° 32' 47.60" N, 94° 03' 35.56" W), in the southwestern portion of the airport, southwest of the south end of Runway 13/31 (**Figure 2-1**). This proposed AASF site is adjacent to the Air Traffic Control Tower constructed in 2004.

The land surrounding the SCRA is agricultural to the south and east. Areas to the north of the airport are a mix of agriculture and low to medium density housing. The Sand Prairie Wildlife Management Area (WMA), a wildlife habitat and recreation area, is located on the western boundary of the airport property, about one-mile from the proposed AASF site.

4.2 Land Use

Existing land use designations at and around the airport are currently being revised as part of the St. Cloud Regional Master Plan process. Information is primarily based on the existing land use classifications included in the 2004 update of the Sherburne County Comprehensive Land Use Plan (Sherburne County 2004).

Land use classes used for the Sherburne County Comprehensive Land Use Plan include:

- agricultural,
- city limits,
- commercial,
- general rural,
- heavy industrial,
- industrial,
- recreational,
- scenic river,
- special use district, and
- urban expansion.

The area of the Proposed Action is currently in agricultural use through an annual lease from the SCRA to a local farmer. The area is designated in the Sherburne County Comprehensive Land Use Plan as within the St. Cloud city limits (Sherburne County Public Works Department 2003). The land-use adjacent to the proposed project site is primarily agricultural and city limits (**Figure 4-1** and **Table 4-1**). Large portions of the surrounding area are planned for airport expansion as part of the St. Cloud Regional Airport Master Plan (Ricondo & Associates 2005).

Area	Distance
Closest rural residence to AASF Site	0.5 miles SW
Closest rural residence to Airport Site	0.65 miles NE
Closest Medium density housing	1.5 miles NE
Recreational Area	1.0 miles W
Mixed Industrial	2.0 miles W
Mixed Commercial	2.5 miles WSW

The Sand Prairie WMA lies to the west of the SCRA property, about one mile from the proposed AASF. The area is managed by the Minnesota Department of Natural Resources (MNDNR) for wildlife habitat and recreation. The Sand Prairie WMA is also designated an environmental education area and is closed to hunting year-round to encourage year-round environmental education use (MNDNR 2005). It is outside of the proposed area of potential effect.

Figure 4-1: Current Land Use Map

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4.3 Air Quality

The Clean Air Act (CAA) of 1970, 42 USC 7401, et seq., amended in 1977 and 1990, is the federal regulating legislation for the control of air quality. The CAA sets National Ambient Air Quality Standards (NAAQS) for numerous constituents including carbon monoxide (CO), nitrogen oxides (NO_x), ozone (O₃), particulate matter (PM-10), sulfur dioxide (SO₂), and lead (Pb). The Environmental Protection Agency (EPA) designates areas that exceed the NAAQS as non-attainment zones (Johns 2000). The project area was designated a non-attainment zone for CO in the past, but was re-designated as a maintenance area in 1993 (MPCA 2004). Maintenance areas are former non-attainment areas that fall under enforcement and monitoring requirements to confirm continued compliance with federal air standards. The SCRA does not currently have Title V or state air permits, indicating that the airport is not currently creating air emissions in excess of accepted thresholds (MPCA 2005).

4.4 Noise

Under NEPA (42 USC §4321), the Noise Control Act of 1972 (Public Law (PL) 92-574), EO 12088, AR 200-1, and 32 CFR Part 651, the U.S. Army, including the ARNG, is required to assess the environmental effect of noise produced by their activities. Within such an assessment, strategies are promulgated to establish proper land-use planning criteria that protect both on- and off-post receptors from environmental noise.

The Installation Operational Noise Management Plan (IONMP), formerly known as the Environmental Noise Management Program (ENMP), is the primary tool the ARNG uses to analyze noise impacts and land use compatibility. The IONMP program requires that studies be performed to identify noise contours with both location and intensity described. Management practices are then implemented to isolate and minimize noise based on the results of the study.

4.5 Geology and Soils

4.5.1 Geology

The proposed project is located within the Anoka Sand Plain, which was formed during the Quaternary glacial period. The landscape has extensive deposits of outwash sand and gravel that were deposited by meltwaters during the retreat of the last glaciation. Sand dunes were then superimposed on top of this plane by later local winds (Sansome 1983).

The site is underlain by deposits of fluvial sand and gravelly sand deposits of the Richfield Terrace, a post-glacial stream terrace of the Mississippi River. The site has potential economic significance for sand and gravel extraction (MNDNR-Division of Lands and Minerals 2001).

No geologic hazards associated with karst terrain (sink holes), weak soil (subsidence), or unstable slopes (landslides) are present at the site. Radon gas is broadly associated with geologic features in Minnesota and within the regional area of the proposed project. The MNARNG would construct all facilities in accordance with Army Indoor Radon Prevention and Mitigation Criteria (Unified Facilities Criteria 3-490-04A) (see **Section 5.5.1**).

A total of 19 earthquakes have been documented in Minnesota since 1860, with magnitude ranges of 0.1 to 4.8 (Chandler 1994). The nearest documented earthquake epicenter to the site is in Milaca, about 30-miles to the northeast with a magnitude of 1.0. The largest intensity recorded in the vicinity of the project area was from the Dumont, Minnesota earthquake of June 4, 1993 about 130-miles to the west. This earthquake had a magnitude of 4.1 and had a maximum Mercalli intensity of II to III in Sherburne County. A Mercalli intensity of II to III is not associated with structural damage to buildings (Chandler 1994).

4.5.2 Soils

The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) identified five primary soil types within the boundaries of the proposed site. About 82 percent of the site is underlain by excessively to somewhat excessively drained, loamy sand to sandy loam of the Sandberg-Arvilla and Hubbard-Mosford complexes. About 18 percent of the site is underlain by Udipsamments cut and fill, which consists primarily of local sand. Less than 1 percent of the site is underlain by excessively drained, Hubbard loamy sand (see **Figure 4-2**).

