Final Environmental Assessment

BRAC Construction and Operation of Armed Forces Reserve Center at Malmstrom Air Force Base, Great Falls, Montana

Prepared for

U.S. Army Reserve

Prepared by

U.S. Army Corps of Engineers, Mobile District

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Environmental Assessment for BRAC Construction and Operation of Armed Forces Reserve Center at Malmstrom Air Force Base, Great Falls, Montana

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Executive Summary

ES-1 Introduction

On September 8, 2005, the Defense Base Closure and Realignment (BRAC) Commission (Commission) recommended that certain realignment actions occur, which will affect two Great Falls, Montana, military installations: Galt Hall U.S. Army Reserve (USAR) Center (USARC) and Malmstrom Air Force Base (AFB).

The Commission recommendations were approved by the President on September 23, 2005, and forwarded to Congress. Congress did not alter any of the Commission's recommendations, and on November 9, 2005, the recommendations became law. The Commission's recommendations must now be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended.

In Montana, the Commission recommended the closure of USAR facilities at Galt Hall USARC. USAR units at Galt Hall USARC will be realigned to Malmstrom AFB. Implementation of the Commission's recommendation at Malmstrom AFB will require construction and operation of a new Armed Forces Reserve Center (AFRC) and associated facilities.

ES-2 Preferred and Alternative Actions

Construct an Addition to the Existing Montana Army National Guard Facility (Preferred Alternative)

The preferred alternative is to construct an addition/alternation to the existing Montana Army National Guard (ARNG) facility and complex at Malmstrom AFB to include a 19,964-square-foot (ft^2) AFRC, a 2,851-ft^2 Organizational Maintenance Shop (OMS), a 366-ft^2 unheated storage facility, and 750 square yards (yd^2) of parking for organizational vehicles and equipment to support up to 100 USAR soldiers being relocated to Malmstrom AFB.

The proposed AFRC and associated facilities would be constructed on the existing ARNG facility complex. The ARNG complex is located on Malmstrom AFB property and is accessible through a dedicated gate that is separate from the Malmstrom AFB security gate, allowing access without passing through Malmstrom AFB security. The ARNG entrance is approximately 0.5 mile south of the Malmstrom AFB Main Gate. The western fence line of the ARNG property would be extended approximately 160 feet onto open installation property currently used for camping. Three permanent buildings are located on the 9.5-acre ARNG property.

Approximately 100 ARNG soldiers currently report one weekend per month to the ARNG facility. Eight staff are stationed at the ARNG facility year-round. Up to 100 USAR soldiers would be assigned to the new AFRC on Malmstrom AFB along with equipment and

vehicles. Reservists would report to the site one weekend per month for training, not to coincide with the ARNG training weekend. Five staff would be employed on a year-round basis at the new facility.

The preferred alternative assumes that certain components of the ARNG facility would be used by both the ARNG and the USAR, including the assembly area, the simulation training room, and the parking area. The addition/alteration plan would include an extra 23,181 ft^2 of facility space to augment the space in the existing structures and meet the space requirement of the USAR. Alteration construction could entail minor demolition to the existing structure to adjoin the new facilities. Additional parking and a military equipment parking area would augment the existing paved area on the Montana Army National Guard facility within an extended fence line. The existing parking and driveways would be moved to accommodate the new site layout and anti-terrorism/force protection setback requirements.

Alternative 1 – New Construction Adjacent to Former Rapid Engineer Deployable Heavy Operational Repair Squadron Engineer Area

The USAR proposes to construct an approximate 25,000-ft^2 AFRC, a 3,115-ft^2 OMS, a 458-ft^2 unheated storage facility, and 750 yd^2 of parking for organizational vehicles and equipment to support up to 100 USAR soldiers being relocated to Malmstrom AFB. Under this alternative, new construction would occur; no buildings are currently located on the approximately 10-acre site. Alternate Site 1 is located adjacent to the former Rapid Engineer Deployable Heavy Operational Repair Squadron Engineer area and in the east-central portion of the Malmstrom AFB property. Troops, vehicles, training, and operation of the facility would be similar to those identified for the preferred alternative.

Alternative 2 – New Construction at Grazing Site

The proposed construction would be similar to that discussed for Alternative 1 but in a different location. Alternate Site 2, the Grazing Site, encompasses approximately 9.5 acres and is used for horse grazing. No buildings exist on this site. Alternate Site 2 is located in the southeastern quadrant of the installation. Troops, vehicles, training, and operation of the facility would be similar to those identified for the preferred alternative; however, visiting reservists would have to travel along 0.4 mile of unpaved roadway to access the site.

No Action Alternative

Under the no action alternative, the USAR would not construct a new AFRC or associated facilities on Malmstrom AFB. Implementation of the no action alternative would result in units continuing to occupy aging, over-utilized buildings at Galt Hall USARC that are not properly configured to allow the most effective training to complete mission requirements. This would continue to have a negative impact on training and retention of reservists. The no action alternative would conflict with the Commission recommendation.

Alternatives Not Considered in Detail

The Commission's recommendation as mandated by the BRAC legislation, Public Laws 101-510 and 107-107 is to:

"Close Galt Hall Army Reserve Center in Great Falls, MT and relocate units to a new Armed Forces Reserve Center on Malmstrom Air Force Base, Great Falls, MT."

Consideration of an addition or alteration to the existing facility located at Galt Hall USARC or siting the new AFRC offbase or on another U.S. Department of Defense installation would not meet the BRAC 2005 directive.

The Malmstrom AFB Civil Engineer Squadron Program Development Office considered sites on Malmstrom AFB that meet the purpose and need of the project and that meet the size, location, land use consistency, and design layout potentially required to accommodate up to 100 reservists and associated equipment and vehicles. Only three sites were identified as potentially viable for construction and operation of the proposed AFRC and associated facilities. No other sites would meet the size requirement without conflict with surrounding land uses, future planning goals, or safety exclusion areas. As a result, no other sites were considered further in this Environmental Assessment (EA).

ES-3 Environmental Consequences

Table ES-1 summarizes the consequences of the three action alternatives and the no action alternative, which are discussed below.

TABLE ES-1
Summary of Potential Environmental and Socioeconomic Consequences
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

	Environmental and Socioeconomic Consequences			
Resource	**No Action**	**Preferred Alternative**	**Alternative 1**	**Alternative 2**
Land Use	No Impact	Minor long-term impacts resulting from conversion of land use.	Minor long-term impacts resulting from conversion of land use.	Minor long-term impacts resulting from conversion of land use.
Visual Resources	No Impact	Minor long-term impacts resulting from development of open land.	Minor long-term impacts resulting from development of open land.	Minor long-term impacts resulting from development of open land.
Transportation	No Impact	Minor long-term impacts resulting from a slight increase in traffic one weekend per month.	Negligible long-term impacts resulting from a slight increase in traffic one weekend per month. Minor short-term traffic increase on base during construction.	Negligible long-term impacts resulting from a slight increase in traffic one weekend per month, including traversing 0.4 mile of unpaved road. Minor short-term traffic increase on base during construction.

TABLE ES-1
Summary of Potential Environmental and Socioeconomic Consequences
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

	Environmental and Socioeconomic Consequences			
Resource	**No Action**	**Preferred Alternative**	**Alternative 1**	**Alternative 2**
Air Quality	No Impact	Minor short-term impact from construction-related fugitive dust that would be controlled through appropriate best management practices (BMPs). Negligible (net *de minimis)* long-term impact from heating units, water heaters, and emergency generators.	Minor short-term impact from construction-related fugitive dust that would be controlled through appropriate BMPs. Negligible (net *de minimis)* long-term impact from heating units, water heaters, and emergency generators.	Minor short-term impact from construction-related fugitive dust that would be controlled through appropriate BMPs. Minor long-term increase in dust from use of unpaved road. Negligible (net *de minimis)* long-term impact from heating units, water heaters, and emergency generators.
Water Resources	No Impact	Minor long-term impact resulting from the increase in impervious surfaces and short-term impact resulting from construction-related sedimentation. Use of appropriate BMPs and stormwater controls would reduce impacts on Whitmore Ravine.	Minor long-term impact resulting from the increase in impervious surfaces and short-term impact resulting from construction-related sedimentation. Use of appropriate BMPs and stormwater controls would reduce impacts on Whitmore Ravine.	Negligible long-term impact resulting from the increase in impervious surfaces and short-term impact resulting from construction-related sedimentation. Use of appropriate BMPs and stormwater controls would reduce impacts from construction activities, such as increased runoff, to a short-term minor level.
Geology and Soils	No Impact	Minor short-term erosion impact during site preparation that would be controlled through appropriate BMPs.	Minor short-term erosion impact during site preparation that would be controlled through appropriate BMPs.	Minor short-term erosion impact during site preparation that would be controlled through appropriate BMPs.
Biological Resources	No Impact	Minor long-term impact on common flora and fauna. No impact on wetlands or special status species.	Minor long-term impact on common flora and fauna. No impact on wetlands or special status species.	Minor long-term impact on common flora and fauna. No impact on wetlands or special status species.
Cultural Resources	No Impact	No Impact	No Impact	No Impact

TABLE ES-1
Summary of Potential Environmental and Socioeconomic Consequences
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

	Environmental and Socioeconomic Consequences			
Resource	**No Action**	**Preferred Alternative**	**Alternative 1**	**Alternative 2**
Noise	No Impact	Moderate short-term impact on nearby Gateway FamCamp and minor impact on other nearby recreational users, residents, and schools, limited to daytime construction periods. Minor long-term impact on nearby Gateway FamCamp, residential, and recreation areas during training weekends.	Moderate short-term impact on nearby Pow Wow Park, limited to daytime construction periods. Minor long-term impact on nearby Pow Wow Park during training weekends.	Moderate short-term impact on nearby stables and riding arena, limited to daytime construction periods. Minor long-term impact on nearby horse stables during training weekends.
Agriculture and Grazing	No Impact	No Impact	No Impact	Minor long-term impact resulting from 2 percent reduction in grazing land on Malmstrom AFB.
Hazardous Materials, Health, and Safety	No Impact	Negligible long-term impact resulting from the use of cleaners, solvents, and lubricants associated with operation of AFRC and OMS.	Negligible long-term impact resulting from the use of cleaners, solvents, and lubricants associated with operation of AFRC and OMS and siting near an explosive materials storage area.	Negligible long-term impact resulting from the use of cleaners, solvents, and lubricants associated with operation of AFRC and OMS.
Utilities and Services	No Impact	Minor long-term impact resulting from a 1.1% demand increase on utilities one weekend per month.	Minor long-term impact resulting from a 1.1% demand increase on utilities one weekend per month.	Minor long-term impact resulting from a 1.1% demand increase on utilities one weekend per month.
Socioeconomics	No Impact	Minor short-term beneficial impact on the local economy and employment during the construction phase. No impact on housing supply.	Minor short-term beneficial impact on the local economy and employment during the construction phase. No impact on housing supply.	Minor short-term beneficial impact on the local economy and employment during the construction phase. No impact on housing supply.

TABLE ES-1
Summary of Potential Environmental and Socioeconomic Consequences
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

	Environmental and Socioeconomic Consequences			
Resource	**No Action**	**Preferred Alternative**	**Alternative 1**	**Alternative 2**
Environmental Justice	No Impact	Minor short-term beneficial impact on minority and low-income populations. No impact on children.	Minor short-term beneficial impact on minority and low-income populations. No impact on children.	Minor short-term beneficial impact on minority and low-income populations. No impact on children.
Cumulative Effects	Cumulative impacts would be the similar for all project alternatives. Because the no action alternative would have no project impacts, there would be no cumulative impacts. Minor long-term cumulative impact on biological resources resulting from site alterations from development activities. Minor long-term cumulative impact on stormwater management and water resources due to new development in drainage areas contributing to Whitmore Ravine (preferred alternative and Alternative 1) and an increase in impermeable surfaces (Alternatives 1 and 2). Minor short-term cumulative impact on air quality and noise resulting from construction and ongoing training and installation operations. No adverse cumulative impact on geology and soils, cultural resources, socioeconomics, land use, or the health, safety, or welfare of the Great Falls community. Continuing beneficial cumulative impact on employment and the economy from various Malmstrom AFB activities.			

Consequences of the Preferred Alternative

The preferred alternative would require alteration of the existing ARNG facility. There would be minor short-term construction-related impacts on geology and soils, air quality, and water resources (stormwater management). There would be a temporary (short-term) moderate construction noise-related impact on nearby residents and recreational users at the Gateway FamCamp. Appropriate project BMPs and design measures would be used to reduce these effects. Specific BMPs for stormwater management facility design would include stormwater controls sufficient to ensure no net increase in peak flow rates and total volume of runoff from the project site for all storm events up to and including the 10-year/2-hour and the 10-year/24-hour storm events.

Further, there would be a negligible long-term impact related to hazardous materials, health, and safety, from the use of petroleum products and solvents for proposed AFRC operations. Compliance with installation Hazardous Materials Management Plans and Occupational Safety and Health Administration and installation health and safety requirements would mitigate potential impacts. Other negligible effects would apply to operational air quality emissions. Discontinuing the use of outdated facilities and equipment, however, would offer a negligible benefit to air quality.

There would be minor, permanent (long-term) impacts on biological resources (common flora and fauna), land use of the camping area immediately west of the ARNG fence line

that would be converted to industrial use, the visual setting of the area, noise levels during training weekends, utilities and services, and traffic flow one weekend per month. Furthermore, due to the increase in impermeable surface under the preferred alternative, there would be a long-term effect on stormwater management, as it has the potential to flow toward the Whitmore Ravine; however, with the implementation of appropriate BMPs, this impact would be minor.

There could be a short-term beneficial effect on employment and the economy during the construction phase of the project. This short-term employment benefit would likely extend to minority and low-income households, as well.

There would be no impact on wetlands, agriculture, grazing, cultural resources, housing supply, or children. The site is not within a floodplain or coastal zone and would not affect prime farmlands. There would be no impact on any other resources evaluated in this EA.

Consequences of Alternative 1

Implementation of Alternative 1 would have the same impacts as those identified for the preferred alternative, with the following exceptions: Similar to the preferred alternative, the potential noise-related impact from Alternative 1 would be moderate and short-term during daytime construction, and minor and long-term during training weekends. However, the impact would be slightly less than that identified for the preferred alternative because the closest potentially sensitive receptor is Pow Wow Park, approximately 600 feet northeast of Alternate Site 1, whereas the preferred alternative has the potential to affect the nearby Gateway FamCamp, recreational users, residents, and schools. Also similar to the preferred alternative, the impact on land use would be minor and long-term; however, the impact would be slightly higher under Alternative 1 because existing open space would be developed. The impact on transportation would be slightly less under Alternative 1: negligible and long-term as traffic would blend with onbase traffic flows.

All other impacts would be the same as those identified for the preferred alternative.

Consequences of Alternative 2

Implementation of Alternative 2 would have the same impacts as identified for Alternative 1, with the following exceptions: Alternative 2 would have a minor long-term impact on agricultural resources. Alternative 2 would result in an approximately 2 percent reduction in grazing land on Malmstrom AFB. Alternative 2 would also require visiting reservists to travel along 0.4 mile of unpaved road before reaching the site, which could result in an increased need for road repair and a long-term source of additional fugitive dust.

Similar to the preferred alternative, the potential noise-related impact from Alternative 2 would be moderate and short-term during construction, and minor and long-term during training weekends. However, the impact would be slightly less than that identified for the preferred alternative because the closest potentially sensitive receptor is a stables and riding arena located approximately 300 feet west of Alternate Site 2, whereas the preferred alternative has the potential to affect the nearby Gateway FamCamp, recreational users, residents, and schools. Likewise, the impact on water resources (stormwater management) would be less that identified for the preferred alternative and Alternative 1 because

stormwater from Alternate Site 2 would flow south away from Whitmore Ravine and the Missouri River. This impact would be long-term and negligible.

All other impacts would be the same as those identified for Alternative 1.

Consequences of the No Action Alternative

There would be no impact on any resources evaluated in this EA from the no action alternative.

ES-4 Conclusions

Based upon the environmental impact analysis, it has been concluded that no significant environmental, socioeconomic, or cumulative impacts would result from the proposed action, whether implemented under the preferred alternative, Alternative 1, or Alternative 2. Therefore, it is not necessary to prepare an Environmental Impact Statement to address the proposed action, and a Finding of No Significant Impact should be issued.

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1.0 Purpose, Need, and Scope

1.1 Introduction

On September 8, 2005, the Defense Base Closure and Realignment (BRAC) Commission (Commission) recommended that certain realignment actions occur, which will affect two Great Falls, Montana, military installations: Galt Hall U.S. Army Reserve (USAR) Center (USARC) and Malmstrom Air Force Base (AFB) both located in Great Falls, Montana (Figure 1-1). This recommendation was approved by the President on September 23, 2005, and forwarded to Congress. Congress did not alter any of the Commission's recommendations, and on November 9, 2005, the recommendations became law. The Commission's recommendations must now be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended.

In Montana, the Commission recommended the closure of USAR facilities at Galt Hall USARC. USAR units at Galt Hall USARC will be realigned to Malmstrom AFB. Implementation of the Commission's recommendation at Malmstrom AFB will require construction and operation of a new Armed Forces Reserve Center (AFRC) and associated facilities.

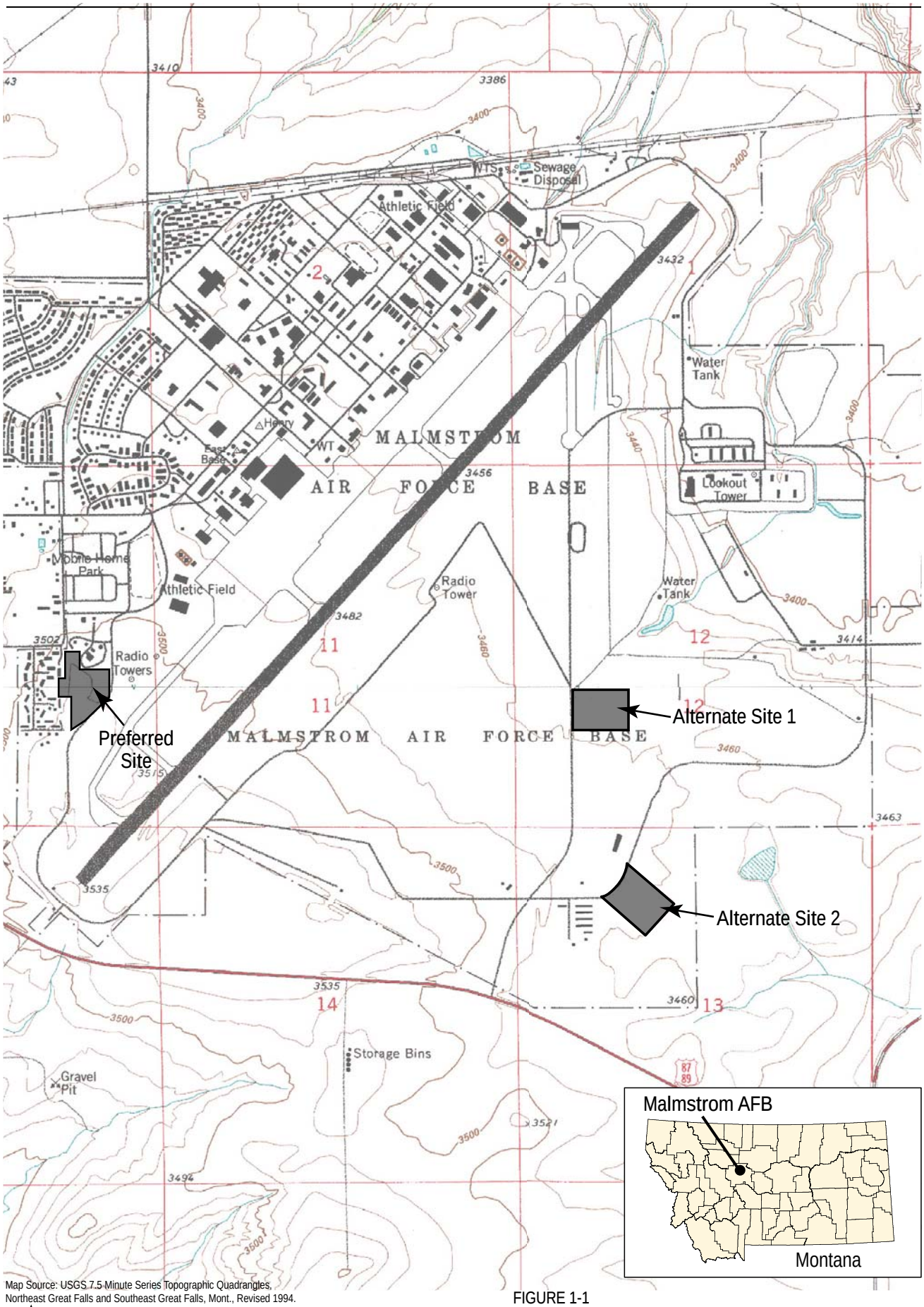
This Environmental Assessment (EA) analyzes and documents environmental effects associated with the Army's proposed action at Malmstrom AFB. Details on the proposed action are provided in Section 2. Alternatives are described in Section 3.

1.2 Purpose and Need

The purpose of the proposed action is to implement the Commission's recommendation pertaining to Galt Hall USARC and Malmstrom AFB, Great Falls, Montana. The need for the proposed action is to enhance the ability of the USAR to fulfill its military mission by providing facilities at Malmstrom AFB with the capabilities to support national defense requirements and to meet the cost-saving requirements of BRAC.

The recommendation of the Commission, made in conformance with the provisions of Defense Base Closure and Realignment Act of 1990, as amended, requires the relocation of reservists to a new AFRC on Malmstrom AFB. Pursuant to the National Environmental Policy Act of 1969 (NEPA) and its implementing regulations, the Army prepared this EA to address the environmental and socioeconomic impacts of relocating personnel, conducting training activities, and constructing buildings to support realignment. The assessment includes an evaluation of reasonable alternatives.

USAR units impacted by the closure of Galt Hall USARC will be relocated to the new AFRC on Malmstrom AFB. Implementation of the proposed action would provide Malmstrom AFB with adequate facilities to accommodate the reserve units from the Galt Hall USARC.



Map Source: USGS 7.5 Minute Series Topographic Quadrangles, Northeast Great Falls and Southeast Great Falls, Mont., Revised 1994.

North

0 1,000 2,000

Approximate scale in feet

FIGURE 1-1
Project Location Map
Malmstrom AFB, Great Falls, MT

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1.3 Scope

This EA was developed in accordance with NEPA and implementing regulations found at 40 Code of Federal Regulations (CFR) Part 1500 through Part 1508 (President's Council on Environmental Quality [CEQ], 1978), 32 CFR 651 (Office of the Deputy Assistant Secretary of the Army, 2002), and the 2005 Army BRAC NEPA Manual. Its purpose is to inform decision-makers and the public of the likely environmental consequences of the proposed action and alternatives.

The Defense Base Closure and Realignment Act of 1990 specifies that in applying the provisions of NEPA to the process, the Secretary of Defense and the secretaries of the military departments concerned do not have to consider "(i) the need for closing or realigning the military installations which have been recommended for closure or realignment by the Commission, (ii) the need for transferring functions to any military installation which has been selected as the receiving installation, or (iii) military installations alternative to those recommended or selected" (Sec. 2905(c)(2)(B), Public Law 101-510, as amended). The Commission's deliberation and decision, as well as the need for closing or realigning a military installation, are exempt from NEPA. Accordingly, this EA does not address the need for closure of the Galt Hall USARC.

This EA identifies, documents, and evaluates the environmental and socioeconomic effects of construction and operation of the new AFRC and ancillary facilities at Malmstrom AFB to accommodate up to 100 USAR soldiers and associated equipment and vehicles. An interdisciplinary team of environmental scientists, biologists, planners, economists, engineers, archaeologists, historians, and military technicians analyzed the proposed action and alternatives in light of existing conditions and identified relevant beneficial and adverse effects associated with the action.

This EA examines the potential environmental effects of the construction and routine operation of the AFRC and ancillary facilities for the reserve units at Malmstrom AFB. Reasonably foreseeable future needs are assessed in Section 4.14. Any additional requirements stemming from other military actions will undergo separate NEPA analysis and evaluation.

1.4 Public Involvement

The Army, in coordination with Malmstrom AFB, invites public participation in the proposed action through the NEPA process. Consideration of the views and information of all interested persons promotes open communication and enables better decision-making. All agencies, organizations, and members of the public having a potential interest in the proposed action, including minority, low-income, disadvantaged, and Native American groups, are urged to participate in the decision-making process. Initial agency scoping letters were submitted to the U.S. Fish and Wildlife Service (USFWS), Montana Department of Environmental Quality (MDEQ), Montana Department of Fish, Wildlife, and Parks (MDFWP), the Montana State Historic Preservation Office (SHPO), and Native American tribes that may have an interest in the project (Appendix A).

When the environmental analysis is complete, the EA and two separate Draft Findings of No Significant Impact (FONSIs), one prepared by the Army and the other prepared by the Air Force, will be made available to the public for comment for a period of 30 days. At the end of the 30-day public review period, the Army and the Air Force will consider all comments submitted by individuals, agencies, and organizations. As appropriate, the Army and the Air Force may then execute the FONSIs and proceed with implementation of the proposed action. If it is determined that implementation of the proposed action would result in significant impacts, the Army will publish in the *Federal Register* a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) or will not take the action.

Throughout this process, the public may obtain information on the status and progress of the proposed action and the EA through the USAR, 96th Regional Readiness Command, Attention Richard Ward, Building 102, Soldier's Circle, Fort Douglas, Salt Lake City, Utah 84113 or via email at richard.ward2@us.army.mil.

1.5 Relevant Statutes and Executive Orders

A decision on whether to proceed with the proposed action depends on numerous factors, such as mission requirements, schedule, availability of funding, and environmental considerations. In addressing environmental considerations, federal agencies are guided by relevant statutes (and their implementing regulations) and Executive Orders (EOs) that establish standards and provide guidance on environmental and natural resources management and planning. These include the Clean Air Act (CAA), Clean Water Act, Noise Control Act, Endangered Species Act, Migratory Bird Treaty Act, National Historic Preservation Act (NHPA), Archaeological Resources Protection Act, Resource Conservation and Recovery Act (RCRA), and Toxic Substances Control Act. EOs bearing on the proposed action include EO 11988 (*Floodplain Management*), EO 11990 (*Protection of Wetlands*), EO 12088 (*Federal Compliance with Pollution Control Standards*), EO 12580 (*Superfund Implementation*), EO 12898 (*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*), EO 13045 (*Protection of Children from Environmental Health Risks and Safety Risks*), EO 13423 (*Strengthening Federal Environmental, Energy and Transportation Management*), EO 13175 (*Consultation and Coordination with Indian Tribal Governments*), and EO 13186 (*Responsibilities of Federal Agencies to Protect Migratory Birds*). These authorities are addressed in various sections throughout this EA when relevant to particular environmental resources and conditions. The full text of the laws, regulations, and EOs is available on the Defense Environmental Network & Information Exchange Web site at http://www.denix.osd.mil.

2.0 Description of the Proposed Action

2.1 Introduction

This section describes the Army's proposed action for carrying out the Commission's recommendation.

The proposed action is to implement the Commission's recommendation as mandated by the BRAC legislation, Public Laws 101-510 and 107-107. The Commission's recommendation is to:

> *"Close Galt Hall Army Reserve Center in Great Falls, MT and relocate units to a new Armed Forces Reserve Center on Malmstrom Air Force Base, Great Falls, MT."*

To accomplish this recommendation, the USAR is realigning personnel to Malmstrom AFB as directed by the Commission. Units currently stationed at the Galt Hall USARC include the 889th Detachment Headquarters, under the 311th Sustainment Command, and the Retention Officer of the 96th Regional Support Command. The mission of the 889th Detachment is primarily administrative (including planning, logistics, transportation, supplies, etc.). These units will be transferred to the new AFRC on Malmstrom AFB. At present, no facilities on Malmstrom AFB are sufficient to house an AFRC and necessary ancillary facilities to accommodate transferred USAR personnel who are being realigned to Malmstrom AFB. The USAR proposes to construct suitable facilities (an AFRC, an Organizational Maintenance Shop [OMS], and unheated storage) and organizational parking for vehicles and equipment on Malmstrom AFB.

2.2 Proposed Action

The USAR proposes to construct an AFRC, an OMS, an unheated storage facility, and parking for organizational vehicles and equipment to support up to 100 USAR soldiers being relocated to Malmstrom AFB. The areas for these facilities vary by alternative and are provided in Section 3.

Although site layout and design are conceptual at this time, all buildings would be one story and would be designed to meet the Facilities Excellence Criteria for Malmstrom AFB. Facility construction would require minor land clearing, paving, fencing, general site improvements, and localized extension of utilities to serve the project. The site layout would be designed to accommodate the 148-foot Anti-Terrorism/Force Protection (AT/FP) setback requirement between the site buildings and installation perimeter fencing, roads, parking areas, and vehicle unloading areas. Berms, heavy landscaping, and bollards would be used to prevent access when standoff distances cannot be maintained. Facility design would include stormwater controls sufficient to ensure no net increase in peak flow rates and total volume of runoff from the project site for all storm events up to and including the 10-year/2-hour and the 10-year/24-hour storm events. These requirements were developed

to prevent significant effects on the environment, particularly Whitmore Ravine, while maintaining cost and technical feasibility.

Potential stormwater control measures are discussed further in this EA. Construction would likely occur between March 2010 and March 2011.

Up to 100 USAR soldiers would be assigned to the new AFRC on Malmstrom AFB, along with equipment and vehicles. Table 2-1 lists the types of equipment and vehicles to be assigned to the new AFRC.

TABLE 2-1
Proposed Equipment and Vehicles
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

Type of Vehicle	Quantity
Tractor	1
Wrecker (5-ton)	1
Crane (20-ton)	1
5-ton Trucks	6
2.5-ton Trucks	1
Humvee	2
Truck Mounted boom and loader	1
Expandable van	1
Total number of proposed vehicles	**14**
Type of Equipment	**Quantity**
30-foot portable ramp	2
Reefer	4
1.5-ton Trailer	1
2.5-ton Trailer	1
5-ton Trailer	4
Mobile Kitchen Trailer	1
4-kilovolt (kV) Generator sets	3
10-kV generator set	1
2.5-ton trailer with two 5-kV generators	1
Trailer-mounted floodlight set	2
Trailer-mounted pump unit and dispenser	1
Portable Water tank	1

Reservists would report to the site one weekend per month for training. Five staff would be employed on a year-round basis at the new facility.

This evaluation focuses on the site location, footprint, general design and construction criteria, and operation that may affect the environment at a resource level. Three site alternatives were identified that could accommodate the necessary footprint, construction plan, and operation of the proposed action (Figure 1-1):

- Addition to the existing Montana Army National Guard (ARNG) complex (preferred alternative)
- Central airfield site immediately north of the former Rapid Engineer Deployable Heavy Operational Repair Squadron Engineer (RED HORSE) area (Alternate Site 1)
- South airfield site currently used for grazing (Alternate Site 2)

Each of these are evaluated in this EA and discussed in more detail in Section 3.

3.0 Alternatives

This section presents information on the proposed action and alternatives. The preferred alternative (proposed action) is described in Section 3.1.1. Alternative locations and construction scenarios are described in Sections 3.1.2 and 3.1.3. Section 3.2 describes other alternatives that were considered early in the NEPA process but were determined to be not feasible. The no action alternative is presented in Section 3.3.

3.1 Realignment Alternatives

3.1.1 Construct an Addition to the Existing Montana ARNG Facility (Preferred Alternative)

Under the preferred alternative, the USAR proposes to construct an addition/alternation to the existing ARNG facility and complex at Malmstrom AFB (see Photo 1) to include an AFRC, an OMS, an unheated storage facility, and organizational parking for government owned and privately owned vehicles to support the USAR units being relocated to Malmstrom AFB. All buildings would be one story. Table 3-1 identifies the components of the proposed facilities and the associated area of each component. Construction would likely occur between March 2010 and March 2011.

PHOTO 1
Existing Montana ARNG Facility (Preferred Alternative)

TABLE 3-1
Proposed Construction Components – Preferred Alternative
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

Facility	Approximate Area[a]
Armed Forces Reserve Center	19,964 ft^2
Organizational Maintenance Shop	2,851 ft^2
Unheated Storage Building	366 ft^2
SUBTOTAL	**23,181** ft^2
Separate Military Equipment Parking	750 yd^2

Notes:

[a] Approximate Area for the preferred alternative takes into account mutual use of common areas by both Montana ARNG and USAR thereby reducing the overall required facility area below the proposed action requirements.

ft^2 = square foot
yd^2 = square yard

The proposed AFRC and associated facilities would be constructed on the existing ARNG facility complex (Figure 3-1). The western fence line would be extended approximately 160 feet to accommodate the site layout and necessary AT/FP setback requirements. The Malmstrom AFB perimeter fence forms the northern and eastern boundaries. The cantonment area is to the north and the former installation runway is to the east. The installation's Gateway FamCamp recreational vehicle park is located to the west. There is installation-owned open space to the south and private property with horse stables to the southwest.

The ARNG complex is located on Malmstrom AFB property surrounded by security fencing. The ARNG facility is accessible through a dedicated gate that is separate from the Malmstrom AFB security gate, allowing access without passing through Malmstrom AFB security. The ARNG entrance is approximately one-half mile south of the Malmstrom AFB Main Gate along 63rd Street, a county road. Three permanent buildings are located on the ARNG property. The main building houses administrative functions, simulation training room, and assembly area. Eighty-five parking spaces and an outdoor training area surround the buildings. Approximately 100 ARNG soldiers currently report one weekend per month to the ARNG facility. Eight staff are stationed at the ARNG facility year-round. Up to 100 USAR soldiers would be assigned to the new AFRC on Malmstrom AFB, along with equipment and vehicles. Under this alternative, the USAR would be a tenant to the ARNG, which maintains a lease with Malmstrom AFB. This lease would be revised to include the new property use. Reservists would report to the site one weekend per month for training, not to coincide with the ARNG training weekend. Five staff would be stationed at the new AFRC on a year-round basis at the new facility.

North

0 1,000 2,000

Approximate scale in feet

FIGURE 3-1
Preferred and Alternate Site Locations
Malmstrom AFB, Great Falls, MT

CH2MHILL

ES012009002ATL

The preferred alternative assumes that certain components of the ARNG facility would be used by both the ARNG and the USAR, including the assembly area, the simulation training room, and parking area. As shown in Table 3-1, the addition/alteration plan would include an extra 23,181 ft^2 of facility space to augment the space in the existing structures and meet the space requirement of the USAR. Alteration construction could entail minor demolition to the existing structure to adjoin the new facilities. Additional parking and a military equipment parking (MEP) area would augment the existing paved area on the ARNG facility within an extended fence line. The existing parking and driveways would be moved to accommodate the new site layout and AT/FP setback requirements. All proposed infrastructure would be designed to meet the Facilities Excellence Criteria for Malmstrom AFB.

Necessary utilities and infrastructure are in place to accommodate the proposed development. The proposed layout of the preferred site includes the mandated 148-foot force protection setback requirement between the security fencing encompassing the property perimeter and the site buildings.

3.1.2 Alternative 1 – New Construction Adjacent to Former RED HORSE Area

Under Alternative 1, the USAR proposes to construct an AFRC, an OMS, an unheated storage facility, and organizational parking for government owned and privately owned vehicles to support the USAR units being relocated to Malmstrom AFB. All buildings would be one story. Fencing would be erected only around the MEP area. Photo 2 shows the existing Alternate Site 1; Table 3-2 identifies the components of the proposed facilities and the associated area of each component under Alternative 1. Construction would likely occur between March 2010 and March 2011.

PHOTO 2
Alternate Site 1 – Adjacent to Former RED HORSE Area

TABLE 3-2
Proposed Construction Components – Alternatives 1 and 2
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

Facility	Approximate Area
Armed Forces Reserve Center	25,000 ft^2
Organizational Maintenance Shop	3,115 ft^2
Unheated Storage Building	458 ft^2
SUBTOTAL	**28,573** ft^2
Paved parking	750 yd^2

In this alternative, new construction would occur; no buildings are currently located on the approximately 10-acre site. As shown on Figure 3-1, Alternate Site 1 is located in the east-central portion of the Malmstrom AFB airfield. The USAR would lease the property directly from the Air Force. Visiting reservists would access the installation Main Gate and travel Perimeter Road before turning north on Missile Drive.

The property north of Alternate Site 1 is used for storage of explosive materials; to the east is an explosive ordnance training area and a storage area for construction materials; to the south is the former RED HORSE unit administrative and staging area; and to the west and southwest is an open field used for bivouac training and an obstacle course. The former RED HORSE area includes one permanent structure and eight semi-permanent tents. Since the unit was transferred to the cantonment area, these structures are uninhabited and would not be removed or altered as a component of this project.

Electrical and natural gas infrastructure exists at Alternate Site 1. Malmstrom AFB is currently extending water distribution and sanitary sewer collection infrastructure from the cantonment area into the airfield for future development. This extension is being phased with the extension to Alternate Site 1 in Phase I. All work would be completed prior to the start of project construction.

Operation of the facility would be similar to that discussed in Section 3.1.1; however, coordination with ARNG would not be necessary as the USAR would independently operate the AFRC.

3.1.3 Alternative 2 – New Construction at Grazing Site

Under Alternative 2, the proposed construction and operation would be similar to that discussed in Section 3.1.2 for Alternative 1 but in a different location. The Grazing Site (Photo 3) encompasses approximately 9.5 acres and is used for horse grazing. The site was covered with fill material in the 1940s for a possible runway extension. The site is now level, compacted, and suitable for development. No buildings exist on this site. As shown on Figure 3-1, Alternate Site 2 is located in the southeastern quadrant of the installation. The USAR would lease the property directly from the Air Force. Visiting reservists would access the installation Main Gate and travel Perimeter Road. Approximately 0.4 mile of gravel road would have to be traversed before reaching the site. The areas of constructed facilities are the same as those presented in Table 3-2.

PHOTO 3
Alternate Site 2 – Grazing Site

Pre-engineered steel buildings and an external staging area are located north of Alternate Site 2. A canine training area and kennel is to the northwest. The properties east, south, and west of Alternate Site 2 are open space under a grazing lease. A horse stable and training area are to the west.

Electrical and natural gas infrastructure exists at Alternate Site 2. Malmstrom AFB is currently extending water distribution and sanitary sewer collection infrastructure from the cantonment area to base property east of the runway for future development. This extension is being phased with the extension to Alternate Site 2 in Phase II. However, all work would be completed prior to the start of project construction. Operation of the facility would be similar to that discussed in Section 3.1.1; however, coordination with ARNG would not be necessary since the USAR would independently operate the AFRC.

3.2 Alternatives Not Considered in Detail

The Commission's recommendation as mandated by the BRAC legislation, Public Laws 101-510 and 107-107 is to:

> *"Close Galt Hall Army Reserve Center in Great Falls, MT and relocate units to a new Armed Forces Reserve Center on Malmstrom Air Force Base, Great Falls, MT."*

Consideration of an addition or alteration to the existing facility located at Galt Hall USARC or siting the new AFRC offbase or on another U.S. Department of Defense (DOD) installation would not meet the BRAC 2005 directive.