Hubbard loamy soil at the site is subdivided by slope characteristics into Hubbard 7B and 7C soils, with slopes of 2 to 6 percent, and 6 to 12 percent. Soil slopes of the Sandberg-Arvilla and Hubbard-Mosford complexes range from 0 to 3 percent and characterize the general topography at the site. Local topography slopes toward the south at the SCRA.

The erodibility of soils due to the actions of water and wind are rated using the soil erodibility (K) factor and wind erodibility (I) index, respectively. All soil types at the site have a low susceptibility to sheet and rill erosion by water. Sandy soils at the site are highly susceptible to erosion by wind. There are about 49 acres of sandy soils within the 54-acre site (USDA NRCS 1994).

The MNARNG consulted with the NRCS to determine if there are prime farmland soils located within the proposed project boundaries. Based on a letter received from the NRCS there are no prime farmland soils at the proposed project area (see **Appendix A**).

Figure 4-2: Area SSURGO Soils Map

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4.6 Water Resources

4.6.1 Ground Water

Outwash sand deposits of the Anoka Sand Plain constitute a regional aquifer. The Anoka sand-plain aquifer in the vicinity of the site has an estimated saturated aquifer thickness of less than 20 feet and a theoretical yield of less than 100 gallons per minute (MNDNR-Division of Waters 1977).

Shallow groundwater flow is generally toward the south with groundwater contours reflecting surface topography. The surficial aquifer in the vicinity of the site is rated as highly susceptible to contamination from releases at the surface (MNDNR-Division of Waters 1977). The MNARNG would implement appropriate existing plans and procedures regarding proper handling, storage and disposal of possible contaminants as well as develop a site specific plan to ensure that shallow groundwater at the site is not affected (see **Section 5.6.1**).

4.6.2 Surface Water

The proposed project is located within the Clearwater-Elk Watershed. The nearest surface water feature is the Elk River, located about 0.2 miles southeast of the site. There is a man-made ditch running west of and parallel to the main runway. The proposed AASF would be adjacent to the man-made ditch. The ditch drains to a jurisdictional wetland located southeast of the project area. The Elk River runs roughly north to south in the vicinity of the site and drains to the south.

Coordination with the Sherburne County Soil and Water Conservation District identified local soils as having a high infiltration rate, and indicated concerns over an increase of downstream flow through an increase in impermeable surfaces in the area (**Appendix A**). The MNARNG would construct shallow bio-retention basins to further increase infiltration of stormwater to address concerns (see **Section 5.6.2**).

4.6.3 Wetlands and Riparian Area

Executive Order 11990 (Protection of Wetlands) and Clean Water Act (CWA) 404 (Federal Water Pollution Control Act) require federal agencies to take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the beneficial values of wetlands. No wetlands have been documented as occurring within the boundaries of the proposed project. There are emergent and scrub-shrub wetlands to the west and to the southeast of the project site (**Figure 4-3**).

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Figure 4-3: Area NWI Wetlands Map

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4.6.4 Floodplains

Executive Order 11988 (Floodplain Management) requires agencies to assess the effects their actions may have on floodplains and to consider alternatives to avoid adverse effects and incompatible development on floodplains. The proposed project is not within a floodplain boundary (Federal Emergency Management Agency (FEMA) 2003).

4.7 **Biological Resources**

4.7.1 Vegetation

The proposed AASF site is located on a well-drained sandy upland. The site is composed of dry-land agriculture and open space surrounding the abutting runway. The majority of the area in the vicinity of the site is currently used for agricultural row-cropping. Non-agricultural areas are located around lowland areas of emergent wetlands surrounded by upland brush and oak openings.

The Sherburne County Biological Survey (CBS) identified remnant native vegetation communities a quarter-mile east and a half-mile west of the proposed project area. Remnant native plant communities such as Wet Meadow and Floodplain Forest are known to occur in the wildlife management area located west of the proposed site (Minnesota CBS 2005). No sensitive plant communities occur within the boundaries of the proposed AASF site or within the area of potential effect of the project.

4.7.2 Wildlife

The SCRA identified 38 species of birds and 3 species of mammals observed on the property. The species most commonly observed include Canada goose (*Branta canadensis*), European starling (*Sturnus vulgaris*), red-winged blackbird (*Agelaius phoeniceus*), crow (*Corvus brachyrhynchos*), mourning dove (*Zenaidura macroura*), pigeon (*Columba livia*), whitetail deer (*Odocoileus virginianus*), coyotes (*Canis latrans*), red fox (*Vulpes vulpes*), and various wading and shore birds and raptors (SCRA 2002). Other wildlife species commonly found in the area include woodchuck (*Marmota monax*), rabbits (family *Leporidae*), chipmunks and squirrels (family *Sciuridae*), and pocket gophers (*Geomys bursarius*).

4.7.3 Big Game

Whitetail deer are common in the area. Black bear (*Ursus americanus*) and moose (*Alces alces*) are uncommon in the region and are considered incidental for planning purposes (U.S. Fish and Wildlife Service (USFWS) 2001).

4.7.4 Migratory Species

During the migrating seasons, numerous species of waterfowl move through the region. Typical species include: mallard (*Anas platyrhynchos*), teal (*Anas discors* and *crecca*), northern pintail (*Anas acuta*), wood duck (*Aix sponsa*), mergansers (*Lophodytes cucullatus* and *Mergus merganser*), Canada goose, and tundra swan (*Cygnus columbianus*) (USFWS 2001).

4.7.5 Threatened, Endangered, and Species of Concern

The MNARNG contacted the USFWS and the MNDNR Natural Heritage Program (NHP). The Natural Heritage Program identified four species of state interest in the region of the airport (see **Appendices A** and **C**):

- Blanding's Turtle (*Emydoidea blandingii*) – State listed threatened
- Western Hognose Snake (*Heterodon nasicus*) – State listed threatened
- Sandhill Crane (*Grus canadensis*) – State monitored but not listed
- Cowbane (*Oxypolis rigidior*) – State monitored but not listed

Of the four species, the NHP identified that the only species of concern to the proposed AASF project was the Blanding's Turtle.