The Malmstrom AFB Civil Engineer Squadron Program Development Office considered sites on Malmstrom AFB that meet the purpose and need of the project, as defined in Section 1.2, and that meet the size, location, land use consistency, and design layout potential required to accommodate up to 100 reservists and associated equipment and vehicles. Only the three sites discussed above were identified as potentially viable for

construction and operation of the proposed AFRC and associated facilities. No other sites would meet the size requirement without conflict with surrounding land uses, future planning goals, or safety exclusion areas. As a result, no other sites were considered further in this EA.

3.3 No Action Alternative

Under the no action alternative, the USAR would not construct a new AFRC or associated facilities on Malmstrom AFB. The current USARC would continue to be used. The Galt Hall USARC is situated on 3.54 acres of leased land. The training building and first OMS were constructed in 1958. The second OMS was constructed in 1971, replacing the first OMS. The storage building was constructed in 1965. The current training building (22,551 ft^2) is 130 percent utilized; the OMS (3,631 ft^2) is 86 percent utilized.

Under the no action alternative, USAR units would continue to operate in facilities that are not properly configured to allow the most effective training to complete mission requirements. This would continue to have a negative impact on training and retention of reservists. The no action alternative would also not meet the BRAC 2005 directive to close the Galt Hall USARC and relocate units to Malmstrom AFB.

The no action alternative would not address the need for the proposed action. However, inclusion of the no action alternative serves as a benchmark for evaluation of the potential effects of the proposed federal action. The no action alternative is therefore evaluated in detail in this EA.

4.0 Affected Environment and Consequences

4.1 Introduction

This section describes the existing environmental and socioeconomic conditions potentially affected by the proposed action, as well as the potential environmental and socioeconomic impacts of implementing the preferred alternative, Alternative 1, Alternative 2, or the no action alternative.

This section provides information to serve as a baseline from which to identify and evaluate environmental and socioeconomic changes likely to result from implementation of the proposed action. Baseline conditions represent current conditions.

In compliance with NEPA, CEQ guidelines, and 32 CFR Part 651, et seq., the description of the affected environment focuses on those resources and conditions potentially subject to impacts. These include land use, aesthetics and visual resources, transportation, air quality, water resources, geology and soils, biological resources, cultural resources, noise, agriculture and grazing, hazardous materials, health and safety, utilities and services, socioeconomics, and environmental justice (EJ).

Subsequent to the description of the components of the affected environment, this section presents the analysis of the direct, indirect, and cumulative environmental and socio-economic effects that would likely occur with the proposed action or no action alternative and identifies any adverse environmental effects that cannot be avoided through project design.

4.1.1 Direct versus Indirect Effects

The terms "effect" and "impact" are synonymous as used in this EA. Effects may be beneficial or adverse and may apply to the full range of natural, aesthetic, historic, cultural, and economic resources within the project area and also within the surrounding area. Definitions and examples of direct and indirect impacts as used in this document are as follows:

- ***Direct Impac*t.** A direct impact is one that would be caused directly by implementing an alternative and that would occur at the same time and place.
- ***Indirect Impac*t.** An indirect impact is one that would be caused by implementing an alternative that would occur later in time or farther removed in distance but would still be a reasonably foreseeable outcome of the action. Indirect impacts may include induced changes in the pattern of land use, population density, or growth rate, and indirect effects to air, water, and other natural resources and social systems.
- ***Relationship between Direct and Indirect Impact*s.** For direct impacts to occur, a resource must be present at the place and time of the action. For example, if highly erodible soils were disturbed as a direct result of the use of heavy equipment during

construction of a home, there could be a direct effect on soils resulting from erosion. This could indirectly affect water quality if stormwater runoff containing sediment from the construction site were to enter an offsite stream. Because the stream would be at a different location than the construction action, the effect would be indirect.

4.1.2 Short-Term versus Long-Term Effects

Effects are also expressed in terms of duration. For the purpose of this analysis, the duration of short-term impacts is considered to be equal to or less than the duration of the construction phase of the proposed action for the human environment and within one complete growing season following the construction phase for the natural environment. For example, noise impacts associated with construction of a building would affect nearby residents and schools only during the period of construction. Likewise, the effects of or vegetation displacement during construction could be considered short-term because it would be expected that vegetation would re-establish on the disturbed area within a year of the disturbance. Long-term impacts are described as lasting beyond the period of construction and the subsequent growing season. Long-term impacts can potentially continue in perpetuity, in which case they would also be described as permanent.

4.1.3 Intensity of Effects

The magnitude of effects of an action must be considered regardless of whether the effects are adverse or beneficial. The following terms are used to describe the magnitude of impacts:

- No Impact: The action does not cause a detectable change.
- Negligible: The impact is at the lowest level of detection.
- Minor: The impact is slight but detectable.
- Moderate: The impact is readily apparent.
- Major: The impact is severely adverse or exceptionally beneficial.

4.1.4 Significance

In accordance with CEQ regulations and implementing guidance, impacts are also evaluated in terms of whether they are significant. Both short-term and long-term effects are relevant to the consideration of significance. Significant, as defined in the CEQ regulations for implementing NEPA at 40 CFR 1508.27, requires consideration of context and intensity.

Context requires that significance be considered with regard to society, the affected region, affected interests, and the locality. The scale of consideration for context varies with the setting and magnitude of the action. A small, site-specific action is best evaluated relative to the location rather than to the entire world.

4.1.5 Mitigation

The alternatives considered in this EA could have environmental and socioeconomic impacts resulting from implementation that would require the implementation of best management practices (BMPs) to avoid significant impact or mitigation to reduce or offset significant impact. Where potentially significant adverse impacts are identified, measures

that could be implemented to reduce the magnitude of impacts will be discussed. Potential mitigation actions could include:

- Rectifying an impact by repairing, rehabilitating, or restoring the affected environment
- Reducing or eliminating an impact over time by preservation and maintenance operations during the life of the action
- Compensating for an impact by replacing or providing substitute resources or environments

Where no significant adverse impacts are identified, mitigation measures are not proposed. Absent mitigation, the USAR would implement BMPs and project design features to avoid or minimize unavoidable impacts that are less than significant.

4.2 Land Use

This section describes land use on Malmstrom AFB focusing on general land uses on and surrounding the preferred and alternate sites, as well as management plans that guide land use and land management on Malmstrom AFB. These plans determine the types of uses that are allowable and identify appropriate design and development standards to address special use or environmentally sensitive areas.

4.2.1 Affected Environment

4.2.1.1 Regional Geographic Setting and Location

Malmstrom AFB encompasses over 3,600 acres of land in Cascade County, Montana (U.S. Air Force [USAF], 2006a) approximately 120 miles south of the Canadian border and 180 miles northwest of Billings, the largest city in Montana (Malmstrom AFB, 2002). The installation lies approximately 0.3 mile east of the City of Great Falls city limit at its closest point and is 5 miles from the central business district of the City (USAF, 2006a). The City of Great Falls includes more than 50 percent of the Cascade County population, and the Great Falls economy relies heavily on Malmstrom AFB and its mission.

4.2.1.2 Current Land Use

Malmstrom AFB's main development consists of two distinct land use areas. Malmstrom AFB's developed areas lie primarily in the northwestern third of the installation, and open space and weapons storage are located in the eastern portion (Figure 1-1) (Malmstrom AFB, 2002). The airfield, bisecting the installation, is the dominant land use on the installation. Light industrial and aircraft operations and maintenance are adjacent to the airfield.

Housing is primarily located in the northwestern portion of the installation. Recreation facilities are scattered throughout the installation in areas adjacent to the family housing area. Pow Wow Park is located in the eastern portion of the installation and includes a manmade pond for fishing. The park also includes playground equipment and a picnic area (USAF, 2006a).

The preferred site includes the Montana ARNG complex, which includes three permanent structures, a paved parking and equipment storage area, and a grassy area for small training

exercises. Security fencing surrounds the ARNG property. This site is currently designated as industrial land use.

Alternate Site 1 is currently designated for industrial use. Alternate Site 2 is designated as both industrial and administrative. Both of these sites are undeveloped. Alternate Site 2 is used for horse grazing.

4.2.1.3 Surrounding Land Use

Malmstrom AFB is bordered to the north, east, and south by agricultural and pasture lands, with mixed commercial, industrial, residential, and open land uses to the west and northwest (USAF, 2007; USAF, 2006a). Loy Elementary School, a public school with grades K-6 and approximately 388 students (GreatSchools, 2009), is on the east side of the 57th Street Bypass, approximately 1 mile west of the preferred site. Also, residential land uses characterize most of the area west of the installation. A low-intensity commercial district is located immediately adjacent to the Main Gate along the installation's western border (Malmstrom AFB, 2002).

The preferred site is located adjacent to the eastern boundary of Gateway FamCamp, one of two recreational vehicle family camp sites operated by Malmstrom AFB. The property is bounded on the south and east by Perimeter Road. This property has never been developed in the history of Malmstrom AFB and remains a grassy field. The site is located approximately 1,300 feet from the runway in the south-central portion of the installation (USAF, 1999).

The land use designations of the installation property immediately surrounding the preferred alternative include outdoor recreation to the west, industrial, housing, and cantonment/administration area to the north, and runway/airfield to the east and south.

Both alternate sites are surrounded by open space and industrial uses. The property north of Alternate Site 1 is used for storage of explosive materials; to the east is an explosive ordnance training area and a storage area for construction materials; to the south is the former RED HORSE unit administrative and staging area; and to the west and southwest is an open field used for bivouac training and an obstacle course. Pow Wow Park is located approximately 600 feet northeast of Alternate Site 1.

Alternate Site 2 is in close proximity to outdoor recreation areas, which are located to the west. Land uses surrounding Alternative 2 include pre-engineered steel structures used for various purposes, including storage, administration, unit operations, external staging area, a canine training area and kennel, a horse stable and training area, and open space under a grazing lease.

4.2.1.4 Land Use and Installation Management Plans

Adopted installation plans and programs guide land use planning on Malmstrom AFB. Installation plans and studies present factors affecting both on- and offbase land use and include recommendations to assist onbase officials and local community leaders in ensuring compatible development. The Malmstrom AFB General Plan provides an overall summary of strategic planning initiatives (Malmstrom AFB, 2002). The plan includes six components (Composite Constraints and Opportunities, Infrastructure, Land Use, Capital Improvements Program, AT/FP Component, and Five-Year Plan), which represent a summary of current

installation plans. The document also includes the Facilities Excellence Plan, which provides architecture and design guidance for any onbase development. The installation's Integrated Natural Resources Management Plan (INRMP) is used to coordinate natural resource management (USAF, 2007). The installation's Integrated Cultural Resources Management Plan (ICRMP) is used to coordinate cultural resource management (USAF, 2009).

The Malmstrom AFB Air Installation Compatible Use Zones (AICUZ) study includes an analysis of the effects of noise, aircraft accident potential, and land use and development on Malmstrom AFB and its neighbors (USAF, 2007; Kim, 2009). The Malmstrom AFB Land Use Compatibility Study evaluates land use and development on- and offbase to ensure compatibility and to identify development opportunities (HB&A, 2007).

4.2.2 Consequences

4.2.2.1 Construct New AFRC on Montana ARNG Facility (Preferred Alternative)

The preferred alternative assumes that certain components of the ARNG facility would be used by both the ARNG and the USAR and would likely not conflict with the ARNG operation of the site.

Land uses in the area include family housing, industrial, and recreation. Because the current use of the site is the same as that proposed and would simply be expanded, the proposed use of the site would be consistent with current operations and would not conflict with existing surrounding land uses including the residential uses and low-intensity commercial uses. One exception resulting from the implementation of the preferred alternative would be the conversion of adjacent camping lands when the ARNG fence line is extended west approximately 160 feet. This would convert current outdoor recreational lands to industrial use. No camping structures would be removed, only open lands adjacent to the camp sites.

Existing and future development of Malmstrom AFB must be compatible with airfield operations and other future mission-related activities. As such, site layout and design planning would avoid facility placement and unauthorized uses within a safety exclusion zone overlaying the southeast portion of the site. Because the proposed land use would be largely consistent with current uses and surrounding development with an isolated area of contiguous land use conversion, would incorporate necessary design compliance measures, and would be fenced to avoid safety impacts, the impact on land use is considered long-term and minor.

4.2.2.2 Alternative 1 – New Construction Adjacent to Former RED HORSE Area

In Alternative 1, an undeveloped site would be developed to include a permanent AFRC building, an OMS, an unheated storage facility, and organizational parking. The existing and future land use designation for this site is open space (Malmstrom AFB, 2002). Operation of the AFRC at this location is compatible with the adjacent uses. The land use would change, but the changes would be consistent with surrounding uses and installation planning to develop parts of the airfield; as a result, impacts of Alternative 1 on land use would be long-term and minor.

4.2.2.3 Alternative 2 – New Construction at Grazing Site

The impacts under Alternative 2 would be similar to those identified for Alternative 1. Alternative 2 would convert an open space area, currently used for grazing, to a developed area. Although the land use would change, these changes would be consistent with surrounding uses and installation planning to develop parts of the airfield; as a result, impacts of Alternative 2 on land use would be long-term and minor.

4.2.2.4 No Action Alternative

Under the no action alternative, no construction activities would occur. Therefore, there would be no impact on overall land use.

4.3 Visual Resources

This section discusses the aesthetic qualities within and surrounding Malmstrom AFB and specifically the three project alternate sites.

4.3.1 Affected Environment

Malmstrom AFB is located to the east of the City of Great Falls in rolling plains about 75 miles east of the Rocky Mountains. Malmstrom AFB lies at an elevation of 3,525 feet above mean sea level on a plateau. The topography is characterized by broad, gently sloping plains that have been moderately dissected by numerous streams. Little native vegetation remains on Malmstrom AFB due to installation improvements and development. Exotic grasses have been replanted through much of the southeastern airfield (Malmstrom AFB, 2002).

The installation occupies 3,600 acres. The airfield runway occupies the largest portion of the installation, bisecting the northwestern cantonment area and the southeastern storage and training area. The installation maintains a consistent design standard that has resulted in a uniformity of architectural design.

A monoculture vegetation of crested wheatgrass (*Agropyron cristatum*) is located on the preferred site; this grass was presumably introduced at one time for use as livestock forage (USAF, 2000). Structures on the preferred site consist of a three permanent buildings and a paved parking area. All installation structures are designed with a consistent appearance in accordance with the Malmstrom AFB Facilities Excellence Plan.

4.3.2 Consequences

4.3.2.1 Construct New AFRC on Montana ARNG Facility (Preferred Alternative)

Under the preferred alternative, no major impact on aesthetics or visual resources would be expected. The western fence line of the ARNG property would be extended approximately 160 feet to accommodate facility and driving space and necessary AT/FP setback requirements. This would replace existing open camping area with development consistent with the existing ARNG facility. Additional buildings would be one story, and exterior building design would be compatible with the other buildings in the area and consistent with the Malmstrom AFB Facilities Excellence Plan. There are no significant views or features in the preferred site area. Although a National Historic Landmark, "Portage around

the Great Falls," is located in the base vicinity, it is not located in or visible from the project area.

Pursuant to Installation Design Guidelines and Standards, the proposed facility design would comply with the following criteria:

- Exterior lighting shall be positioned at the site and in areas immediately surrounding the site to provide general illumination.
- Parking lot and pedestrian lighting fixtures, poles, and bollards are to be dark bronze anodized.
- Exterior mechanical equipment shall be screened from view.

Because the proposed addition/alteration activities would be consistent with the existing land use, would not conflict with surrounding views, and designs would be consistent with the Malmstrom AFB Facilities Excellence Plan, the impact on visual resources would be long-term and minor.

4.3.2.2 Alternative 1 – New Construction Adjacent to Former RED HORSE Area

Under Alternative 1, an undeveloped parcel would be developed to include three permanent buildings (AFRC, OMS, and unheated storage) and parking. Surrounding land uses include an explosive materials storage and handing area, training grounds, and an unused unit complex. The proposed uses under this alternative would not affect sensitive views. Light created by the proposed development would not affect surrounding land uses. Under Alternative 1, impacts on visual resources would be long-term and minor.

4.3.2.3 Alternative 2 – New Construction at Grazing Site

Under Alternative 2, impacts on visual resources would be identical to those identified for Alternative 1. The impacts would be long-term and minor.

4.3.2.4 No Action Alternative

Under the no action alternative, no construction activities would occur. Therefore, there would be no impact on aesthetics or visual resources.

4.4 Transportation

This section discusses the roadways and circulation on Malmstrom AFB focusing on the transportation paths that may be affected by the construction or operation of the proposed action.

4.4.1 Affected Environment

Malmstrom AFB can be approached from U.S. Highway 87/89, east of Interstate 15. The Main Gate on 2nd Avenue North and the Commercial Gate (North Gate) on 10th Avenue North provide access to the installation. 63rd Street intersects 2nd Avenue and extends south along the outside of the installation adjacent to the Malmstrom AFB perimeter fence approximately one-half mile to the existing Montana ARNG facility.

Inside the Main Gate, 2nd Avenue North becomes Goddard Avenue, which serves as the main thoroughfare through the cantonment area of the installation. Goddard Avenue intersects with Perimeter Road, also serving as a main thoroughfare through the cantonment area and providing further access to the outer airfield.

Seventy-five percent of installation traffic enters through the Main Gate, and the remaining 25 percent enter through the North Gate (USAF, 2007; USAF, 2006a). Peak traffic hours are between 6:45 am to 8:00 am and 4:30 pm to 5:30 pm.

Private vehicles dominate traffic on Malmstrom AFB, with no public transit available. Training vehicles, construction vehicles, and school buses also use installation roadways (USAF, 2006a).

The preferred site, which currently contains the ARNG facility, is accessible through a dedicated gate that is separate from the Malmstrom AFB security gates, allowing access without passing through Malmstrom AFB security. The ARNG entrance is approximately one-half mile south of the Malmstrom AFB Main Gate along 63rd Street, a secondary roadway that is not heavily traveled.

4.4.2 Consequences

4.4.2.1 Construct New AFRC on Montana ARNG Facility (Preferred Alternative)

Under the preferred alternative, construction vehicles would not enter Malmstrom AFB property and would remain on surrounding roads. Traffic volumes along U.S. Highway 87/89, 2nd Avenue North outside of the Main Gate, and 63rd Street would increase during the construction phase; however, this impact would be temporary. Operational traffic would increase consistent with current uses from one to two weekends per month. This impact is considered long-term and minor, as it would be similar to current use and training weekends would be coordinated between the ARNG and USAR to avoid overlapping. Operationally, there would be no impact on the installation, as all activities would occur outside of the Main Gate.

4.4.2.2 Alternative 1 – New Construction Adjacent to Former RED HORSE Area

Under Alternative 1, construction vehicles would access the installation Main Gate and travel along Perimeter Road before turning north on Missile Drive. These roads are paved and could accommodate these heavy vehicles. The increase in traffic from construction vehicles would be temporary. Equipment and materials would be staged near the construction site to reduce the number of trips. The transportation impact during the construction phase would be short-term and minor.

Likewise, visiting reservists would access the installation Main Gate and travel along the same route to the new AFRC site. This would include 8 soldiers year-round and up to 100 soldiers 1 weekend per month. Malmstrom AFB employs approximately 4, 150 military and civilian employees (USAF, 2000). The new AFRC would increase Malmstrom AFB traffic by 0.024 percent one weekend per month. As such, transportation impacts under Alternative 1 are considered long-term and negligible.

4.4.2.3 Alternative 2 – New Construction at Grazing Site

Transportation impacts under Alternative 2 would be similar to those identified for Alternative 1; however, construction crews and reservists would have to travel along approximately 0.4 mile of gravel road to access the site. Construction activities and higher levels of travel one weekend per month would quickly degrade this road surface, which would need regular maintenance or paving. These activities are not included in the proposed action under Alternative 2. Because the infrastructure is in place, this impact is not considered major; rather, it is considered moderate and long-term because of the future maintenance requirements and possible effects on surrounding road users.

4.4.2.4 No Action Alternative

Under the no action alternative, no construction activities would occur. Therefore, there would be no impact on transportation.

4.5 Air Quality

4.5.1 Affected Environment

This section describes the baseline air quality conditions in the project area. Comparing these conditions to federal and/or state ambient air quality standards determines the significance of a pollutant concentration in a region or geographic area. Under the CAA, the U.S. Environmental Protection Agency (EPA) has established nationwide air quality standards to protect public health and welfare, with an adequate margin of safety.

4.5.1.1 Regulatory Setting

The National Ambient Air Quality Standards (NAAQS) represent the maximum allowable atmospheric concentrations for seven "criteria" pollutants: ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), particulate matter less than 10 micrometers in diameter (PM_{10}), particulate matter less than 2.5 micrometers in diameter ($PM_{2.5}$), sulfur dioxide (SO_2), and lead. Based on measured ambient criteria pollutant data, the EPA designates areas of the United States as having air quality equal to or better than the NAAQS (attainment) or worse than the NAAQS (nonattainment). Nonattainment areas that achieve attainment are subsequently redesignated as maintenance areas for a period of 10 or more years. Areas are designated as unclassifiable for a pollutant when insufficient ambient air quality data exist for EPA to form a basis of attainment status. When applying air quality regulations, unclassifiable areas are treated similar to areas that are in attainment for the NAAQS.

The Montana Clean Air Act (Montana Code Annotated [MCA], Title 75, Chapter 2) implements the federal CAA. The Montana Clean Air Act, implemented by the MCA and Administrative Rules of Montana, establishes ambient air quality standards and permitting and monitoring procedures. Under the CAA, state and local agencies may establish ambient air quality standards (AAQS) and regulations of their own, provided these are at least as stringent as the federal requirements. For selected criteria pollutants, the State of Montana has established its state AAQS, some of which are more stringent than the federal standards. Montana AAQS are more restrictive than federal standards for CO, NO_2, O_3, and SO_2. Montana does not have state standards for $PM_{2.5}$. In addition, Montana regulates emissions of settleable particulates, visibility, fluoride in foliage, and hydrogen sulfide, none of which

have a federal standard. A summary of the federal and Montana AAQS that apply to the proposed project area is presented in Table 4-1.

TABLE 4-1
Montana and Federal Ambient Air Quality Standards
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

			Federal (NAAQS)	
Air Pollutant	**Averaging Time**	**Montana AAQS**	**Primary**	**Secondary**
Carbon Monoxide (CO)	8-hour	9 ppm	9 ppm[a]	---
	1-hour	23 ppm	35 ppm[a]	---
Nitrogen Dioxide (NO_2)	AAM	0.05 ppm	0.053 ppm	0.053 ppm
	1-hour	0.30 ppm	---	---
Sulfur Dioxide (SO_2)	AAM	0.02 ppm	0.030 ppm	---
	24-hour	0.10 ppm	0.14 ppm[a]	---
	3-hour	---	---	0.50 ppm[a]
	1-hour	0.50 ppm	---	---
Particulate Matter (PM_{10})	24-hr[b]	150 $\mu g/m^3$	150 $\mu g/m^3$	150 $\mu g/m^3$
Particulate Matter ($PM_{2.5}$)	AAM[c]	---	15 $\mu g/m^3$	15 $\mu g/m^3$
	24-hour[d]	---	35 $\mu g/m^3$	35 $\mu g/m^3$
Ozone (O_3)	1-hour[e]	0.10 ppm	0.12 ppm	0.12 ppm
	8-hour[f]	---	0.075 ppm	0.075 ppm
Lead and Lead Compounds	Rolling 3-Month Average	---	0.15 $\mu g/m^3$[g]	0.15 $\mu g/m^3$[g]
	Calendar Quarter	---	1.5 $\mu g/m^3$	1.5 $\mu g/m^3$
	90-days	1.5 $\mu g/m^3$	---	---
Settleable Particulates	30-day	10 g/m^2	---	---
Hydrogen sulfide	1-hr	0.010 ppm	---	---
Fluoride in foliage	1-month	50 $\mu g/g$	---	---
	grazing season	35 $\mu g/g$	---	---
Visibility	AAM	$3 \times 10^{-5}/m$	---	---

TABLE 4-1
Montana and Federal Ambient Air Quality Standards
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

Air Pollutant	Averaging Time	Montana AAQS	Federal (NAAQS)	
			Primary	Secondary

Notes:

[a] Not to be exceeded more than once per year.
[b] Not to be exceeded more than once per year on average over 3 years.
[c] 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/m^3.
[d] 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 35 µg/m^3 (effective December 17, 2006).
[e] (a) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is $\leq$ 1.
(b) As of June 15, 2005 EPA revoked the 1-hour ozone standard in all areas except the 8-hour ozone nonattainment Early Action Compact Areas.
[f] 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 0.075 ppm. (effective May 27, 2008)
[g] Final rule signed October 15, 2008.

AAM = annual arithmetic mean
AGM = annual geometric mean
g/m^2 = gram per squared meter
µg/g = microgram per gram
µg/m = microgram per cubic meter
ppm = part per million

Sources: EPA, 2009; MDEQ, 2007a

For non-attainment regions, the states must develop a State Implementation Plan (SIP) designed to eliminate or reduce the severity and number of NAAQS violations, with an underlying goal to bring State air quality conditions into (and maintain) compliance with the NAAQS.

General Conformity

Section 176(c), *General Conformity*, of the CAA requires that federal activities demonstrate their conformity with the SIP. The SIP is the State's plan for complying with the federal CAA administered by EPA. The SIP consists of narrative, rules, technical documentation, and agreements that an individual state will use to meet clean air standards in nonattainment areas. All federal actions occurring in air basins designated as a nonattainment or maintenance area must conform to the applicable SIP.

Prevention of Significant Deterioration

In addition to requirements under Section 176(c), *General Conformity*, of the CAA, the EPA's prevention of significant deterioration (PSD) program under Section 169(A) is designed to keep an attainment area in continued compliance with NAAQS. The nearest Class I area, Gates of the Mountains Wilderness Area, is approximately 60 miles southwest of Malmstrom AFB. For actions in attainment areas, PSD approval is required if the action would include a new major stationary source (generating more than 250 tons per year [tpy]) or major modification to an existing major source (40 CFR 52.21).

4.5.1.2 Air Pollutant Emissions at Malmstrom AFB

Malmstrom AFB is located in Montana Air Quality Control Region (AQCR) 141, which covers north-central Montana. The area is in attainment for all criteria pollutants (Malmstrom AFB, 2002); therefore, the proposed action does not have any applicable requirements under the Montana SIP.

4.5.2 Consequences

4.5.2.1 Construct New AFRC on Montana ARNG Facility (Preferred Alternative)

The proposed action would cause minor, short-term adverse impacts on air quality due to construction activities. These impacts would not be expected to occur past the construction phase; therefore, additional ambient air quality modeling has not been performed. All construction emissions would likely be local and limited to the duration of the construction activities.

During construction, impacts on air quality could occur from dust carried offsite and combustion emissions from construction equipment. The primary risks from blowing dust particles relate to human health and human nuisance values. Fugitive dust can contribute to respiratory health problems and create an inhospitable working environment. Deposition on surfaces can be a nuisance to those living or working downwind.

BMPs that would be implemented during construction to reduce or eliminate fugitive dust emissions would include the following:

- *Sprinkling/Irrigation.* Sprinkling the ground surface with water until it is moist can be used to control dust on haul roads and other traffic routes. This practice can be applied to almost any site. When suppression methods involving water are used, care would be exercised to minimize over-watering that could cause the transport of mud onto adjoining roadways, which ultimately could increase the dust problem. Mechanical removal of mud from tires would be implemented if necessary.
- *Vegetative Cover*. In areas not expected to handle vehicle traffic, vegetative stabilization of disturbed soil is often desirable. Vegetation provides coverage to surface soils and decreases wind velocity at the ground surface, thus reducing the potential for dust to become airborne.
- *Mulch*. Mulching can be a quick and effective means of dust control for recently disturbed areas.

No substantial changes in air quality from the baseline conditions would be likely with implementation of the preferred alternative. Fugitive dust would increase in the immediate area during construction, but impacts would be temporary and minor. Dust abatement measures discussed above would limit the direct and secondary creation of dust.

Emissions would be generated by engine exhaust from construction workers' personal vehicles and off-road construction equipment, including earth-moving equipment, cranes, and trucks. The emissions would primarily consist of nitrogen oxides, SO_2, PM, CO, and volatile organic compounds, which are typical of the emissions commonly observed at construction sites and would not extend past the construction period. The construction

associated with the proposed action is similar in magnitude to the construction of a typical small strip mall and would result in a negligible short-term impact on local air quality.

The addition of approximately 100 new soldiers at Malmstrom AFB could increase the vehicle emissions; however, the vast majority of these soldiers would experience no appreciable change in driving time because they would remain within the same AQCR. This increase would likely be negligible. Monthly training activities would result in increased vehicle traffic, but this would be limited to weekends. Any impact would be temporary and minor.

Negligible permanent sources of air emissions would be created by the proposed action, including building heating units, water heaters, and emergency generators; however, these small sources would result in no more than a *de minimis* impact on air quality. Furthermore, discontinuing the use of outdated facilities and equipment at Galt Hall would offer a negligible benefit to air quality. Emergency generators would require prior notification to the Malmstrom AFB Civil Engineer Squadron. This would allow the installation to coordinate with the MDEQ for any updates required to the installation's Title V permit.

As mentioned previously, all federal actions in maintenance or nonattainment areas must demonstrate conformity to the applicable SIP. Emission levels from construction and operation of the AFRC will be similar to other military construction projects. Since the proposed action on MAFB will occur in an area in attainment with all NAAQS, a conformity analysis in not required. A general conformity record of non-applicability (RONA) is included in Appendix B. The federal PSD program will not apply, as operational emissions will be under the 250-tpy threshold.

4.5.2.2 Alternative 1 – New Construction Adjacent to Former RED HORSE Area

Under Alternative 1, an undeveloped parcel would be developed to include three permanent buildings (AFRC, OMS, and unheated storage) and organizational parking. This alternative could include more new construction, but would not include demolition or alteration of an existing facility. Under Alternative 1, impacts on air quality due to construction and operational emissions would be similar to those identified for the preferred alternative and would be less than the *de minimis* levels outlined in the conformity rule. The federal PSD program will not apply, as operational emissions will be under the 250-tpy threshold. Appendix B includes a RONA for this project.

4.5.2.3 Alternative 2 – New Construction at Grazing Site

Under Alternative 2, an undeveloped site would be developed with a new AFRC and associated facilities. Air quality impacts due to construction and operational emissions would be the same as those identified for Alternative 1, similar to those identified for the preferred alternative, and less than the *de minimis* levels outlined in the conformity rule. The federal PSD program will not apply, as operational emissions will be under the 250-tpy threshold. Appendix B includes a RONA for this project.

4.5.2.4 No Action Alternative

Under the no action alternative, no construction activities would occur. Therefore, there would be no impact on air quality.

4.6 Water Resources

The existing conditions and potential effects on water resources are considered in this section. The Region of Influence (ROI) for water resources is considered to be within the limits of Malmstrom AFB. The installation is not within a floodplain or coastal zone. Therefore, this discussion focuses on groundwater and surface water resources.

4.6.1 Affected Environment

Malmstrom AFB is located on a plateau and drains northward toward the Missouri River. Drainage features in the study area are primarily ephemeral streams and coulees. Figure 4-1 portrays the hydrologic features on Malmstrom AFB.

4.6.1.1 Groundwater

Groundwater resources exist in the project area and occur primarily in deep, confined aquifers (e.g., the Madison-Swift aquifer). The depth to these deep aquifers ranges between about 100 and 200 feet below ground surface (bgs) at the installation. Shallow groundwater (less than about 25 to 40 feet bgs) occurs locally as noncontiguous, unconfined, perched zones. The deep confined aquifers in the area tend to flow northward, while the flow in the shallow, unconfined aquifers typically follows topographic gradients.

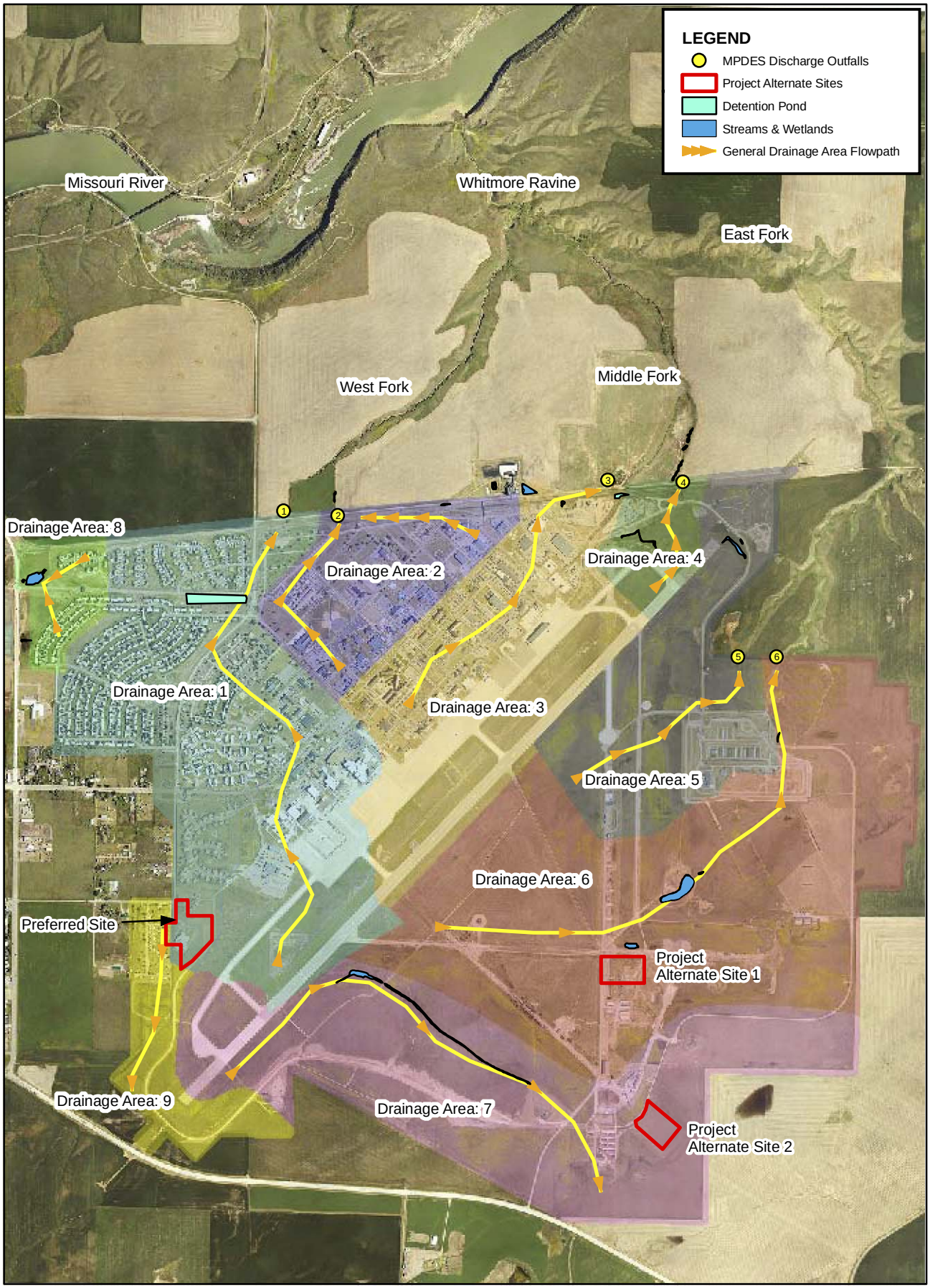
All potable water used at Malmstrom AFB is supplied by the City of Great Falls and is treated surface water from the Missouri River. The deep Madison-Swift aquifer has the greatest potential for future groundwater development. However, because of the limited supply of water and discontinuous nature of the shallow perched zones, they are unlikely to be used as a water source in the future. Due to the ample surface water supply and the depth of most of the aquifers, groundwater resources have not been developed on the installation.

4.6.1.2 Surface Water

The installation lies on a plateau roughly 10 square miles in extent that drains northward toward the Missouri River. The Missouri River is located about 1 mile north of the installation and serves as the principal source of potable water for Malmstrom AFB and the City of Great Falls. There are no perennial streams present on the installation. Surface water drainage at the site occurs primarily through open storm ditches, man-made retention areas, and ephemeral streams and coulees.

4.6.1.3 Stormwater

Stormwater drainage at the site occurs primarily through open storm ditches, swales, and underground pipes. Figure 4-1 illustrates the nine main drainage areas on Malmstrom AFB. Outfalls 1 through 6 all have point discharges at the installation boundary and flow through the Whitmore Ravine to the Missouri River. The Whitmore Ravine watershed is part of the Upper Missouri-Dearborn Rivers Sub-Basin (Hydrologic Unit Code 10030102). The Whitmore Ravine watershed encompasses approximately 6,930 acres; Malmstrom AFB contributes approximately 3,052 acres, and the remaining 3,878 acres is surrounding agriculture land. The ravine drains into the Missouri River just downstream of Rainbow Dam.



N

0 1,200 2,400 4,800

Approximate scale in feet

FIGURE 4-1
Hydrologic Setting on Malmstrom Air Force Base
Malmstrom AFB, Great Falls, MT

CH2MHILL

ES012009002ATL

Whitmore Ravine has been subject to considerable soil erosion, in the stretch between Malmstrom AFB and the Missouri River, which has led to increased deposition in the Missouri River and damaging effects to private farmland. All drainage areas, except Drainage Areas 7, 8, and 9, combine offbase and ultimately discharge into the Missouri River via Whitmore Ravine. Drainage Areas 7, 8, and 9 drain to the south, southwest, southeast, east, and west and do not have a point discharge; as a result, they do not affect Whitmore Ravine or the Missouri River (Malmstrom AFB, 2009).

Drainage Areas 5, 6, 7, and 9 consist primarily of ditch and overland flow. The storm drainage system in these more rural areas is very limited. The other drainage areas contain industrial and housing portions of the installation and consequently have a significant amount of piping and channeled stormwater flow. In these industrial and housing areas, open grassed ditches are still used in conjunction with the existing pipe systems to accommodate the stormwater discharges. Table 4-2 identifies each drainage area, its size, and the approximate percentage of land surface that is impervious (covered by pavement or buildings) (Malmstrom AFB, 2009).

TABLE 4-2
Selected Information for Drainage Areas
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

Drainage Area	Total Area (Acres)	Impervious Surface	Pervious Surface	Estimated Impervious Surface (%)	Runoff Coefficient
1	655.5	249.1	406.4	38.0	0.61
2	213.6	76.6	137.0	35.9	0.60
3	391.7	179.2	212.5	45.7	0.65
4	74.5	13.1	61.4	17.6	0.50
5	275.7	28.7	247.0	10.4	0.46
6	851.5	77.4	774.1	9.1	0.50
7	598.4	42.5	555.9	7.1	0.46
8	40.0	5.3	34.7	13.3	0.47
9	144.1	22.2	121.9	15.4	0.48

Source: (Malmstrom AFB, 2009).

As shown on Figure 4-1, the preferred site is primarily in Drainage Area 1, with a small portion in Drainage Area 9; Alternative 1 would be in Drainage Area 6, and Alternative 2 would be in Drainage Area 7. These three drainage areas are discussed below. Drainage Areas 2 through 5 and 8 would not be affected by any considered alternative and are not discussed further.