Blanding's Turtle

The Blanding's turtle (*Emydoidea blandingii*) is a Minnesota state-listed threatened species. The turtle prefers calm shallow water in proximity to sandy uplands. The CBS database has recorded three occurrences of the Blanding's turtle on the SCRA (see **Appendix C**). The Minnesota NHP also identified the potential occurrence of Blanding's turtle in the project area. Portions of the AASF site are within the terrestrial range of the Blanding's turtles observed in the wetlands to the west and southwest (**Figure 4-4**).

Figure 4-4: Potential Threatened and Endangered Species Habitat Locations

Insert Figure 4-4 Here

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4.8 Cultural Resources

Cultural Resources can be considered as any of the following:

- Historic properties as defined by the National Historic Preservation Act of 1966 (NHPA),
- Cultural Items as defined by the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA),
- Archaeological Resources as defined by the Archaeological Resources Protection Act of 1979 (ARPA),
- Sacred Sites as defined in EO 13007 to which access is afforded under the American Indian Religious Freedom Act of 1978 (AIRFA), and
- Collections and Associated Records defined in 36 CFR 79.

The MNARNG finalized a statewide ICRMP in 2002 in accordance with Army Regulation (AR) 200-4, DoD Instruction 4715.3, EO 13175, and DoD Measures of Merit. The ICRMP integrates cultural resource management with mission activities and other management programs on MNARNG facilities including providing guidance on the identification and evaluation of cultural resources at new locations.

The MNARNG completed a literature review of existing information for the site, received recommendations for further investigation of the site, and completed a Phase I pedestrian survey of the site. The Phase I survey of the site did not identify any sites eligible for or potentially eligible for listing on the National Registry of Historic Properties (NRHP). The MNARNG submitted consultation letters to all thirteen tribes listed in the statewide ICRMP (MNARNG 2002) to request any information on sites of Native American interest in the project area.

4.8.1 Archaeological Resources

The MNARNG reviewed the proposed site for archeological resources, traditional Native American sites, or paleontological resources. No archeological resources, traditional Native American sites, or paleontological resources are known to occur within the proposed project area.

4.8.2 Architectural Resources

There are no buildings located within the boundaries of the proposed project.

4.8.3 Native American Coordination / Consultation

On October 29, 1999, the Department of Defense (DoD) issued an annotated policy to the American Indian and Alaska Native Policy. It was intended to clarify key aspects of DoD American Indian and Alaska Native Policy that was promulgated October 20, 1998. The annotated policy provides further explanation on the meaning of "tribes" and other terms; it further interprets the phrase "may have the potential to significantly affect" and expands upon the need for informal versus formal consultation. The annotated policy provides additional guidance on the actual mechanism of the government-to-government consultation process and the timing of notification of the tribes. It also discusses in more depth responsibilities regarding the protection of natural and cultural resources, and protection of sacred, religious, or traditional Native American sites.

Fifteen federally recognized Native American tribes were identified as part of the ICRMP (MNARNG 2002). Per NGB guidance, the MNARNG sent formal certified-letters to the Native American tribes with ancestral ties to the St. Cloud area in order to notify them of the proposed project and to request comments. These entities were all invited to participate in the EA process as Sovereign Nations per EO 13027. Tribal correspondence can be found in **Appendix B**.

4.9 **Socioeconomics**

Socioeconomics identifies and describes the basic attributes and resources associated with the human environment surrounding the SCRA. These data are presented in order to provide an understanding of the socioeconomic forces that have shaped, and continue to shape, the area. Socioeconomic areas of discussion typically include local demographics, regional and installation economy, local housing, local schools, local medical facilities, local service facilities, local recreational facilities, and associated issues of health and safety to the surrounding communities.

Socioeconomic data shown in this section are presented at the city, county, and state levels to analyze baseline socioeconomic conditions in the context of local, regional, and state trends. Data have been collected from previously published documents issued by federal, state, and local agencies and from state and national databases (e.g., the U.S. Bureau of Economic Analysis' Regional Economic Information System and data collected by the U.S. Census Bureau).

The proposed site is located within the boundaries of the SCRA and on land owned by the airport. The area is within the municipal boundaries of the city of St. Cloud, a city of about 60,000 people. The St. Cloud urban area includes five cities and eight townships in central Minnesota with portions in Benton, Stearns, and Sherburne counties, encompassing a population of over 105,000 (**Table 4-2**). The 2000 Census showed

growth in the area at twice the rate of the statewide average (City of St. Cloud Planning Office 2003).

Area	1980	1990	2000	Change 80-00
Haven Township	1,603	1,921	2,111	32%
St. Cloud	42,566	48,812	58,978	39%
St. Cloud Urban Area	76,614	92,016	104,433	36%
Sherburne County	29,908	41,945	64,417	115%
Minnesota	4,075,970	4,375,099	4,919,479	21%

The population is made up largely of young to middle-aged adults and is predominantly Caucasian (**Table 4-3**). The largest minority group is of Asian descent. The minority population in the city increased by 230 percent between 1990 and 2000.

Demographic	St. Cloud - 2000	Statewide - 2000
Age 19 and Under	27.1%	29.1%
Age 20 – 60	59.7%	55.2%
Age 60 and Over	13.1%	15.6%
White	92%	89.4%
African American	1.9%	3.5%
American Indian and Alaska Native	0.8%	1.1%
Asian or Pacific Islander	2.8%	2.9%
Other Race	2.4%	3.0%

About 56 percent of the St. Cloud population was employed in 2000. The primary employers were the St. Cloud Hospital, the State of Minnesota, and Frigidaire. The median household income for the city was about 79 percent of the statewide average (**Table 4-4**). St. Cloud had over 7 percent more households below the poverty level than the statewide average. Comparatively, Haven Township, the surrounding township of the airport site, had a median household income 36 percent higher than the state average and a considerably lower rate of poverty (Minnesota Department of Administration (MNDA) 2001).