Drainage Area 1 includes runoff from the southern portion of the runway, the south end of the aircraft-parking apron, missile maintenance shops and hangars, the south petroleum storage and pumping facility, the truck and tractor maintenance garage, the helicopter operations, portions of the underground ramp hydrant refueling system, several housing

areas, and the majority of the preferred site. After running through a stormwater management network of underground pipes, curb gutters, grass-covered ditches, and concrete surface channels, the flow exits the installation via culverts north of the installation boundary into the West Fork of Whitmore Ravine ultimately reaching the Missouri River approximately 1 mile north of the base boundary. There are no slopes in the drainage that exceed 2 percent. The peak discharge at the outfall for a 0.25-inch in 2.5-hour rain event is 49.6 cubic feet per second (cfs) (Malmstrom AFB, 2009).

Drainage Area 6 includes runoff from the missile handling facility, combat arms firing range, a closed sanitary landfill, Pow Wow Pond, a fire training area, a small missile maintenance facility, and Alternate Site 1. Most stormwater in this area infiltrates into the ground, collects in natural and man-made retention areas (i.e., road ditches) within the drainage, or exits this drainage basin in a well-defined grassed coulee north of the weapons storage area. This coulee passes under Perimeter Road, where there are three slide gates that can be used as a control measure to stop any spills. The basin is relatively flat, although there are steep slopes (greater than 25 percent) in the center of the basin near Pow Wow Pond. Runoff from this area joins with runoff from Drainage Area 5 to form the East Fork of Whitmore Ravine, which discharges into the Missouri River. Actual flow measurements recorded during stormwater sampling (0.1 cfs during a 0.25-inch in 2.5-hour rain event [Malmstrom AFB, 2009]) indicate that the runoff coefficient (Table 4-2) is extremely conservative because of the natural and man-made retention areas (Malmstrom AFB, 2009).

Drainage Area 7 includes horse stables, military working canine kennels, the south end of the flight-line, the former RED HORSE training area, pre-engineered steel structures, and Alternate Site 2. The drainage area is predominantly flat, with no slopes exceeding approximately 10 percent grade except off the end of the runway. Runoff from this area travels toward the stables at the southeast corner of the installation. Once the runoff reaches the stables, it disperses over horse pastures and any runoff exiting the installation consists of sheet flow. Flow from this area does not drain to Whitmore Ravine or the Missouri River (Malmstrom AFB, 2009).

Drainage Area 9 includes the Montana ARNG facility, FamCamp area, the runway lighting control building, and a small portion of the preferred site. The remainder of the drainage area is open land. Stormwater runoff from this area consists of sheet flow to the west and south off the installation. Flow from this area does not drain to Whitmore Ravine or the Missouri River (Malmstrom AFB, 2009).

Stormwater discharge is regulated by the Montana Pollutant Discharge Elimination System (MPDES). The following active authorizations are maintained by Malmstrom AFB and are applicable to the evaluated alternatives:

- Authorization to Discharge under the General Permit for Storm Water Discharges Associated with Industrial Activity, Authorization Number MTR000197 (MDEQ, 2007b).
- Authorization to Discharge under the General Permit for Storm Water Discharges Associated with Small Municipal Separate Storm Sewer System (MS4), Permit Number MTR040008 (MDEQ, 2005).

Further, an authorization under the following general permit is required on a project-by-project basis prior to the start of construction:

- General Permit for Storm Water Discharges Associated with Construction Activity, Permit Number MTR100000 (MDEQ, 2007c).

4.6.2 Consequences

4.6.2.1 Construct New AFRC on Montana ARNG Facility (Preferred Alternative)

The preferred alternative is located primarily in Drainage Area 1, which drains to Whitmore Ravine and ultimately to the Missouri River. The preferred alternative would result in an estimated 1.5 percent increase in impervious area for the drainage area and an estimated 0.3 percent increase in impervious area for Malmstrom AFB.

Once the western fence line is extended approximately 160 feet to accommodate the additional facilities, driveways, and AT/FP setback requirements, construction staging would occur within the site fence line boundaries. Thus, any residual oil, grease, and other fuel products from equipment would be maintained onsite. Equipment would be inspected to prevent leaks and would be maintained as part of routine construction practices. Stormwater quality could be temporarily affected (via increased sedimentation) as a result of construction activities during grading, earth work, or equipment movement. Because the preferred alternative would result in more than 1 acre of surface disturbance, application and compliance with Permit Number MTR100000 (MDEQ, 2007c) would be required. This would include amending the installation Stormwater Pollution Prevention Plan (SWPPP), which would specify BMPs to control erosion and sedimentation in surface water runoff. Construction BMPs could include the use of silt fences or fiber rolls to prevent migration of sediment offsite, application of water to disturbed areas during working or windy conditions to prevent dust and erosion, and use of drip pans for mobile fueling.

The preferred alternative would include stormwater controls sufficient to ensure that there is no net increase in peak flow rates and total volume of runoff from the project site for all storm events up to and including the 10-year/2-hour and the 10-year/24-hour storm events. These requirements were developed to prevent significant stormwater effects on the environment, particularly Whitmore Ravine. Additionally, stormwater management measures associated with the preferred alternative (post-construction) would comply with the requirements of Authorization Number MTR000197 (MDEQ, 2007b) and MTR040008 (MDEQ, 2005). This would include stormwater management as specified in the Malmstrom AFB SWPPP (Malmstrom AFB, 2009). In particular, the SWPPP identifies non-structural and structural BMPs to control or maintain stormwater discharge rates and pollutant loads. Non-structural BMPs may include good housekeeping practices, routine inspection, and preventative maintenance. Structural BMPs may include onsite surface containment, control berms, and other structural control techniques to minimize stormwater runoff.

Construction-related impacts would be short-term and minor, with the implementation of appropriate BMPs. The increase in impervious surface area on the site would be permanent, though this impact is considered minor because it only constitutes a 1.5 percent increase in impervious surface for the area. Moreover, stormwater controls sufficient to ensure that there is no net increase in peak flow rates and total volume of runoff from the project site for all storm events up to and including the 10-year/2-hour and the 10-year/24-hour storm events would be part of the preferred alternative. These requirements were developed to prevent significant stormwater effects on the environment, particularly Whitmore Ravine.

Thus, the preferred alternative would not place a further burden on Whitmore Ravine and the Missouri River.

4.6.2.2 Alternative 1 – New Construction Adjacent to Former RED HORSE Area

Under Alternative 1, construction- and operation-related impacts would be similar to those identified for the preferred alternative. Alternate Site 1 is located in Drainage Area 6, which drains to Whitmore Ravine and ultimately the Missouri River. Alternative 1 would result in an estimated 1.2 percent increase in impervious area for Drainage Area 6 and an estimated 0.3 percent increase in impervious area for Malmstrom AFB. As discussed under the preferred alternative, Alternative 1 would comply with Malmstrom AFB General Permits, associated SWPPPs, specified BMPs, and stormwater controls sufficient to ensure that there is no net increase in peak flow rates and total volume of runoff from the site. These requirements were developed to prevent significant stormwater effects on the environment, particular Whitmore Ravine. Construction-related impacts of Alternative 1 would be long-term and minor, with the implementation of appropriate BMPs. The increase in impervious surface would be permanent, but would not substantially increase the runoff potential in Drainage Area 6. This impact would be long-term and minor. Thus, Alternative 1 would not place a further burden on Whitmore Ravine and the Missouri River.

4.6.2.3 Alternative 2 – New Construction at Grazing Site

Under Alternative 2, construction and operation impacts would be similar to those identified for the preferred alternative. However, because Alternative 2 is located in Drainage Area 7, which does not flow toward Whitmore Ravine, and there would be no potential to impact Whitmore Ravine. Alternative 2 would result in an estimated 1.7 percent increase in impervious area for the drainage area and an estimated 0.3 percent increase in impervious area for Malmstrom AFB. Malmstrom AFB General Permits, associated SWPPPs, specified BMPs, and stormwater controls sufficient to ensure that there is no net increase in peak flow rates and total volume of runoff from the project site would be employed. Any runoff from Drainage Area 7 exiting the installation consists of sheet flow and would not impact surface waters. Although Alternative 2 would result in a permanent increase impervious surface and subsequent runoff, because this stormwater flow would not affect Whitmore Ravine or the Missouri River and because the increase in impervious surface is small as compared to the overall drainage area and installation, the impact is considered long-term and negligible.

4.6.2.4 No Action Alternative

Under the no action alternative, no construction activities would occur. Therefore, there would be no impact on water resources.

4.7 Geology and Soils

This section presents a discussion of the existing geologic conditions on Malmstrom AFB and an evaluation of the potential impacts on geology and soils resulting from the proposed action.

4.7.1 Affected Environment

Malmstrom AFB is located in a glaciated portion of the Glaciated Missouri Plateau, which is in the northern part of the Great Plains Province. Much of the northern part of Montana is a plain of little relief that is the surface of a nearly continuous cover of glacial deposits, generally less than 50 feet thick. The preferred site is underlain by the Sweetgrass Arch, a bedrock structural feature extending northwest between the Little Belt Mountains, 24 miles to the south, past the installation boundary on the southwestern side and into Alberta, Canada. Stratigraphic units, important to the framework of the region surrounding Malmstrom AFB, range in age from the Madison Limestone of the Mississippian era (360 million years) to the Eolian Sand of the Holocene (10,000 years). These units include sedimentary bedrock formations, unconsolidated glacial deposits, and windblown deposits (USAF, 2006a). The occurrence of geologic hazards in the study area is low. Widely scattered, low-level seismicity characterizes the area. No active faults are near the project area or Malmstrom AFB and the alternate sites do not include significant areas of steep slopes.

In the vicinity of Malmstrom AFB, Quaternary glacial deposits overlie Early Cretaceous shale and sandstone formations. The modern soils of Malmstrom AFB have developed directly on these Quaternary deposits and consist primarily of Lawther silty clay (associated with the Pleistocene till) and Dooley sandy loam (associated with the Holocene Eolian Sand) (USAF, 2006a). The soils at the preferred site consist of Gerber-Lawther Series and Gerber Series, which comprise very deep, well drained, and slowly permeable soils that formed in alluvium, till, calcareous clayey sediments, or glaciolacustrine material. The soils at Alternative 1 consist of Acel Series, which are very deep, well drained soils that formed in alluvium, glaciofluvial, or glaciolacustrine materials. The soils at Alternative 2 have been altered from the original Acel Series by placement of fill in the 1940s (Malmstrom AFB, 2002; Natural Resources Conservation Service [NRCS] 1998a; NRCS, 1998b; NRCS, 1999).

4.7.2 Consequences

4.7.2.1 Construct New AFRC on Montana ARNG Facility (Preferred Alternative)

Implementation of the preferred alternative would disturb surface soils and permanently change the ground surface from a soil (pervious) surface to a paved (impervious) surface. This would be necessary for installation of the AFRC, OMS, unheated storage building, and paved parking area.

Implementation of the preferred alternative would disturb approximately 10 acres of land as a result of construction. Heavy equipment would be used to grade the site, move and compact soils, and excavate foundations. Equipment and materials used for consecutive days may be staged onsite. The staging area for the preferred alternative would be within the preferred site boundaries. The soils at the preferred site consist of Gerber-Lawther Series and Gerber Series. Most of the construction would occur on previously disturbed land, and continued development of these parcels would not cause significant impacts on natural soils. There are no special qualities associated with the geology or soils on these sites. Implementation of construction BMPs would minimize impacts associated with wind and water soil erosion and would be in accordance with the General Permit for Storm Water Discharges Associated with Construction Activity and its associated SWPPP (refer to

Section 4.6). These BMPs would include, but would not be limited to, installation of silt fencing and sediment traps, and revegetation of disturbed areas, as appropriate.

The suitability of specific soils for construction is also an important consideration at Malmstrom AFB. Since the installation was constructed, there have been numerous building problems related to the movement of foundations and floor slabs. Many of the soils on Malmstrom AFB contain shrinking and swelling clays and have limitations to building construction (Malmstrom AFB, 2002). For these reasons, a design-specific geotechnical study of the building site would be conducted to ensure the design of the facility is appropriate for site conditions. Implementation of standard engineering design and construction practices would minimize impacts on soils during construction. For example, if soils are found to be expansive, over-excavation may be included as part of the design and construction. The final design would be refined to account for geotechnical findings. As such, there would be no structural impact on geology and soils under the preferred alternative. Construction would cause short-term erosion under the preferred alternative; however, this impact would be minor with the employment of BMPs, as outlined in the SWPPP and installation General Permit.

4.7.2.2 Alternative 1 – New Construction Adjacent to Former RED HORSE Area

The impacts from Alternative 1 would be similar to those identified for the preferred alternative; however, Alternate Site 1 is currently undeveloped and unpaved.

Implementation of Alternative 1 would disturb approximately 10 acres of land as a result of construction. Heavy equipment would be used to grade the site, move and compact soils, and excavate foundations. Equipment and material staging would likely occur onsite, which is surrounded by staging areas for various other development activities. The soils at Alternate Site 1 consist of Acel Series. Most of the construction would occur on previously disturbed land, and continued development of these parcels would not cause significant impacts on natural soils. There are no special qualities associated with the geology or soils on this site. Implementation of appropriate construction BMPs would minimize impacts associated with wind and water soil erosion and would be in accordance with the General Permit for Storm Water Discharges Associated with Construction Activity and its associated SWPPP. Pending incorporation of a design-specific geotechnical study into the final design, there would be no anticipated structural impacts under Alternative 1. Construction would cause short-term erosion under Alternative 1; however, this impact would be minor with the employment of BMPs, as outlined in the SWPPP and installation General Permit.

4.7.2.3 Alternative 2 – New Construction at Grazing Site

The impacts from Alternative 2 would be similar to those identified for Alternative 1.

Implementation of Alternative 2 would disturb approximately 9.5 acres of land as a result of construction. Heavy equipment would be used to grade the site, move and compact soils, and excavate foundations. Equipment and material staging would likely occur onsite. The soils at Alternate Site 2, while identified as Acel Series in the Malmstrom AFB General Plan (Malmstrom AFB, 2002), appear by aerial photography to be fill soil. Fill material was placed on the site in the 1940s, for a possible runway extension. The site is now level, compacted, and suitable for development. Most of the construction would occur on previously disturbed land, and continued development of these parcels would not cause

significant impacts on natural soils. There are no special qualities associated with the geology or soils on this site. Implementation of appropriate construction BMPs would minimize impacts associated with wind and water soil erosion and would be in accordance with the General Permit for Storm Water Discharges Associated with Construction Activity and its associated SWPPP. Pending incorporation of a design-specific geotechnical study into the final design, there would be no anticipated structural impacts under Alternative 2. Construction would cause short-term erosion under Alternative 2; however, this impact would be minor with the employment of BMPs, as outlined in the SWPPP and installation General Permit.

4.7.2.4 No Action Alternative

Under the no action alternative, no construction activities would occur. Therefore, there would be no impact on geology or soils.

4.8 Biological Resources

Biological resources of the region provide economic, social, cultural, and environmental value. The plants, animals, and land in the vicinity of Malmstrom AFB are important for biological productivity and landscape continuity. Biological resources include vegetation, wetlands, floodplains, and wildlife.

4.8.1 Affected Environment

4.8.1.1 Vegetation, Wetlands, and Floodplains

Malmstrom AFB is located on flat to gently rolling terrain in the Shortgrass Prairie region (also known as the Great Plains and the High Plains) of the United States (USAF, 2007).

Most indigenous vegetation within the boundaries of the installation and in the general vicinity has been replaced with exotic and weedy species over the past 60 years of site development. Some noxious weed populations of spotted knapweed, Canada thistle, and field bindweed are known to occur on the installation (USAF, 2007).

According to the Montana Natural Heritage Program (NHP) (Montana NHP, 2009), 14 vascular and non-vascular plant species of concern occur within various locations throughout Cascade County. No federally listed threatened or endangered species or potential habitats have been identified on Malmstrom AFB (Malmstrom AFB, 2002).

Currently, both the preferred site and Alternate Site 1 consist of land that is highly disturbed and characterized primarily by introduced grass species and a few shrubs. Alternate Site 2 consists of winter grazing land (see Section 4.11). Vegetation on grazing lands is predominantly crested wheatgrass, with areas of smooth brome (*Bromus inermis*) and alfalfa (*Medicago sativa*) (USAF, 2007).

Approximately 36 acres of wet areas and moist seeps have been identified on Malmstrom AFB and range from retained stormwater (Pow Wow Pond) to streambeds that flow only after heavy precipitation (USAF, 2007). The primary wetland systems found on Malmstrom AFB are shallow, ponded water environments, or wetlands within a channel. The only significant aquatic area on the installation is Pow Wow Pond, a 1-acre impoundment located

in the east-central portion of the installation (USAF, 2007). Wet areas and moist seeps encountered throughout the installation generally result from human-induced, site-specific conditions.

A wetland survey was conducted in July 2001 for the entirety of Malmstrom AFB. Two small jurisdictional wetlands were identified during the survey. One is located just north of 10th Avenue North, and the other is located near the southwest end of the runway (USAF, 2007). An inventory of wetland sites on Malmstrom AFB, conducted in October 2006, identified several areas "meeting some or all wetland criteria" onbase (Malmstrom AFB, 2006).

Wetlands or wet areas are not present on the preferred site, Alternate Site 1, or Alternate Site 2 (Malmstrom AFB, 2002). As shown on Figure 4-1, the nearest wetland to Alternate Site 1 is located on the north side of the adjacent unnamed airfield maintenance road in the northeast corner of the site (USAF, 2007). The nearest wetland to Alternate Site 2 is located southeast of the site.

Malmstrom AFB is located on a high plateau approximately 1 mile south of the Missouri River and is approximately 100 feet above the 100-year floodplain. Malmstrom AFB is not in a floodplain (Malmstrom AFB, 2002).

4.8.1.2 Wildlife

Wildlife habitat in the general region includes lakes, streams, grasslands, parks, and refuges that support a variety of wildlife species. Wildlife habitat on Malmstrom AFB is limited by the relatively large portion of land used for buildings, runways, and other installation facilities (USAF, 2007). The highest quality wildlife habitat on Malmstrom AFB occurs near ponds and wetlands and undeveloped areas of the base where trees occur (USAF, 2007). Common mammals include the white-tailed jackrabbit, badger, skunk, ground squirrels, and field mice. There may be transient use of the area by coyotes. There are no native fish on installation; Pow Wow Pond contains stocked rainbow trout (USAF, 2007).

Primary bird species on Malmstrom AFB include a variety of songbirds, shorebirds, raptors, and waterfowl (USAF, 2007). Ponds and seasonal wetland areas have been known to support waterfowl, and grassland areas to support small birds and raptors. Small bird species, such as warblers, have been observed at Pow Wow Pond (USAF, 2007).

According to the Montana NHP, 47 wildlife species that are either federally or state listed threatened, endangered, or species of concern occur within various locations throughout Cascade County (Montana NHP, 2009). Two bird species, the ferruginous hawk and loggerhead shrike, are protected by the MDFWP and may be migrants to Malmstrom AFB. Although no specific protective measures are required, consideration would be given to minimize disruption of their habitat (Malmstrom AFB, 2002). Agency coordination letters were sent to the USFWS and MDFWP on February 4, 2009. Both agencies responded later in February 2009 stating no concern with the proposed action. Coordination letters and the agency responses are provided in Appendix A.

4.8.2 Consequences

Direct disturbance to biological resources includes excavation and removal of existing habitat. Indirect impacts on biological resources could also result from noise and dust generated during construction.

4.8.2.1 Construct New AFRC on Montana ARNG Facility (Preferred Alternative)

Under the preferred alternative, an AFRC and associated facilities would be developed adjacent to the existing ARNG facility. The preferred site is a disturbed site that is characterized primarily by introduced grass species and a few shrubs. All disturbed areas would be re-vegetated after construction. No wetland resources are located on the site. No special status plant or animal species are known to exist on Malmstrom AFB (USAF, 2007; Malmstrom AFB, 2002; MDFWP, 2009; USFWS, 2009). Therefore, there would be no impact on wetlands or special status species.