Area	Households	Persons Per Households	Median Household Income	Households Below Poverty Level
Haven Twp	693	3.03	\$63,906	9.4%
St. Cloud	17,746	2.75	\$37,346	31.4%
Minnesota	1,648,825	2.65	\$47,111	23.5%

4.9.1 Visual Resources

The proposed AASF site falls within the existing SCRA site. The proposed AASF would include five (5) two-story buildings to be constructed on the site in close proximity to the primary runway and new air traffic control tower (MNARNG 2004). The airfield currently has two runways and supports about 220 flights per day (Ricondo & Associates 2005). The proposed AASF plans an additional 6 helicopter flights per day, increasing the flight activity by 3 percent. The 20-year plan portion of the St. Cloud Regional Airport Master Plan also envisions an additional parallel runway to the west of the project site. The new construction may be visible from the WMA to the west and from agricultural areas to the south and east. The bulk of the airport would block visibility of the buildings from the north.

4.9.2 Grazing Land

There is no grazing land on or adjacent to the proposed project area.

4.10 **Protection of Children and Environmental Justice**

Because children may suffer disproportionately from environmental health risks and safety risks, EO 13045, Protection of Children from Environmental Health Risks and Safety Risks, was introduced on April 21, 1997. EO 13045 was intended to prioritize the identification and assessment of environmental health risks and safety risks that may affect children and to ensure that federal agencies' policies, programs, activities, and standards address environmental risks and safety risks to children.

The proposed AASF would be situated within the boundaries of the SCRA and there are no child care centers, schools, parks, or other concentrations of children that exist within the boundaries of the proposed project. The closest school is the Talahi Elementary School 3 miles to the west. The closest day care facility is the Kangaroo's Pocket Child Care 2.5 miles to the west (Mapquest 2005).

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, dated 11 February 1994, was issued to focus attention of federal agencies on human health and environmental conditions in minority and low-income communities and to ensure that potential disproportionately high and adverse human health or environmental effects on these communities are identified and addressed. Minority populations in the vicinity of the proposed project area are lower, than the state average (**Table 4.3**). While the median income in the city of St. Cloud is lower than the state average, the income of the township surrounding the airport property is considerably higher than the statewide average.

4.11 Infrastructure

The site of the proposed AASF is about 4 miles east of the City of St. Cloud and is accessed by Sherburne County Road 65 (45th Avenue). Sherburne County Road 65 is a 2-lane, asphalt highway with a maximum weight limit of 7-tons per axle, located a mile west of the AASF site. Coordination with Rhonda Lewis P.E., Sherburne County Engineer, identified no anticipated difficulties with the additional vehicular load of the anticipated AASF personnel and that the road was scheduled for reconstruction within 5-years to meet the anticipated expansion of the airport (see **Appendix A**). The SCRA has two runways: 7,000 feet and 3,000 feet.

The airport is served by septic fields and water wells located about 2 miles from the AASF site, and would be extended to the site by the City. Natural Gas, electric, and communications were extended to the new tower site north of the project site and could be utilized by the AASF. The City would bring utilities to the site as part of the proposed AASF project.

The SCRA is serviced by police and fire services from St. Cloud (MNARNG 2004b). The SCRA operates the tower located adjacent to the proposed AASF. Security at the site is an unmanned gate with chain link fence around the airport. Security constraints would require modifications to the control tower access road. There is minimal security lighting. Security requirements would be incorporated into the AASF design and construction documents.

4.12 Hazardous and Toxic Materials/Wastes

Hazardous materials are defined for this document as any one of the following: any substance designated pursuant to Section 311(b)(2)9A0 of the CWA; any element, compound, mixture, solution, or substance designated pursuant to Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); any hazardous waste having the characteristics identified under the Resource Conservation and Recovery Act (RCRA); any toxic pollutant listed under the Toxic Substances Control Act (TSCA); any hazardous air pollutant listed under Section 122 of the CAA; or any imminently hazardous chemical substance or mixture with respect to which the U.S. EPA Administrator has taken action pursuant to Subsection 7 of TSCA.

Hazardous wastes are defined as any solid, liquid, contained gaseous or semi-solid waste, or any combination of wastes, which pose either a substantial present or potential hazard to human health or the environment, as determined by ignitable, corrosive, reactive, or toxic characteristics. There are no known hazardous or toxic materials currently or previously stored within the boundaries of the proposed project (MNARNG 2004b).

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5.0 ENVIRONMENTAL EFFECTS

5.1 General Overview

This section identifies potential positive and adverse environmental, cultural, and socioeconomic effects of the identified alternatives on each of the attributes presented in **Section 4**, and compares and contrasts potential effects from the alternatives. In addition, this section identifies any mitigation measures that, if needed, would minimize or eliminate the level of identified impacts.

5.1.1 Direct Versus Indirect Effects

Effects may apply to the full range of natural, aesthetic, historic, cultural, and economic resources of the proposed project and its environment. Effects identified may be beneficial or adverse. Definitions and examples of direct and indirect effects as used in this document are as follows:

Direct Effect

A direct effect is caused by the Proposed Action (proposed AASF), and occurs at the same time and place. For example, a direct effect of the proposed AASF is that construction would include the clearing of vegetation to accommodate new development.

Indirect Effect

An indirect effect is caused by the proposed AASF and is later in time or farther removed in distance from the causal event, but still reasonably foreseeable. Indirect effects may include induced changes in the pattern of land use, population density or growth rate, and related effects on air, water, and other natural resources, and social systems. Referencing the example of possible direct effects described above, the clearing of vegetation for new development may have an indirect effect on area wildlife by decreasing available habitat.

Application of Direct Versus Indirect Effects

For direct effects to occur, a resource must be present in a particular study area. Again following the above example, if vegetation resources were disturbed in a particular area, there may be a direct effect upon wildlife as a result of displacement from available habitat. This displacement from habitat could indirectly affect habitat in adjacent areas by potentially increasing the wildlife populations in those areas.

5.1.2 Short-term Versus Long-term Effects

In addition to indicating whether effects are direct or indirect, the impact matrix summaries included in this section also distinguish between short- and long-term effects. In this context, short- and long-term do not refer to any rigid time period and are determined on a case-by-case basis in terms of the environmental consequences of the

Proposed Action. Where both short- and long-term effects are expected to occur, the information is discussed in the corresponding text narrative.

5.1.3 Cumulative Effects

Sections 5.2 through **5.12** describe individual effects within each specific NEPA technical subject area in regards to the proposed AASF project itself. In addition to individual effects, NEPA requires the analysis of cumulative environmental effects of a Proposed Action. Cumulative impact analysis captures the sum of the environmental effects of the project in combination with the effects of other current or reasonably foreseeable future actions in the area. Such factors as changes in traffic congestion fall under cumulative effects.

5.1.4 Significance Criteria

The term "significance" as used in NEPA requires consideration of both the context and intensity of the effect under consideration. Significance can vary in relation to the context of the Proposed Action. For the AASF Proposed Action, context may include consideration of effects on a national, regional, and/or local basis. Both short- and long-term effects may be relevant. Impacts are also evaluated in terms of their intensity or severity. Factors contributing to the intensity of an impact include:

- The degree to which the action affects public health or safety,
- The proximity of the action to resources which are legally protected by various statutes such as wetlands; resources listed in, or eligible for, the National Register of Historic Places; regulatory floodplains; and listed threatened or endangered species,
- The degree to which the effects of the action on the quality of the human environment are likely to be highly uncertain or controversial,
- Whether the action is related to other actions, such as the St. Cloud Regional Airport Master Plan, with individually insignificant but cumulatively significant impacts, and
- Whether the action threatens to violate federal, state, or local law imposed for the protection of the environment.

5.2 **Land Use**

Implementation of the Proposed Action would be consistent with applicable land use plans and is not anticipated to alter growth or development or affect visual resources. The land area currently proposed for the construction of the proposed AASF is within the boundaries of the existing SCRA property. The project area is zoned for airport

expansion and the land surrounding the proposed AASF is zoned for airport and agriculture. The proposed project would conform to the current Land Use Master Plan.

Since the project is consistent with long range plans and occurs on land owned by the SCRA, the Proposed Action is expected to have beneficial effects on land use.

No-Action Alternative

Under the No-Action alternative, the Proposed Action would not be implemented and no changes in land use would occur. Since the proposed site is within the area designated for airport expansion, not building the project would result in no effects related to land use.

5.3 Air

To minimize the effects on air quality due to construction, the MNARNG would construct the project in accordance with National Pollutant Discharge Elimination System (NPDES) permit requirements and best management practices (BMPs) to minimize wind erosion and dust. In addition, the MNARNG would require the contractor to keep a clean worksite to minimize the potential for airborne dust and debris.

The SCRA is within an established maintenance area for CO emissions, however, the airport has not shown a need for air permitting in the past nor is it considered a point source of pollution in the area (MPCA 2004 and 2005). Operations of the proposed project would potentially add to the existing air pollutants at the SCRA through additional aircraft flights, fueling depots, and support vehicles at the SCRA. Emissions due to flight operations are in proportion to the number of missions.

NGB studies show that CH-47s are operated an average of 118.8 hours per year. Assuming this level of usage, the expected air pollution contribution of the aircraft fielding per year is 1.49 tons of NO_x, 1.43 tons of VOC, 1.79 tons of CO, 0.18 tons of PM-10 and 0.04 tons of SO_x annually. MNARNG UH-60s average 955 hours of operation per year. The restationed fleet would produce about 1.29 tons of NO_x, 0.52 tons of CO, 0.004 tons of PM-10 and, and 0.09 tons of SO_x annually (NGB 2000). The combined emissions of the proposed aircraft fleet are well below the threshold values requiring a conformity analysis with the CAA (NGB 2003). These emissions are not expected to pose an exceedance of federal or state air emission standards (see **Appendix A** for Record of Non-Applicability). Flight operations would be focused in areas already utilized by the UH-60 fleet based in St. Paul, and would avoid built-up areas as part of a “fly neighborly” policy. Operations of the Proposed Action would have minor effects on air quality.

Stationing, construction, and operation of the AASF, fielding of the CH-47s and restationing of the UH-60s may result in minor short-term effects due to the potential for increased wind erosion and dust as a result of construction activities and minor long-term effects due to helicopter emissions (NGB 2003).

No-Action Alternative

Under the No-Action alternative, the Proposed Action would not be implemented and no effect on air quality.

5.4 Noise

The MNARNG coordinated with the USACHPPM to determine the need for a detailed rotary-wing noise modeling analysis. Based on the scope of the proposed project, the USACHPPM representative determined that a detailed rotary wing noise modeling analysis would not be required (Stewart 2005).

The average ARNG CH-47 operates 118 hours per year. Assuming each flight averages two hours, six CH-47s would conduct 354 operations over the course of a year (NGB 2003). The flight corridors used when the aircraft leave the airfield are at 1,000 feet above ground level (AGL). The Day-Night Sound Level (DNL) can be calculated if one knows the SEL of a noise source. The SEL of a CH-47 at 1,000 feet AGL is 90.8 dB. While UH-60 flights would be much more frequent, upwards of 6 per day as compared to 7 per week, the sound level produced by the UH-60 is much lower, at 75.9 dB at 1,000 feet AGL (NGB 2002a). To generate Noise Zone II levels (65 Average DNL) along the flight paths, there would have to be 256 operations over a one-day period, over 40 times the proposed activity level.

Based on the proposed flights, numbers, and frequency at the proposed AASF site, noise levels would coincide with Noise Zone I levels. Noise Zone I levels are suitable for all types of land use activities (USACHPPM 2005). The addition of the six CH-47s and four to six UH-60s would not likely alter the existing noise contours of the SCRA as the proposed number of daily flights is only a 3-percent increase to current aircraft operations (see **Appendix A** for current SCRA noise contours). Implementation of the Proposed Action would have a minor effect on local noise patterns.

No-Action Alternative

Under the No-Action alternative, the Proposed Action would not be implemented and no effect on existing noise contours at this site would occur.

5.5 Geology and Soils

5.5.1 Geology

Construction of the proposed project would extend into the existing soil and subsoil and would not impact any known geological formations. Geologic hazards associated with karst terrain (sink holes), weak soil (subsidence), and unstable slopes (landslides) are not present at the site. Radon gas potentially occurs at the project location. The MNARNG would construct all facilities in accordance with Army Indoor Radon Prevention and Mitigation Criteria (Unified Facilities Criteria 3-490-04A) to prevent excessive radon infiltration into buildings from site soils. Implementation of the Proposed Action would have no effect on geologic resources.