Vegetation at the preferred site is highly disturbed and characterized primarily by introduced grasses and a few shrubs. Areas of vegetation at the site would be permanently paved during construction of the ARNG facility. The site is highly disturbed and habitat for wildlife is limited; therefore, impacts on vegetation and wildlife would be considered minor.

Given the limited amount of biological resources at the preferred site, impacts on biological resources would be long-term but minor.

4.8.2.2 Alternative 1 – New Construction Adjacent to Former RED HORSE Area

Under Alternative 1, an undeveloped site would be developed to include three permanent buildings (AFRC, OMS, and unheated storage) and organizational parking. No special status plant or animal species are known to exist on Malmstrom AFB; therefore, there would be no impact on special-status species. In addition, no wetland resources exist at the site; therefore, there would be no direct impact on wetlands.

Similar to the preferred site, vegetation at Alternate Site 1 is highly disturbed and characterized primarily by introduced grasses and a few shrubs. Areas of vegetation at the site would be paved over during construction of the three permanent buildings and organizational parking. The site is highly disturbed and habitat for wildlife is limited. Therefore, impacts on vegetation and wildlife would be considered minor. Given the limited amount of biological resources at Alternate Site 1, impacts on biological resources would be long-term but minor.

4.8.2.3 Alternative 2 – New Construction at Grazing Site

Under Alternative 2, an undeveloped site would be developed to include three permanent buildings (AFRC, OMS, and unheated storage) and organizational parking. Alternate Site 2 is currently used as a lower winter field for horse grazing (see Section 4.11). No special status plant or animal species are known to exist on Malmstrom AFB; therefore, similar to the preferred alternative and Alternative 1, there would be no impact on special-status species. In addition, no wetland resources exist at the site; therefore, there would be no direct impact on wetlands.

Vegetation at Alternate Site 2 consists predominantly of crested wheatgrass, with areas of smooth brome and alfalfa. Habitat for wildlife is limited because the presence of horses and

horse grazing activity disturbs the quality of habitat at the site. Because the site consists of introduced grasses and disturbed habitat, impacts on vegetation and wildlife would be considered minor.

Impacts would be the same as identified for the preferred alternative and Alternative 1. These impacts are considered long-term but minor.

4.8.2.4 No Action Alternative

Under the no action alternative, no construction activities would occur. Therefore, there would be no impact on biological resources.

4.9 Cultural Resources

"Cultural resource" is a general term used to refer to a wide range of man-made or man-modified resources. Cultural resources include prehistoric and historic archeological sites, historic structures, and traditional cultural places. If identified in the project area, cultural resources are evaluated in terms of their significance and also in terms of project impacts. A significant cultural resource, also called a historic property, is a resource that is found to meet criteria for eligibility for inclusion in the National Register of Historic Places (NRHP). In addition, significant cultural resources must possess integrity relative to their original historical features and characteristics. For this project, the Area of Potential Effects (APE) was defined, and archival research was conducted. Significant cultural resources were identified in terms of their proximity to the preferred site, Alternate Site 1, and Alternate Site 2, and the resources were evaluated in terms of project impacts and effects consistent with the determined intensity of effects, as defined in Section 4.1.3.

4.9.1 Affected Environment

4.9.1.1 Regulatory Setting

Section 106 of the NHPA of 1966 as amended requires agencies to take into account project effects on districts, sites, buildings, structures, and objects that are listed in or eligible for inclusion in the NRHP. Federal regulations also coordinate the Section 106 and NEPA processes so that both sets of regulations can be followed at the same time.

In general, for a cultural resource to be eligible for the NRHP, it must be at least 50 years old, possess integrity of physical characteristics, retain the majority of its integrity of location, materials, setting, design, workmanship, feeling, and association, and must meet at least one of the following four criteria of significance:

- Association with events that have made a significant contribution to the broad patterns of U.S. history
- Association with the lives of persons significant in local, state, or national history
- Embodiment of distinctive characteristics of a type, period, or method of construction, or representation of the work of a master, or possession of high artistic values, or representation of a significant and indistinguishable entity (e.g., a district) whose components may lack individual distinction

- Yields, or is likely to yield information important to an increased understanding of prehistory or history

For this project, Section 106 consultation took place with the Montana SHPO in Helena and with the affected Native American tribes.

Additional federal legislation intended to protect cultural resources includes:

- Antiquities Act of 1906 (16 United States Code [U.S.C.] 431-433)
- Historic Sites Act of 1935 (16 U.S.C. 461-467)
- Archaeological Data Preservation Act of 1974 (16 U.S.C. 469 a-c)
- Archaeological Resources Protection Act of 1979 (16 U.S.C. 470 et seq.), as amended
- Native American Graves Protection and Repatriation Act (25 U.S.C. 3001 et seq.)
- Executive Order 13007 regarding Indian Sacred Sites

4.9.1.2 Area of Potential Effects

The APE is defined as the geographic area where the character or use of historic properties (significant cultural resources) may directly or indirectly be impacted as a result of project implementation. For this project, the APEs are alternative-specific and are defined as the entirety of each site, since all areas of the preferred site, Alternate Site 1, and Alternate Site 2 may undergo ground disturbance depending on which alternative is selected. The preferred site APE, Alternate Site 1 APE, and Alternate Site 2 APE are all shown on Figure 4-2.

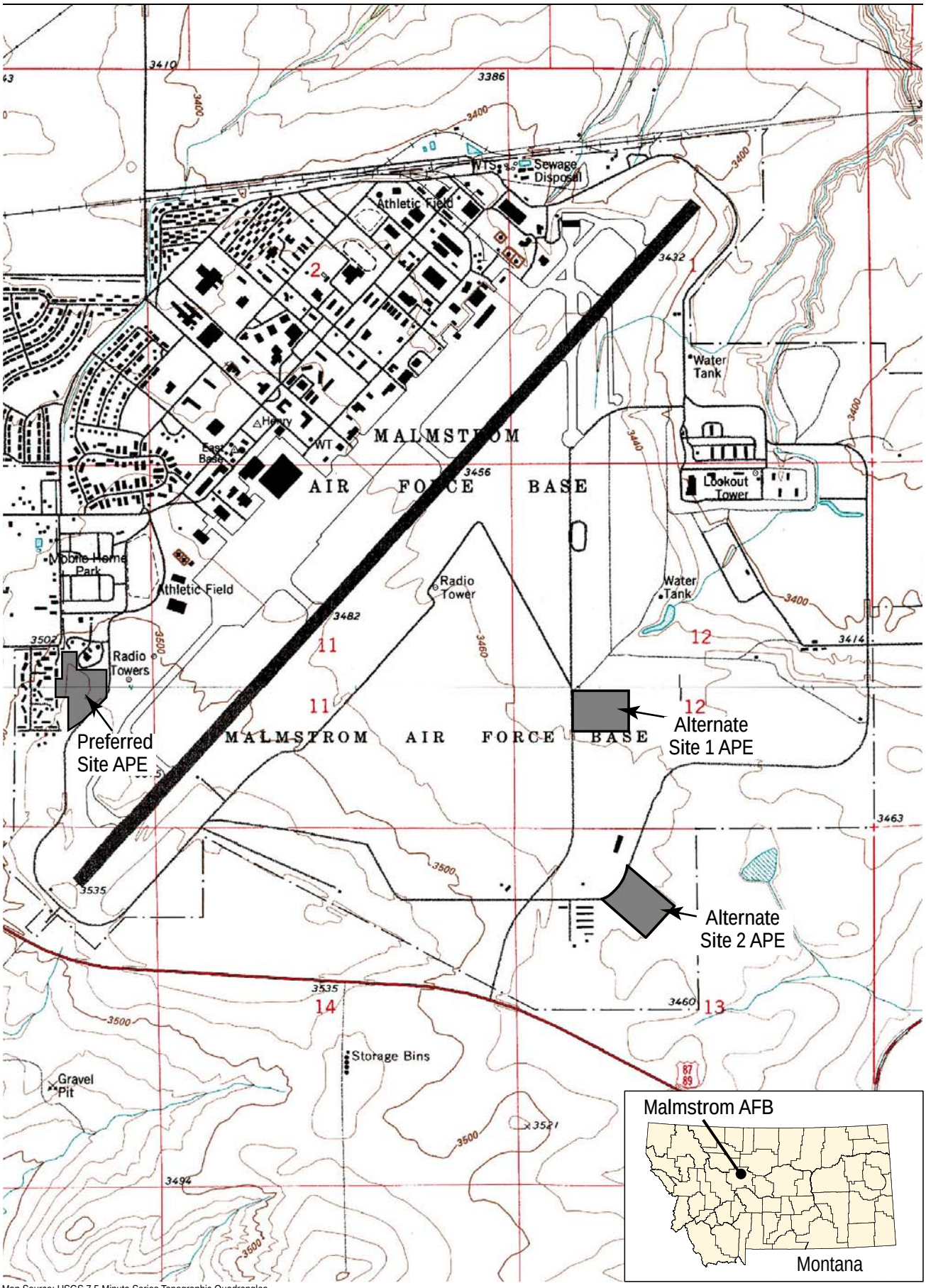
4.9.1.3 Prehistoric and Historic Background

The pre-contact, ethnographic, and historic cultural context for this area has been restated most recently in the ICRMP for Malmstrom AFB (USAF, 2009). While the region's prehistory is well established, significant themes for Malmstrom AFB itself include historic exploration and settlement and military history—particularly that of the Cold War Era.

Based on the SHPO research and cultural and environmental contexts of the project area, several conclusions can be drawn about the types of cultural resources that may be encountered in the APE. Historic resources are likely to be affiliated with government and national defense, railroading, agriculture, and settlement, and possibly mining and commerce. Ethnohistoric and pre-contact resources may be affiliated with hunting, fishing, floral and faunal resource procurement and processing, and settlement.

4.9.1.4 Cultural Resource Inventories and Section 106 Consultations

Research was conducted via the Montana SHPO to determine the locations and types of previously documented archaeological sites, historic structures, and other cultural resources within 1 mile of the preferred site, Alternate Site 1, and Alternate Site 2 APEs. Table 4-3 summarizes the literature review of previous cultural resource project work in the project vicinity. Several cultural resource studies have been previously conducted within 1 mile of the preferred site APE, and the APEs of Alternate Sites 1 and 2. No known cultural resources are located in the preferred site APE. No known cultural resources are located in the APE for either of the alternate sites.



Map Source: USGS 7.5 Minute Series Topographic Quadrangles, Northeast Great Falls and Southeast Great Falls, Mont., Revised 1994.

North

0 1,000 2,000

Approximate scale in feet

FIGURE 4-2
Preferred and Alternate Site APEs
Malmstrom AFB, Great Falls, MT

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TABLE 4-3
Literature Review Summary
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

CRABS #/ Site #	Year	Report Title	Authors/ Affiliation	Results
CA 6 16151	1994	*Malmstrom AFB Field Survey Design*	Hoffecker	N/A-preliminary study
CA 4 25369	2002	*Cultural Resources Inventory and Evaluation: 2nd Avenue North, Great Falls, Cascade County Montana*	McKay	N/A-outside of study area
CA 6 24037	2001	*Cultural Resource Survey, Proposed Cellular Antennae Installation, Great Falls, Montana in Cascade County*	Hall	N/A-outside of study area
CA 6 2088	1989	*Cultural and Paleontological Resources Survey On and Adjacent to Malmstrom AFB, Great Falls, Montana*	Greiser	None within Preferred or alternate sites
CA 6 17324	1995	*Prehistoric and Historic Resources at Malmstrom Air Force Base*	Hoffecker	None within Preferred or alternate sites
CA 6 19432	1989	*Prehistoric and Historic Resources at Malmstrom Air Force Base: Field Survey Report*	Hoffecker	None within Preferred or alternate sites
CA 6 2085	1988	*Cultural Resources Survey of Approximately 1250 Acres in the Vicinity of Malmstrom Air Force Base, Great Falls, Montana (Final)*	Greiser	None within Preferred or alternate sites
ZZ 6 10820	1989	*Intensive Cultural Resources Survey of Selected Locations, Malmstrom AFB Deployment Area, Montana*	Greiser	None within Preferred or alternate sites

Source: Murdo, 2008; 2009; Bard, 1997; Greiser, 1989; Hoffecker, 1994; National Park Service, 2008.

Based on research conducted at the SHPO, it is clear that the entire Malmstrom AFB has been intensively inventoried for cultural resources. Cultural resource field investigations on Malmstrom AFB have been extensive and comprehensive. These studies included subsurface testing and sampling of undisturbed areas on the installation, as well as pedestrian surveys and inventories of built-environment resources on Malmstrom AFB. While several NRHP-eligible or listed historic properties, a historic railroad, and a couple of pre-contact archaeological sites are present on and near Malmstrom AFB, none are located within the preferred site, Alternate Site 1, or Alternate Site 2. National Historic Landmarks are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States. The Great Falls Portage, a National Historic Landmark, is located outside of the project area, off Malmstrom AFB and beyond the vicinity of the proposed action. For these reasons, no further cultural resource studies are planned for the project APEs. On February 25, 2009, a Section 106 consultation letter recommending a Finding of No Historic Properties Affected was sent to the Montana SHPO. The SHPO concurred with the Finding

of No Historic Properties Affected on March 20, 2009. Records of this SHPO correspondence are included in Appendix A.

As part of the project, the USAR initiated coordination with the Blackfeet Tribe Culture Committee of the Blackfeet Nation, Tribal Preservation Office of the Chippewa Cree Business Committee, Rocky Boys Agency, the Crow Tribal Council of the Crow Indian Reservation, the Fort Belknap Community Council, the Fort Peck Tribal Executive Board of the Fort Peck Reservation, the Confederated Salish and Kootenai Tribe of the Flathead Reservation, and the Northern Cheyenne Tribal Council of the Northern Cheyenne Reservation. Letters describing the project and the location of the preferred and alternate sites were sent to these tribes on January 29, 2009. The letters summarized the previous cultural resource work on the Malmstrom AFB, provided the project recommendation of no further cultural resource study and a Finding of No Historic Properties Affected, and invited the tribes to provide input on the project's potential for cultural resource impacts. Records of the tribal consultation are included in Appendix A.

4.9.1.5 Native American Resources

No known Native American resources are located in any of the APEs.

4.9.2 Consequences

Project impacts on cultural resources are evaluated according to the Criteria of Adverse Effect (25 CFR 800.5). Cultural resource impacts fall under two categories: Direct Effects and Indirect Effects. Direct effects on historic properties include physical destruction of the property and damage, alteration, or removal of a portion of the historic property. Such direct effects would result from project construction and implementation.

Indirect effects to cultural resources include alterations, modifications, destruction, or removal of cultural resources during operation and maintenance of the proposed facility. Such indirect impacts may include (but are not limited to) human destruction caused by increased human activity in the area from soldiers, or impacts affecting a resource's historic setting, feeling, and association caused by impaired viewshed.

4.9.2.1 Construct New AFRC on Montana ARNG Facility (Preferred Alternative)

No cultural resources are located on the preferred site. Proposed facilities would be of a function, type, size, and style consistent with existing structures on Malmstrom AFB. For these reasons, and as recommended to affected tribes and the SHPO by the USAR, the preferred alternative would not result in any impact on the NRHP eligibility of nearby historic resources, nor on historic properties.

4.9.2.2 Alternative 1 – New Construction Adjacent to Former RED HORSE Area

No cultural resources are located on Alternate Site 1. Proposed facilities would be of a function, type, size, and style consistent with existing structures on Malmstrom AFB. Under Alternate 1, there would be no impact on historic properties.

4.9.2.3 Alternative 2 – New Construction at Grazing Site

No cultural resources are located on Alternate Site 2. Proposed facilities would be of a function, type, size, and style consistent with existing structures on Malmstrom AFB. Under Alternate 2, there would be no impact on historic properties.

4.9.2.4 No Action Alternative

Under the no action alternative, no construction activities would occur. Therefore, there would be no impact on historic properties.

4.10 Noise

This section presents an evaluation of the existing noise conditions on Malmstrom AFB, focusing on the existing noise sources in the vicinity of the three alternate sites and the potential effects resulting from implementation of the proposed action.

4.10.1 Affected Environment

Noise may be defined as unwanted or physically harmful sound. Noise is usually objectionable because it is disturbing, annoying, or can cause physical injury. Noise is generally measured in decibels, a unit of measurement that indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect.

There are several methods of characterizing sound. The most commonly used is the decibel (A-weighted scale) (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called L_{eq}.

Additionally, noise compatibility is included in the Malmstrom AFB Land Use Compatibility Study prepared by the Great Falls Development Authority (HB&A, 2007) working to align the operations and activities of the installation and the city of Great Falls. Sensitive noise receptors (see Section 4.10.1.3) on and off base, including residential and recreational facilities, can be further affected during the evening and at night (between the hours of 10:00 pm and 7:00 am), due to excessive noise interferences with the ability to sleep. This measure of cumulative noise exposure in a community is expressed as the day/night average sound level, or L_{dn}.

Table 4-4 categorizes the typical range of L_{dn} levels for various functional areas encountered in urban areas of the U.S. In general, 30 to 50 dB represents a quiet classification, 65 to 70 dB represents a moderately noisy classification, and 70 to 75 dB represents a noisy classification (USAF, 2006a).

TABLE 4-4
Typical Day-Night Levels in Urban Areas in the United States
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

Description	Typical Range of L_{dn}, dB	Average L_{dn}, dB
Quiet suburban residential	48-52	50
Normal suburban residential	53-57	55
Urban residential	58-62	60
Noisy urban residential	63-67	65
Very noisy urban residential	68-72	70

Source: EPA, 1974; USAF, 2006a.

4.10.1.1 Existing Noise Setting

This analysis focuses on noise levels in the area of the preferred site and two alternate sites. Noise has decreased dramatically at Malmstrom AFB since fixed wing flying operations were discontinued. In general, noise levels around Malmstrom AFB result primarily from helicopter operations at the installation, firing range activities, vehicle traffic in the vicinity, or other background noise sources, such as the repair and/or construction of streets, and building repair, construction, and demolition. No adverse impacts on the environment have been detected due to these noise sources (USAF, 2007).

Montana ARNG training activities occur one weekend per month and typically involve indoor simulation and classroom training and outdoor marching, military formation, and obstacle training. These actions occur only during daytime hours. Noise levels at the two alternate sites are affected by the same noise generating sources; however, they are slightly lower than levels of the preferred site due to the lower traffic volume. Training does not occur on these sites, but does occur in the vicinity of Alternate Site 1, including a bivouac area and obstacle course in the field to the west. No recent noise measurements have been taken that may represent the existing conditions at Malmstrom AFB.

4.10.1.2 Air Installation Compatible Use Zones

The AICUZ were developed when Malmstrom AFB still had a fixed wing aircraft flying mission. The zones were used to assist local communities in achieving compatibility between military air installations and neighboring civil communities, and to assist in the land use planning and control process. The AICUZ program designates Noise Zones and Accident Potential Zones that are compared to land uses to define Compatible Use Districts for which land use compatibility guidelines are provided (USAF, 2007). The installation does not currently host an active air wing, so the runway is currently inactive with the exception of Huey helicopters, a squadron of the 341st Space Wing Operations Group (USAF, 2006a). Land use guidelines, however, continue to be followed to prevent conflicts should a flying mission return to Malmstrom. Although noise levels have been reduced with the end of fixed wing flying operations, since the 1994 AICUZ analysis these measurements still showed the preferred site and the two alternate sites outside of the 65-dB contour (Spectrum Sciences and Software, 1994).

4.10.1.3 Sensitive Receptors

Sensitive receptors are populations that are more susceptible to the effects of noise than the general population. Potential sensitive receptors normally include hospitals, churches, residential, and wildlife areas. DOD, EPA, and other agencies consider noise levels in excess of 65 L_{dn} as "normally unacceptable" for noise-sensitive land uses such as residences, schools, and hospitals (USAF, 2002).