No-Action Alternative

Under the No-Action alternative, the proposed AASF would not be constructed and there would be no effect on geological resources.

5.5.2 Soils

Stationing, construction, and operation of the AASF would convert about 26 acres of the 54 acre site (48%) from crop production to impervious surfaces. Soils at the proposed site are not identified as prime farmland by the NRCS and the project is not of concern to the Minnesota Department of Agriculture (**Appendix A**). Based on the location of the proposed project within the SCRA boundary, the existing long range plan for airport expansion, and the lack of NRCS designated Prime Farmland within the project area, implementation of the Proposed Action would have a minor effect on soil resources.

No-Action Alternative

Under the No-Action alternative, the proposed AASF would not be constructed and there would be no effect on soil resources.

5.5.3 Highly Erodible Soils

Proposed construction activities would remove vegetation and leave soil bare for a period of time. Construction of paved areas and structures would immobilize soils previously subject to wind erosion. During construction, the MNARNG would require establishment of erosion control devices and construction techniques to minimize the potential for wind erosion of susceptible soils. To minimize impacts from erosion or dust during construction, erosion control and sediment control devices would be used during construction as well as fugitive dust control measures. Such controls may include the use of silt fences and hay bales, and the seeding of cleared areas that are to remain exposed for long periods of time. The sediment and erosion controls that would be used during construction would be in accordance with the Minnesota Pollution Control Agency

(MPCA) stormwater design standards. Implementation of the Proposed Action with the listed construction practices would have minor effects upon highly erodible soils.

No-Action Alternative

Under the No-Action alternative, the proposed AASF would not be constructed, existing soil conditions would remain, and there would be no effect on highly erodible soils.

5.6 Water Resources

5.6.1 Ground Water

Stationing, construction, and operation of the AASF, fielding of the CH-47s, and restationing of the UH-60s has the potential to affect the ground water resources if a release of a petroleum product should occur. Proper engineering design of fuel and oil tanks, piping, and secondary containment; as well as proper handling, storage, and disposal of waste materials, would prevent surface releases of contaminants and ensure that shallow groundwater at the site is not affected.

Implementation of the Proposed Action with the identified construction and management practices would likely not impact ground water resources.

No-Action Alternative

Under the No-Action alternative, the proposed AASF would not be constructed and there would be no effect on ground water resources.

5.6.2 Surface Water

Stationing, construction, and operation of the AASF may increase run-off. Construction activities would comply with the requirements of the Minnesota NPDES permits. During operations of the AASF, runoff and stormwater discharge would be managed through permanent stormwater BMPs.

The Sherburne County Soil and Water Conservation District identified concerns with increased recent flooding of the downstream Elk River watershed, and possible attribution to an increase in local impermeable surfaces (see **Appendix A**). Shallow bio-retention basins seeded with native grasses and forbs would be constructed on portions of the open area to further increase infiltration of stormwater to address the County's concerns.

No significant negative effects to surface waters are anticipated by the U.S. Army Corps of Engineers (USACE, see **Appendix A**). Implementation of the Proposed Action with the described environmental management practices would have a minor effect on surface water resources.

No-Action Alternative

Under the No-Action alternative, a proposed AASF would not be constructed and there would be no effect on surface water resources.

5.6.3 Wetlands and Riparian Area

Stationing, construction, and operation of the AASF would not cause ground disturbance of wetland or riparian areas. A stormwater management plan and infrastructure would minimize potential run-off from the site to adjacent wetlands. Implementation of the Proposed Action with identified management practices would have a minor effect on wetlands and riparian resources.

No-Action Alternative

Under the No-Action alternative, a proposed AASF would not be constructed and there would be no effect on wetlands and riparian resources.

5.7 Biological Resources

5.7.1 Vegetation

The proposed project would require the permanent clearing of about 26 acres of upland, non-agricultural vegetation. No rare or sensitive vegetation exists within the proposed construction site for the AASF. Implementation of the Proposed Action would have a minor effect on vegetation resources.

No-Action Alternative

Under the No-Action alternative, a proposed AASF would not be constructed and there would be no effect on existing vegetation.

5.7.2 Wildlife

The proposed project would require the permanent clearing of about 26 acres of mostly agricultural upland for the AASF and parking lots. The long-term impact of construction is not expected to significantly impact wildlife. Common bird species that utilize the construction site are expected to relocate readily to similar adjacent habitats during construction. Mortality of less mobile species such as reptiles may occur during construction.

The SCRA developed a Wildlife Hazard Management Plan in 2002 to aid in minimizing aircraft conflicts with local wildlife. Management methods in the plan include perimeter fencing, tree removal, monitoring of surface waters on the property for migratory birds, and deterrents to detected wildlife such as hazing and depredation permits (SCRA 2002). The SCRA plan should minimize potential wildlife conflicts from the fielding of the

CH-47s on the site. Implementations of the Proposed Action would have a minor effect on wildlife resources.

No-Action Alternative

Under the No-Action alternative the proposed AASF would not be constructed at the proposed site and there would be no effect on wildlife resources.

5.7.3 Threatened and Endangered Species

The Proposed Action would not affect any federally listed threatened or endangered populations. The proposed project may affect state-listed Blanding's Turtle individuals or habitat. The MNARNG would implement construction and environmental management procedures identified through consultation with the USFWS and the MNDNR Natural Heritage Database. Work crews would receive information on the turtle, silt fences would be erected around the work site to deter turtle entrance into the area of activity, and any discovered turtle would be moved if it is in imminent danger. Additional landscaping and management practices can be found in **Appendix C**. The Proposed Action with the incorporation of any needed environmental management procedures would not adversely affect threatened or endangered species.

No-Action Alternative

Under the No-Action alternative the proposed AASF would not be constructed at the proposed site and there would be no effect on threatened and endangered species.