Sensitive receptors in proximity to the preferred site include the Gateway FamCamp immediately west of the site. A family housing area and outdoor recreation field are located on Whitehall Drive approximately 700 feet north of the site. Loy Elementary School is located approximately 1 mile west of the site.

Sensitive receptors surrounding the alternate sites include Pow Wow Park approximately 600 feet northeast of Alternate Site 1 and the stables and riding arena approximately 300 feet west of Alternate Site 2. No residential areas are in the immediate vicinity of either alternate site.

Noise levels reaching residential and other noise-sensitive receptors vary according to their distance from the location of the project area and travel route and the number of intervening facilities. Noise typically is attenuated (reduced) 6 dB for every doubling of distance from the source (USAF, 2006a).

4.10.1.4 Construction-Related Noise

Typical construction-related noise is expressed in terms of schedule, equipment used, and types of activities. The noise level would vary during the construction period, depending on the construction phase. Construction can generally be divided into the following five phases: (1) site preparation and excavation, (2) concrete pouring, (3) steel erection, (4) mechanical, and (5) cleanup. Different types of construction equipment are used in these phases (EPA, 1974; USAF, 2006a).

The EPA Office of Noise Abatement and Control and the Empire State Electric Energy Research Company have extensively studied noise from different types of construction equipment and construction sites (EPA, 1974; USAF, 2006a). Use of these findings is conservative because, since these studies were performed, public concerns about the adverse effects of noise have resulted in the inclusion of noise controls in construction-equipment design.

Table 4-5 lists the expected noise levels 50 feet from a site during construction, according to the types of construction activities that might occur during construction. The table includes construction equipment with the potential to result in the greatest noise levels during each phase of construction. Table 4-5 also lists the long-term composite average or equivalent site noise level (which represents noise from all equipment). The composite levels are occasionally lower than the individual levels because the loudest equipment would not be operating continuously throughout the construction phase.

TABLE 4-5
Typical Construction Equipment and Composite Site Noise Levels
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

Construction Phase	Loudest Construction Equipment	Equipment Noise Level at 50 feet (dB)	Composite Site Noise Level at 50 feet (dB)
Site Preparation and Excavation	Dump truck	91	89
	Backhoe	85	
	Gradall	85	
	Dozer	85	
Concrete Pouring	Truck	91	85
	Concrete mixer	85	
Steel Erection	Derrick crane	88	89
	Jackhammer	88	
Mechanical	Derrick crane	88	84
	Pneumatic tools	86	
Cleanup	Rock drill	98	79
	Truck	91	

Sources: EPA, 1974; USAF, 2006a; U.S. Department of Transportation, 2006

Noise dissipates by atmospheric attenuation as it travels through the air. Other factors that can affect the amount of attenuation include ground surface, foliage, topography, and humidity. Noise associated with construction activities would be temporary, occur during daytime hours, and vary in levels depending on the sources in use, types of activities, and distance from the source (USAF, 2006a).

4.10.2 Consequences

The magnitude of the noise levels and the proximity of noise-sensitive receptors are the major factors that influence the degree of noise impacts.

4.10.2.1 Construct New AFRC on Montana ARNG Facility (Preferred Alternative)

Construction-related noise impacts would be restricted to daylight hours during weekdays. Noise levels would be increased in the Gateway FamCamp and the residential and outdoor recreation area located on Whitehall Drive. The noise levels would be most noticeable during clearing and grading activities, which have composite site noise levels of 89 dBA at 50 feet away. Because the residential and outdoor recreation area is approximately 700 feet from the preferred site, construction-related noise would be reduced to approximately 66 dBA. This noise level could cause people to raise their voices during outdoor conversations. This is a conservative estimate not accounting for atmospheric absorption or attenuation by topographic features. Typical homes have an effective noise attenuation rating of 15 dBA, making indoor noise levels lower than the corresponding outdoor noise levels (EPA, 1974; USAF, 2006a). Allowing for the attenuation of noise from the structure of the house, indoor noise levels in the nearest residence would be approximately 51 dBA during site preparation activities. The nature of this disturbance would be short-term and restricted to daylight hours; impacts on the residential and recreation area on Whitehall Drive would be considered moderate.

Signage would be placed at the Gateway FamCamp to warn recreational users and horseback riders of the nearby construction zone with the potential for loud noise. By implementing these measures and coordinating construction phasing with the Gateway FamCamp, impacts would be minimized and considered short-term and moderate.

Loy Elementary School is approximately 1 mile from the preferred site. Outdoor noise levels experienced by individuals at the school during site preparation would be approximately 40 dBA. Indoor levels experienced at Loy Elementary would be 25 dBA. This impact would be minor.

No negative health impacts would result from construction-related noise.

Noise levels related to the operation of the AFRC would be similar to the current noise levels at the preferred site; however, instead of one weekend per month, the noise levels from training and traffic would occur two weekends per month. Training activities would occur on weekends, and increased noise would be associated with those activities; however, these actions would occur during daytime hours, would be of short duration, and typically would be remote from potentially sensitive receptors. These impacts would be long-term but minor.

4.10.2.2 Alternative 1 – New Construction Adjacent to Former RED HORSE Area

The closest sensitive receptor is Pow Wow Park, located 600 feet northeast of Alternate Site 1. Noise levels here would be approximately 67 dBA during site preparation and steel erection activities. Construction activities would be limited to weekdays and daylight hours to minimize disturbance. Signage would be placed at Pow Wow Park to warn recreational users that they are approaching a construction zone with loud noise. By implementing these measures and coordinating construction phasing with Pow Wow Park management, these impacts would be minimized and considered short-term and moderate.

No negative health impacts would result from construction-related noise.

Noise-related impacts from operation of the AFRC, including noise associated with training activities and traffic, would be similar to those identified for the preferred alternative. Noise levels would be slightly lower at Pow Wow Park than at the Gateway FamCamp from the preferred alternative because the park is farther from the AFRC. However, noise levels at Pow Wow Park would be greater than those experienced by residents north of the preferred site. These impacts would be less than those identified for the preferred alternative, but would still be long-term. These impacts are considered minor, given the distance to sensitive receptors and other operations.

4.10.2.3 Alternative 2 – New Construction at Grazing Site

At Alternate Site 2, noise levels would be increased in the stables and riding arena to approximately 73 dBA during site preparation and steel erection activities. Construction activities would be limited to weekdays and daylight hours to minimize disturbance. Signage would be placed in the area to warn recreational users and horseback riders that they are approaching a construction zone with loud noise. By implementing these measures and coordinating construction phasing with the stables management, these impacts would be minimized and considered short-term and moderate.

No negative health impacts would result from construction-related noise.

Noise-related impacts from operation of the AFRC, including noise associated with training activities and traffic, would be similar to those identified for the preferred alternative. Noise levels would be slightly reduced at the stables and riding arena compared to the noise levels at the Gateway FamCamp from the preferred alternative because the stables and riding arena would be farther from the AFRC. However, noise levels at the stables and riding arena would be greater than those experienced by residents north of the preferred site. These impacts would be less than those identified under the preferred alternative, but would still be long-term. These impacts are considered minor, given the distance to sensitive receptors and other operations.

4.10.2.4 No Action Alternative

Under the no action alternative, no construction activities would occur. Therefore, there would be no noise-related impact.

4.11 Agriculture and Grazing

4.11.1 Affected Environment

Agriculture is the largest industry in Montana. Agricultural products grown in Montana include beef and dairy cattle, wheat and barley, sheep, swine, hay, honey, mint, potatoes, corn, cherries, and sugar beets. There are approximately 56.5 million acres of farmland in Montana. Farmland in Montana comprises greater than 90 percent of privately owned land in the state (Montana Department of Agriculture, 2009). Farmland abuts Malmstrom AFB to the north, east, and south (Malmstrom AFB, 2002).

4.11.1.1 Agricultural Outleasing

Agricultural outleasing occurs on Malmstrom AFB and involves the lease of land within the boundaries of the installation to an agency, organization, or private individual for the purpose of animal grazing or crop production. As of 2001, Malmstrom AFB had either outleased, or planned to outlease, approximately 1,350 acres of land for these purposes. Malmstrom AFB provides management oversight of outleased land to ensure that the land is managed for long-term sustainable use and the integrity of the ecosystem (USAF, 2007). Currently, agricultural outleased lands on Malmstrom AFB are limited to horse stables and pastures.

Approximately 450 acres of Malmstrom AFB, including Alternate Site 2 and its surrounding areas, are outleased to the Big Sky Saddle Club for the purpose of horse grazing. Approximately 40 horses graze on the outleased land from May to February each year. Grazing is conducted on a rotational basis according to a four-unit rotational grazing system. The system allows for grazing in each field for approximately 8 days, followed by a regrowth of vegetation period of 24 days between grazing. Horses are not grazed during the early spring so that they do not damage vegetation in the early growth stages. Vegetation on grazing lands is predominantly crested wheatgrass, with areas of smooth brome (*Bromus inermis*) and alfalfa (*Medicago sativa*) (USAF, 2007).

Outleasing of land for horse stables and pastures does not occur on either the preferred site or Alternate Site 1. Alternate Site 2 is approximately 9.5 acres and is located within (though does not divide) the lower winter horse grazing area on Malmstrom AFB. In addition, the property east, south, and west of Alternate Site 2 are under a grazing lease.

4.11.1.2 Prime Farmland

The Farmland Protection Policy Act (FPPA) of 1981 requires federal agencies to consider the impact of any activity that would convert prime or unique farmlands to non-agricultural uses. The NRCS regulates compliance with the law (7 CFR 658). The Soil Conservation Service conducted a survey of Malmstrom AFB in October 1977 to determine the presence of "Prime or Unique Farmland" and confirmed that no Prime or Unique Farmland exists on Malmstrom AFB (USAF, 2007).

4.11.2 Consequences

4.11.2.1 Construct New AFRC on Montana ARNG Facility (Preferred Alternative)

Under the preferred alternative, an AFRC and associated facilities would be developed adjacent to the existing ARNG facility. There is no agriculture or grazing practice that occurs on or adjacent to the preferred site; therefore, there would be no impact on existing agriculture or grazing practices.

4.11.2.2 Alternative 1 – New Construction Adjacent to Former RED HORSE Area

Under Alternative 1, an undeveloped site would be developed to include three permanent buildings (AFRC, OMS, and unheated storage) and organizational parking. No agriculture or grazing practices occur on or adjacent to Alternate Site 1; therefore, there would be no impact on existing agriculture or grazing practices.

4.11.2.3 Alternative 2 – New Construction at Grazing Site

Alternate Site 2 is approximately 9.5 acres and is used for horse grazing. Under Alternative 2, approximately 2 percent of land currently used for grazing would be converted to a developed area. Approximately 450 acres of Malmstrom AFB are outleased for the purpose of horse grazing (USAF, 2007). Development of Alternate Site 2 would not divide the contiguous portion of leased grazing land on Malmstrom AFB. Under Alternative 2, impacts on grazing would be long-term, but because a reduction of 2 percent of grazing land is minimal compared to the total amount of grazing land available on Malmstrom AFB, this impact is considered minor.

4.11.2.4 No Action Alternative

Under the no action alternative, no construction activities would occur. Therefore, there would be no impact on agriculture or grazing.

4.12 Hazardous Materials, Health, and Safety

4.12.1 Affected Environment

This section describes programs and activities currently in place on Malmstrom AFB, including general public health and safety, worker health and safety protection, hazardous waste management, environmental remediation activities, pesticide application, and other harmful substances in the ROI.

4.12.1.1 Public Health and Safety Management

The USAF and agencies of the City of Great Falls, Cascade County, the State of Montana, and the federal government protect public health and safety at Malmstrom AFB. The City and County provide police protection and emergency services. The Cascade County Health Department is responsible for monitoring public health and safety issues, such as drinking water quality and disease control. The MDEQ regulates waste management, toxic substance reporting, and investigation and cleanup of contaminated sites. The State of Montana also provides technical and financial assistance for occupational health concerns, such as asbestos control, radon emissions, and drinking water. The Asset Management Flight, Natural Resources Management Element (341CES/CEAN) provides assistance and guidance to Malmstrom AFB personnel regarding regulatory requirements for safe use, storage, and disposal of hazardous and toxic substances and has a pollution prevention program that includes minimization of hazardous wastes and recycling. The Environmental Office of the Montana Department of Military Affairs provides the same type of oversight and guidance for state-operated National Guard facilities.

4.12.1.2 Worker Health and Safety

Construction activities onbase are governed by the rules and regulations of the Occupational Safety and Health Administration (OSHA) as codified in §40 CFR 1910, Occupational Safety and Health Standards.

4.12.1.3 Hazardous Waste Management

Hazardous waste management programs provide for the collection, handling, and disposal of hazardous waste materials, response operations to spills of hazardous materials or waste, and management of the Installation Restoration Program (IRP). In Montana, hazardous waste issues are regulated by the MDEQ.

The Hazardous Waste Management Plan (HWMP) at Malmstrom AFB complies with the requirements of the MDEQ, Air and Waste Management Bureau, Permitting, and Compliant Division. Malmstrom AFB must comply with state regulations, as the state has been authorized by the EPA to implement RCRA requirements in Montana (USAF, 2006b). At Malmstrom AFB, the hazardous waste programs are managed by the Asset Management Flight, Natural Resources Management Element (341CES/CEAN). The Spill Prevention, Control, and Countermeasures (SPCC) Plan at Malmstrom AFB provides procedures for spill reporting, containment, cleanup, and disposal. The fire department requests support, as needed, from local volunteer departments in the event of a spill (USAF, 2008).

Hazardous waste management consists of the collection, storage, and transportation of hazardous wastes as defined by RCRA. The arrangement for proper handling and shipping of hazardous wastes to treatment and disposal facilities is the responsibility of the Defense Reutilization and Marketing Office (DRMO). Malmstrom AFB's Waste Minimization Plan identifies strategies that are in force, such as improved housekeeping and the Hazardous Materials Pharmacy project for inventory control (Malmstrom AFB, 2002).

Malmstrom AFB is included in the USAF's IRP, which is tasked with the planning and execution of environmental restoration activities in response to releases of hazardous substances, pollutants, contaminants, or hazardous solid wastes. Malmstrom AFB is not on the National Priorities List and there is no Federal Facilities Agreement (Malmstrom AFB, 2002).

4.12.1.4 Environmental Remediation Activities

The USAF has conducted cleanup of sites contaminated by past activities under the IRP. There are 25 locations onbase that have been designated as IRP sites (Malmstrom AFB, 2002). The investigation and closure/corrective actions of IRP sites are performed under RCRA. No IRP sites are within the boundary of the preferred site (Malmstrom AFB, 2002).

4.12.1.5 Pesticides

Herbicides are used to control noxious weeds (such as field bindweed, Canadian thistle, and leafy spurge) and to eliminate vegetation where bare ground is required. The pest management office and a local contractor provide support for all pest control programs at Malmstrom AFB. All outdoor pesticides are approved by the installation Public Health Officer. The Pest Management Plan summarizes the control methods used. There are currently no known environmentally sensitive areas or endangered species on Malmstrom AFB that restrict pest management activities (Malmstrom AFB, 2002).

4.12.1.6 Other Harmful Substances

A radon survey of the installation was performed by the bioenvironmental engineering office in September 1988. The results of that survey indicated that Malmstrom AFB was categorized as Low Probability. This indicates that all structures sampled had radon concentrations of less than 4 picocuries. At this level, no further action is required (USAF, 1999). Additionally, there are no electromagnetic radiation sources within the boundary of or adjacent to the preferred site.

4.12.1.7 Operational and Safety Constraints

Safety constraints at Malmstrom AFB result from airfield and explosives safety siting criteria. Applicable airfield safety clearance criteria are defined in the Air Force Manual (AFMAN) 32-2311, Airfield and Heliport Planning and Design Criteria. AFMAN 32-2311 outlines detailed planning and design criteria and standards for airfields, which include dimensions, clearances, and grades for airfield operational areas. Other safety considerations at the installation include designated areas constrained by explosive safety-quantity distance zones. These clear zones include the area within a safety arc surrounding an explosives storage facility (Malmstrom AFB, 2002).

4.12.2 Consequences

4.12.2.1 Construct New AFRC on Montana ARNG Facility (Preferred Alternative)

Worker safety and the safety of nearby recreational users are the primary health and safety concern during construction activities. Construction safety management requirements would be specified in the construction contract, including workplace safety practices mandated by OSHA. With the implementation of the required safety precautions during construction, there would be no significant safety impact on workers or nearby recreational users.

An explosive safety area overlays the southeastern portion of the ARNG property. No development would occur within this safety area.

Construction materials consistent with existing local, state, and federal regulations would be used. Small amounts of debris or solid waste could be generated during construction; however, no hazardous materials would be generated, stored, or disposed of as a result of construction activities. Non-hazardous waste would be handled and disposed of in accordance with state and federal regulations and transported to appropriate landfills as specified in the Solid Waste Management Plan (SWMP) and HWMP for Malmstrom AFB. The new AFRC would be constructed adjoining the existing Montana ARNG facility, which may require demolition and building modification. However, because of the recent construction of the ARNG complex, demolition activities would not have the potential to release asbestos, lead, or other hazardous building materials. Adherence to the Malmstrom AFB SWMP and HWMP would avoid the potential for significant construction-related health and safety impacts.

During operation, the OMS would include storage and use of oil, grease, and other petroleum-based products as part of routine maintenance shop activities. These materials would be handled and disposed of in accordance with the HWMP. This would ensure compliance with the requirements of the MDEQ, Air and Waste Management Bureau, Permitting, and Compliant Division administrative rules. In the event of accidental oil spill, reporting, containment, cleanup, and disposal would occur in conformance with the Spill Prevention, Control, and Countermeasures (SPCC) Plan. By adhering to the installation SWMP, HWMP, and SPCC Plan, any operational health and safety impacts associated with solid or hazardous waste or oil spills would be negligible.

4.12.2.2 Alternative 1 – New Construction Adjacent to Former RED HORSE Area

Under Alternative 1, potential worker safety and solid and hazardous waste-related health and safety impacts during construction would be the same as identified for the preferred alternative. No buildings are currently located on Alternate Site 1, so there would be no modification or demolition activities. The former RED HORSE area, located adjacent to Alternate Site 1, includes one permanent structure and eight semi-permanent tents. The structures are uninhabited and would not be removed or altered as part of the project. Construction-related and operational activities would not affect other adjacent land uses, including training, explosive ordnance storage or disposal, or nearby development and staging activities. By adhering to the installation SWMP, HWMP, and SPCC Plan, any operational health and safety impacts associated with solid or hazardous waste or oil spills would be negligible.

4.12.2.3 Alternative 2 – New Construction at Grazing Site

Under Alternative 2, potential worker safety and solid and hazardous waste-related health and safety impacts during construction would be the same as identified for the preferred alternative. No buildings are currently located on Alternate Site 2, so there would be no modification or demolition activities. By adhering to the installation SWMP, HWMP, and SPCC Plan, any operational health and safety impacts associated with solid or hazardous waste or oil spills would be negligible.

4.12.2.4 No Action Alternative

Under the no action alternative, no construction activities would occur. Therefore, there would be no health and safety impacts. However, the current USARC at Galt Hall would continue to be utilized under the no action alternative. The training building at Galt Hall USARC is 130 percent utilized, which is well over capacity and could affect the health and safety of reservists.

4.13 Utilities and Services

This section identifies those utilities and services that would be affected if the proposed action were implemented at the preferred site or either of the other two alternate sites. These include potable water supply, wastewater system, stormwater system, energy sources, communications, solid waste, and emergency services.