5.8 Cultural Resources

The MNARNG completed a literature review of existing information for the site, received recommendations for further investigation of the site, and completed a Phase I pedestrian survey of the site. The Phase I survey of the site did not identify any sites eligible for or potentially eligible for listing on the National Registry of Historic Properties. The Minnesota State Historic Preservation Office (SHPO) concurred with the findings of the Phase I report in a letter dated 18 August 2005 (see **Appendix A**).

The MNARNG sent formal certified-letters to the Native American tribes with ancestral ties to the St. Cloud area in order to notify them of the proposed project and to request comments. These entities were all invited to participate in the EA process as Sovereign Nations per EO 13027. No concerns were raised by responding tribal groups. Tribal correspondence can be found in **Appendix B**.

In the event of an inadvertent discovery of archaeological resources or burials at the proposed site during construction activities, the MNARNG would implement the protection measures identified in MNARNG ICRMP Section 6.6 – Standard Operating

Procedure: Inadvertent Discovery of Archaeological Resources or Burials (MNARNG 2002).

Implementation of the Proposed Action with the identified ICRMP plan procedures and the unanticipated discoveries plan would have no effect on protected cultural resources including tribal resources, tribal rights, sacred sites, or Indian lands.

No-Action Alternative

Under the No-Action alternative the proposed AASF would not be constructed at the proposed site and there would be no effect on cultural resources.

5.9 Socioeconomics

Construction of the Proposed AASF would be consistent with the Land Use plan of St. Cloud (City of St. Cloud Planning Office, 2003) and would be part of an existing airfield. The AASF would bring 50 additional full-time positions and 150 part-time positions to the area. Jobs would likely be filled through a combination of commuting from surrounding communities, individuals transplanting to the area from other locations and maintaining residences, and from within the St. Cloud community itself. Implementation of the Proposed Action would represent a beneficial effect to socioeconomic resources.

No-Action Alternative

Under the No-Action alternative, the Proposed Action would not be implemented and no changes in socioeconomic conditions in the area would occur.

5.10 Protection of Children and Environmental Justice

The proposed AASF would be situated within the boundaries of the SCRA and there are no child care centers, schools, parks, or other concentrations of children that exist within the boundaries of the proposed project. The closest school is the Talahi Elementary School 3 miles to the west. The closest day care facility is the Kangaroo's Pocket Child Care 2.5 miles to the west (Mapquest 2005). Helicopter flight patterns are expected toward the north and east. In addition, a "Fly Neighborly" policy restricts flights over populated areas in the absence of a mission.

Based on a review of census data, the Proposed Action would not be expected to create any advantage or disadvantage for any group or individual, nor would it be expected to create disproportionately high or adverse human health or environmental effects on children, minorities, or low income populations in the communities surrounding the SCRA.

No-Action Alternative

Under the No-Action alternative, the Proposed Action would not be implemented and there would be no disproportionate effect on children, minorities or low income populations.

5.11 Infrastructure

Construction of the proposed project would increase the road usage and require connection to municipal services. These actions are consistent with the existing Land Use Plan of St. Cloud and would have a minor effect on infrastructure.

No-Action Alternative

Under the No-Action alternative, the Proposed Action would not be implemented and there would be no effect on infrastructure in the area.

5.12 Hazardous and Toxic Materials/Wastes

The proposed AASF would require the fuel and equipment to support the helicopter fleet. The following hazardous materials, storage tanks, and equipment would be needed on the site: two 20,000 gallon fuel tanks, two 5,000 gallon fuel trucks, one 5,000 gallon tanker, four Heavy Expanded Mobility Tactical Trucks, 40,000 gallons of JP8, and various solvents and oils. The MNARNG would implement proper engineering design of fuel and oil tanks, piping, and secondary containment, as well as proper handling, storage, and disposal of waste materials. The MNARNG would contract with a licensed hauler for removal and disposal of any wastes. Implementation of the Proposed Action with the identified management procedures would result in no effect from hazardous materials in the area.

No-Action Alternative

Under the No-Action alternative, the Proposed Action would not be implemented and there would be no effect on hazardous materials in the area.

5.13 Mitigation Measures

If applicable, mitigation measures were considered for each alternative. If significant adverse impacts were identified, this document would procedurally describe measures that would be used to mitigate such effects. Example mitigation measures generally include:

- Avoiding the impact altogether by stopping or modifying the proposed action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.

- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action, such as implementation of appropriate and accepted BMPs.
- Compensating for the impact by replacing or providing substitute resources or environments.

It was determined that no mitigation measures were necessary during implementation of the Proposed Action as no significant effects to area resources are anticipated.

5.14 Cumulative Effects

As defined by CEQ regulations in 40 CFR Part 1508.7, cumulative effects “result from the incremental impact of the Proposed Actions when added to other past, present and reasonably foreseeable future actions, without regard to the agency (federal or non-federal) or individual who undertakes such other actions.” Cumulative effect analysis captures the effects that result from the Proposed Action(s) in combination with the effects of other actions taken during the duration of, and later in time than, the Proposed Action(s) in the same geographic area.

NEPA requires the analysis of cumulative environmental effects of a Proposed Action, or set of actions, on resources that may often be manifested only at the cumulative level, such as traffic congestion, air quality, noise, biological resources, cultural resources, socioeconomic conditions, utility system capacities, and others.

5.14.1 Cumulative Effects of the Proposed Action

Stationing, construction, and operation of the AASF, fielding of 6 CH-47s, and restationing of 4 to 6 UH-60s from Holman Field would not result in significant cumulative effects. As a part of their mission, the MNARNG anticipates future Phases of construction, which may include a Readiness Center (RC) and also a Field Maintenance Facility (FMS) in support of the AASF. These projects are dependent on the construction of the proposed action AASF but a determination has not been made on whether either one will actually be constructed. The RC is planned for either an existing facility in the area or as a new facility in proximity to the proposed AASF. The Field Maintenance Shop could provide additional maintenance support for the AASF and could be located on airport property. At this time, only Phases 1 and 2 of the LRCP (the AASF) are programmed and committed for construction on the proposed AASF airport site.

If the RC and FMS were constructed on the AASF site, about 4.25 acres of the planned open-space would be converted to building space and the associated pavement, increasing the impervious surface of the area. However, this increase would already be minimized by the stormwater controls implemented as part of the AASF construction. Construction practices outlined in this document would also be applied to future construction on the site to minimize adverse effects to soils and target species. The RC, if constructed on the AASF site, would increase vehicular traffic to and from the AASF by about 120 trips on weekdays, and 600 trips for cumulative drill weekends. Additional jobs for the region would be expected with the construction of these facilities. These effects would be addressed in a separate environmental review if the proposed projects effort moves forward, but the management practices implemented by this plan are expected to reduce any additional effects that the construction of these projects would cause.

Demographic data estimates show between 13 and 17 percent growth for the St. Cloud area over the next 20 years (City of St. Cloud Planning Office 2003). In support of anticipated growth, the St. Cloud Regional Airport Master Plan includes airport runway, facility, and service expansion. This additional development would include the area of the proposed AASF. This expansion is expected to happen regardless of the proposed completion of an AASF on the property. The area is likely to see continued urbanization, with an expansion of airport facilities and associated commercial interests. An increase in jobs and the associated tax base is expected to coincide with this phased airport expansion. The AASF construction is not a necessary part of this expansion, but would coincide with the land use, environmental, and socioeconomic trends planned for the site.

No cumulative effects are expected as a direct result of implementation of the Proposed Action.

5.14.2 Cumulative Effects of the No-Action Alternative

Implementation of the No-Action Alternative would have similar effects as the Proposed Action. Airport expansion is independent of the MNARNG activities and will likely proceed. There would be beneficial cumulative effects to the local socioeconomic environment from population growth and airport expansion. The No-Action Alternative is independent of any known past, present or future facility projects and would not result in any cumulative effects.

6.0 COMPARISON OF ALTERNATIVES AND CONCLUSIONS

This EA evaluated the potential environmental, cultural, and socioeconomic effects resulting from the proposed construction and operation of an AASF, fielding of 6 CH-47s, and restationing of 4 to 6 UH-60s from Holman Field to the SCRA site. The EA determined that one feasible construction alternative, Alternative 1, exists for the Proposed Action. Alternative 2, the No-Action Alternative, was not found to satisfy the purpose and need for the project.

- Alternative 1, the Proposed Action, proposed construction and operation of an AASF, fielding of 6 CH-47s, and restationing of 4 to 6 UH-60s from Holman Field to the SCRA site as described in **Section 2.0**.
- Alternative 2, the No-Action Alternative, proposes that no facilities be constructed, and that the property would remain under current conditions.

6.1 Comparison of the Environmental Consequences of the Alternatives

No significant adverse effects are anticipated with implementation of the Proposed Action, Alternative 1. Construction and Operation of an AASF, with the associated fleet movements, would generally pose only insignificant minor adverse effects to local environmental, cultural and socioeconomic resources. In addition, BMPs, regulatory requirements, and effect reduction measures identified throughout **Section 5.0**, which are integrated into the development of the subject projects would be utilized to further reduce the potential for adverse effects to area resources.

As stated above, Alternative 2, the No-Action Alternative, was not found to satisfy the purpose and need for the project. This alternative would limit the MNARNG's ability to field a mobile and responsive force. Implementation of the No-Action Alternative would have no effects at the proposed site.

Table 6-1 presents a summary of effects expected from construction and use of the proposed AASF under alternatives 1 and 2. This summary identifies the type and duration of each effect, and identifies areas with associated plans and procedures to avoid adverse effects, corresponding with the detailed discussions provided in **Section 5.0**.

Table 6-1: Summary Description of Effects Associated with Alternatives 1 and 2		
Resource Area	Proposed Action Alternative	No-Action Alternative
Land Use	⊕	•
Air Quality	•/⊗/∇	⊙
Noise	⊙	⊙
Geology and Soils	•/⊗/∇	⊙
Water Resources	⊗/∇	⊙
Biological Resources	•/∇	⊙
Cultural Resources	⊙	⊙
Socioeconomics	⊕	⊙
Environmental Justice	⊙	⊙
Infrastructure	•/⊕	•
Hazardous and Toxic Materials/Wastes		⊙
Cumulative Impacts	⊕/•/⊗/∇	•
<ul style="list-style-type: none"> • Less than Significant Long-term Adverse Effect ⊗ Less than Significant Short-term Adverse Effect ⊕ Positive/Beneficial Effect ■ Long-term Adverse Effect ⊙ No Effect ∇ No Adverse Effect with BMP Implementation/Effect Reduction measures 		

6.2 Conclusions

The stationing, construction, and operation of the AASF, fielding of 6 CH-47s, and restationing of 4 to 6 UH-60s from Holman Field analyzed in this EA would result in the effects identified throughout **Section 5.0**. These include:

- Long-term and short-term beneficial effects to land use, socioeconomics, and infrastructure;
- Short-term, less than significant adverse effects to air quality, noise, geology and soils, and water resources due to construction activities;
- Long-term, less than significant adverse effects to air quality, noise, geology and soils, biological, and infrastructure resources due to operations and loss of habitat.

The significance of adverse effects would be further reduced through the implementation of BMPs, regulations and operational procedures as documented throughout the various technical area effect discussions in **Sections 5.2** through **5.12**. Identified effects to

biological resources are not avoidable, however these are considered to be less than significant due to the quality and amount of the vegetation/habitat to be removed.

Under Alternative 1, beneficial long-term effects to the local land use, socioeconomic environment, environmental justice concerns and installation infrastructure would be anticipated. Alternative 1 would contribute a small effect to area natural resources in such forms as habitat alteration, increased impermeable surfaces and the associated increase in run-off. Alternative 1 would pose no effect to cultural resources in the area. Finally, Alternative 1 would maintain or enhance the socioeconomic environment through long-term viability of the proposed AASF.

Implementation of Alternative 1 would fulfill the purpose and need for the Proposed Action, allowing the MNARNG to accomplish its assigned military missions, while minimizing potential impacts to the local and regional natural, cultural, and socioeconomic environment.

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APPENDICES

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