4.13.1 Affected Environment

4.13.1.1 Potable Water Supply

Potable water is supplied to Malmstrom AFB by the City of Great Falls, under a contract for 1.26 million gallons per day (mgd) or 460 million gallons per year (Malmstrom AFB, 2002). A 12-inch supply main runs parallel to 3rd Avenue South, and an additional 12-inch supply main runs parallel to 2nd Avenue North. These two 12-inch mains supply two ground-level storage tanks with capacities of 600,000 and 1,100,000 gallons, respectively. There are three elevated storage tanks on the installation with capacities of 8,000, 250,000, and 500,000 gallons, respectively.

Malmstrom AFB is currently implementing a phased process to extend water supply infrastructure into the airfield to support ongoing operations and future development.

4.13.1.2 Wastewater System

Malmstrom AFB operates and maintains a sanitary sewer collection system. The system was constructed in the 1940s and expanded in the 1950s and 1960s to accommodate the family housing areas onbase. The installation has a single 1.5-mgd lift station, which pumps wastewater through the 10-inch force main. Malmstrom AFB, under contract to the City of Great Falls, then transfers all wastewater via the 10-inch- force main to a manhole that drains to the Great Falls treatment plant. The City of Great Falls treatment plant is an activated sludge facility operated by service contract with a private sewage treatment management firm (Malmstrom AFB, 2002).

Malmstrom AFB is currently implementing a phased process to extend wastewater distribution infrastructure into the airfield to support ongoing operations and future development.

4.13.1.3 Stormwater Management

As discussed in Section 4.6 and illustrated on Figure 4-1, there are nine surface drainage basins on the installation that drain to the Malmstrom AFB stormwater system. The Malmstrom AFB storm drainage system consists of open drainage ditches, swales, constructed culverts, and buried pipe, and is capable of supporting current development as well as moderate growth. Stormwater is considered a wastewater discharge in the Clean Water Act. Outfalls 1 through 6 all have point discharges at the installation boundary and flow through the Whitmore Ravine to the Missouri River. The ravine drains into the Missouri River just downstream of Rainbow Dam.

Stormwater is discharged from the installation in accordance with MPDES General Permit Numbers MTR000197 (MDEQ, 2007b), MTR040008 (MDEQ, 2005), and MTR100000 (MDEQ, 2007c). Precipitation that falls or melts in the study area is managed in accordance with the Malmstrom AFB SWMP (Malmstrom AFB, 2009). Section 4.6 provides details on stormwater management at Malmstrom AFB.

4.13.1.4 Energy Sources

Energy sources at Malmstrom AFB consist of the electrical distribution system, natural gas, and the central heating system. These infrastructure components are in place throughout the installation, including the three considered sites.

Electrical Distribution System: Malmstrom AFB purchases electricity from the Montana Power Company. Electric services are provided through a 100-kV transmission line, which terminates at the installation electrical substation. A backup line is available in case of a catastrophic substation failure. Electrical distribution onbase is via a three-phase 7,200/12,470-volt transformer connected system. Approximately 53 percent of the electrical distribution lines onbase are underground. The preferred site has a combination of overhead and underground electrical distribution lines; Alternate Site 1 has underground electrical distribution lines; and Alternate Site 2 has overhead electrical distribution lines. Six primary service feeders supply facilities onbase. Critical facilities are also equipped with backup generators (Malmstrom AFB, 2002).

Natural Gas: Malmstrom AFB is supplied with natural gas from Energy West, via a 12-inch-diameter steel pipeline that was installed in 1953. The purpose of the natural gas system is to meet the heating requirements of the installation. The gas distribution system was originally installed as steel piping, and approximately half of the line has been replaced with polyethylene lines; the remainder is scheduled for replacement (Malmstrom AFB, 2002).

Central Heating System: A central heating plant burns coal or natural gas to provide high temperature hot water to heat the installation. The heating plant, constructed in 1986, has three boilers and is capable of producing 240 million British Thermal Units. High-temperature hot water is delivered to installation facilities through the distribution system

at 400 degrees Fahrenheit. Approximately 95 percent of the distribution lines is contained in buried concrete trenches (Malmstrom AFB, 2002).

4.13.1.5 Communications

The communication system at Malmstrom AFB provides telephone, cable, and local area network services. The communication system consists of twisted-pair copper cable and fiber optic cable, which is mostly underground with some aerial and direct buried cable. Communications also include narrow-band (25-kilohertz) Land Mobile Radio systems (Malmstrom AFB, 2002).

4.13.1.6 Solid Waste

The solid waste management program on Malmstrom AFB is managed by the Asset Management Flight, Natural Resources Management Element (341CES/CEAN). Malmstrom AFB must meet 40 CFR 240 and DOD Directive 4165.60, as well as state and local requirements for disposal of all solid waste materials. The SWMP provides procedures for disposal and diversion of solid waste at Malmstrom AFB (USAF, 2003). Solid waste collection and disposal services are provided to the installation by civilian contractors and the City of Great Falls. Material is taken offbase to a private landfill. Malmstrom AFB has a recycling program to reduce the volume of solid waste requiring disposal. There are no open landfills on Malmstrom AFB.

4.13.1.7 Emergency Services

The USAF and agencies of the City of Great Falls, Cascade County, the State of Montana, and the federal government protect public health and safety at Malmstrom AFB. The City and County provide police protection and emergency services.

4.13.2 Consequences

4.13.2.1 Construct New AFRC on Montana ARNG Facility (Preferred Alternative)

The preferred alternative and associated facilities would be adjoining an existing ARNG facility that has existing utility infrastructure. Utilities would be extended locally from the existing ARNG to the new additions. Up to 100 reserve soldiers would be assigned to the new AFRC. The total installation population is 9,072 (Malmstrom AFB, 2002). The addition of 100 soldiers at Malmstrom AFB represents a 1.1 percent increase in total installation population. Further, this increased demand would primary occur one weekend per month when reservists visit the AFRC. The utility infrastructure at Malmstrom AFB, including potable water supply, wastewater system, stormwater system, energy sources, communications, and solid waste, would be adequate to support the 1.1 percent increase in reserve soldiers (Seaton, 2009; Brost, 2009; Murray, 2009; Murphy, 2009; Pieprykowski, 2009; Young, 2009). There would be no indirect effects on utilities, as all personnel would be relocated locally within the City of Great Falls. As such, there would be no regional increase in utilities and service demands, only a relocation of services within the City of Great Falls.

Facility design would include stormwater controls sufficient to ensure no net increase in peak flow rates and total volume of runoff from the project site for all storm events up to and including the 10-year/2-hour and the 10-year/24-hour storm events. These

requirements were developed to prevent significant effects on the environment, particularly Whitmore Ravine, while maintaining cost and technical feasibility.

New utility connections and services would be a permanent (long-term) change. However, because these services would only require a 1.1 percent demand increase, the impact is considered minor. There would be no change in the demand on emergency services, as all personnel would remain local and there would be no change in population.

4.13.2.2 Alternative 1 – New Construction Adjacent to Former RED HORSE Area

Although Malmstrom AFB is currently extending water supply and wastewater infrastructure into the airfield, including the area of Alternate Site 1, all utilities would be in place prior to construction. Facility design would include stormwater controls sufficient to ensure no net increase in peak flow rates and total volume of runoff from the project site for all storm events up to and including the 10-year/2-hour and the 10-year/24-hour storm events. Therefore, impacts would be the similar to those identified for the preferred alternative. The utility infrastructure at Malmstrom AFB, including potable water supply, wastewater system, stormwater system, energy sources, communications, and solid waste, would be adequate to support the 1.1 percent increase in reserve soldiers (Seaton, 2009; Brost, 2009; Murray, 2009; Murphy, 2009; Pieprykowski, 2009; Young, 2009). These would be long-term and minor.

4.13.2.3 Alternative 2 – New Construction at Grazing Site

Although Malmstrom AFB is currently extending water supply and wastewater infrastructure into the airfield, including the area of Alternate Site 2, all utilities would be in place prior to implementation of the construction phase of Alternative 2. Facility design would include stormwater controls sufficient to ensure no net increase in peak flow rates and total volume of runoff from the project site for all storm events up to and including the 10-year/2-hour and the 10-year/24-hour storm events. . Alternate Site 2, however, drains to the south and east and would not affect Whitmore Ravine and the Missouri River.

The utility infrastructure at Malmstrom AFB, including potable water supply, wastewater system, stormwater system, energy sources, communications, and solid waste, would be adequate to support the 1.1 percent increase in reserve soldiers (Seaton, 2009; Brost, 2009; Murray, 2009; Murphy, 2009; Pieprykowski, 2009; Young, 2009). As with the preferred alternative, impacts would be long-term and minor.

4.13.2.4 No Action Alternative

Under the no action alternative, no construction activities would occur. Therefore, there would be no impact on utilities and services.

4.14 Socioeconomics

This section identifies the potential changes in social and economic indicators, including employment, income, economic development, population, and community services.

Because the proposed action and alternatives involve realigning the AFRC within the same city and county, they would not result in any appreciable long-term change in population or

employment within the economic ROI. Therefore, the following discussion of socioeconomic baseline conditions and impacts is limited to the short-term economic effects of construction activities.

4.14.1 Affected Environment

The location of the preferred site and alternate sites is Malmstrom AFB, Montana. The ROI is the geographic area within which social and economic impacts associated with implementation of proposed actions are expected to occur. The ROI for the proposed action is defined as the Great Falls, MT, Metropolitan Statistical Area (MSA), which consists of Cascade County and includes the core city of Great Falls (see Figure 4-3).

Table 4-6 presents selected baseline socioeconomic indicators for the ROI. From 2000 to 2006, population in the ROI declined by 1.2 percent. Employment increased by 6.4 percent, while earnings decreased by 3 percent.

TABLE 4-6
Socioeconomic Indicators for Region of Influence
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

	Population[a]		Total Employment[b]		Total Earnings[b]		Sales[c]
Region of Influence	**2000**	**2006**	**2000**	**2006**	**2000**	**2006**	**2002**
Great Falls, MT, MSA	80,357	79,385	48,647	51,757	$1,968,099	$1,908,152	$2.05 billion

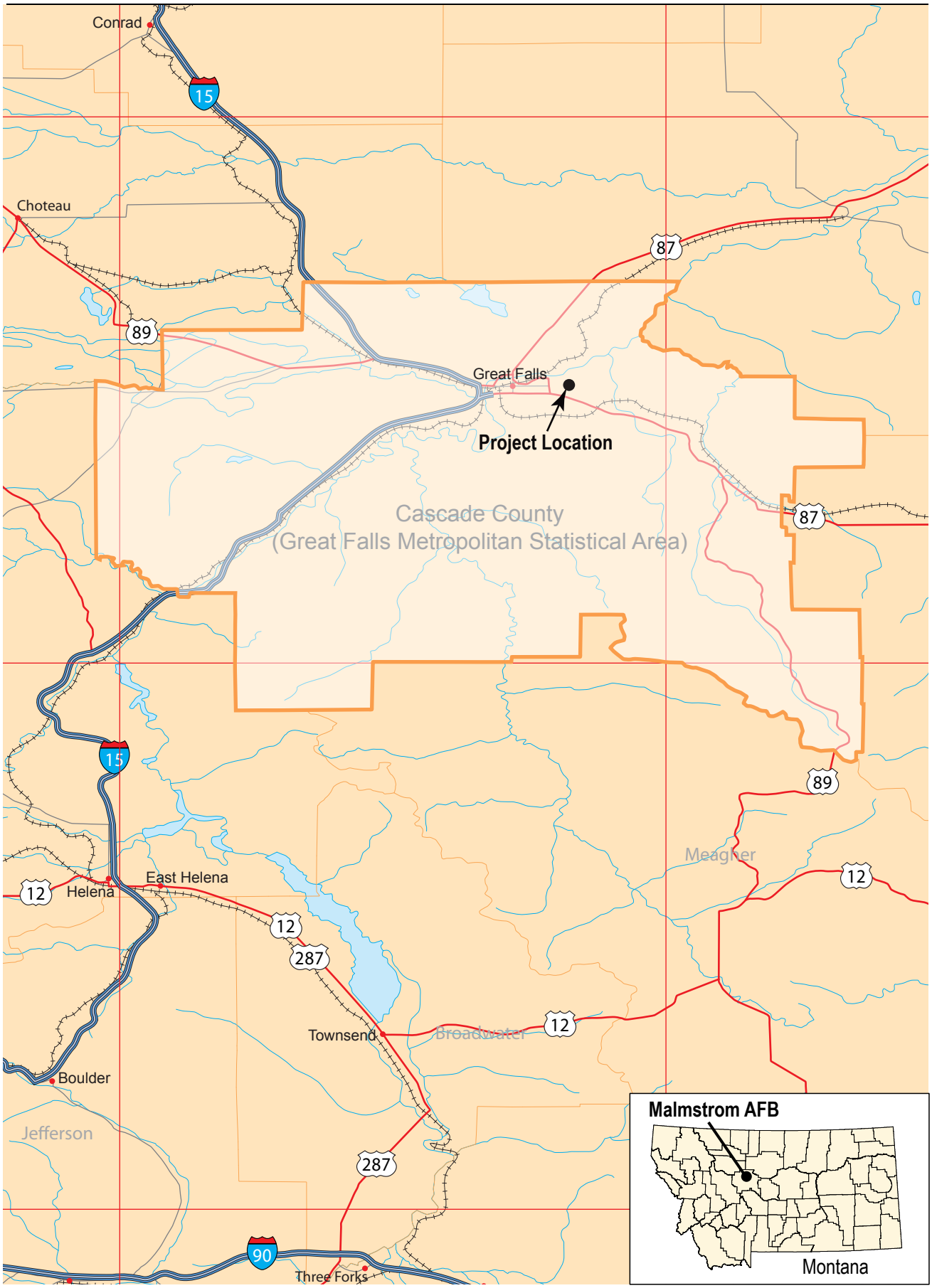
Notes:
[a] U.S. Census Bureau, State and County QuickFacts (2000 population count and 2006 estimate)
[b] By place of work – U.S. Bureau of Economic Analysis, Regional Economic Information System, 2007
[c] Accommodation and food services, wholesale trade, and retail trade – sales of establishments with payroll – U.S. Economic Census 2002

Sources: U.S. Census Bureau, 2007; U.S. Bureau of Economic Analysis, 2007.

4.14.1.1 Quality of Life

One broad indicator of the overall quality of life of residents of an area is the proportion of whose income falls below the poverty level. Because the proposed action and alternatives involve realigning the AFRC within the same city and county, they would not result in any appreciable long-term change in population or employment within the economic ROI. Thus, other potential indicators of quality of life, such as the nature and quality of the housing stock and public educational facilities, would not be affected and are not considered here. Furthermore, public services, such as law enforcement and fire protection, are discussed and evaluated in Section 4.13.

Table 4-7 presents the number of individuals in the City of Great Falls, the Great Falls, MT, MSA (Cascade County), the State of Montana, and the U.S. who live below the poverty level. The percentage of individuals who live below the poverty level is higher in the City of Great Falls than in Cascade County, both of which, along with the State of Montana, exceed the national poverty level.



Map Source: Mountain High Maps® USA Relief Copyright © Digital Wisdom®, Inc.

North

0 10 20

Approximate scale in miles

FIGURE 4-3
Socioeconomic Region of Influence
Malmstrom AFB, Great Falls, MT

CH2MHILL

ES012009002ATL

TABLE 4-7
Population below Poverty Level in City of Great Falls, Cascade County, State of Montana, and the U.S.
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

Geographic Area	Individuals Living Below the Poverty Level	Percent of Population
City of Great Falls	7,989	14.5%
Great Falls, MT MSA (Cascade County)	10,605	13.5%
Montana	128,355	14.6%
U.S.	33,899,812	12.4%

Source: U.S. Census Bureau, 2000.

4.14.2 Consequences

4.14.2.1 Construct New AFRC on Montana ARNG Facility (Preferred Alternative)

The regional economic effects of the proposed action and alternatives were assessed using the Economic Impact Forecast System (EIFS), which was developed by the U.S. Army Construction Engineering Research Laboratory. Use of this model provides a consistent method for evaluating socioeconomic impacts associated with Army BRAC actions nation-wide (USACE, 1994). Appendix C provides additional information about the EIFS model.

Short-term minor beneficial effects on the regional economy can be expected from the construction activities required to implement the proposed action. The expenditures and employment associated with the construction project would increase sales volume, employment, and income in the ROI. These economic benefits would be temporary, lasting only for the duration of construction activity.

Total construction costs for the proposed action are estimated to be approximately $8.2 million (in 2010 dollars) for approximately 1 year of construction; of that, approximately $2.5 million would be spent for labor and $5 million for materials and services. Approximately 63 full-time equivalent (FTE) positions in construction trades, with associated construction wages and personal spending, would be created by the construction project (see Appendix C).

Suppliers in the ROI would experience a short-term increase in the sale of construction-related materials and provision of services. As such, there would be short-term minor benefits to the local economy and employment as a result of the construction of a new AFRC at Malmstrom AFB.

Table 4-8 presents the EIFS model's estimates of the total multiplier effect (direct, indirect effects for suppliers, and induced effects in related industrial sectors) that would result from the injection of these construction expenditures and wages into the regional economy. The resulting percentage increase in sales volume, income, and employment would be positive but relatively minor and fall well within the range of historical fluctuations in those

economic parameters, as represented by the rational threshold values[1] (RTVs) for the region.

TABLE 4-8
EIFS Model Output for the Preferred Alternative
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

Indicator	Projected Change	Percentage Change	RTVs[a]	
			Positive	Negative
Total Sales Volume	$13,635,980	0.37%	7.73 %	-8.89 %
Total Income (place of work)	$4,216,780	0.23%	7.73 %	-5.95 %
Total Employment	117	0.24%	4.4 %	-2.5 %

Notes:

[a] A range of positive and negative changes, which are calculated by the EIFS model based on historical trends in the region, within which a project can affect the regional economy without creating a significant impact. See Appendix C for additional information about the EIFS model, RTVs, and input data.

There would be no change in jobs or personnel, and little or no change in operational costs, since the USAR would simply move USAR training operations from Galt Hall USARC, approximately 7.5 miles from Malmstrom AFB. There would be no relocation of personnel from outside the immediate area or the ROI.

The number of construction FTE jobs generated by the project would be only 1.8 percent of the 2006 construction workforce in the ROI. It is unlikely that any of the construction workers would need to relocate to Cascade County, because specialized trade skills would not be required for the AFRC project and an ample construction workforce exists in the ROI.

Therefore, there would be no impact on housing supply or other community resources.

4.14.2.2 Alternative 1 – New Construction Adjacent to Former RED HORSE Area

Under Alternative 1, direct and indirect socioeconomic impacts would be similar to those identified for the preferred alternative. Short-term minor beneficial effects on the regional economy, similar to those of the preferred alternative, would be expected from the construction activities required to implement Alternative 1.

Construction costs for Alternative 1 are estimated to be approximately $10.11 million (in 2010 dollars) for approximately 1 year of construction; of that, approximately $3.1 million would be spent for labor and $6.2 million for materials and services. Approximately 78 FTE positions in construction trades (2.2 percent of the 2006 construction workforce in the ROI), with associated construction wages and personal spending, would be created by the construction project. Suppliers in the ROI would experience a short-term increase in the sale of construction-related materials and provision of services.

[1] A range of positive and negative changes, which are calculated by the EIFS model based on historical trends in the region, within which a project can affect the local economy without creating a significant impact. See Appendix D for additional information about the EIFS model, RTVs, and input data.

Table 4-9 presents the EIFS model's estimates of the total multiplier effects that would result from Alternative 1. The resulting percentage increase in sales volume, income, and employment would be positive but relatively minor and would fall well within the range of historical fluctuations in those economic parameters, as represented by the RTVs for the region.

TABLE 4-9
EIFS Model Output for Alternative 1
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

Indicator	Projected Change	Percentage Change	RTVs	
			Positive	Negative
Total Sales Volume	$16,837,080	0.45%	7.73 %	-8.89 %
Total Income	$5,214,069	0.29%	7.73 %	-5.95 %
Total Employment	145	0.30%	4.4 %	-2.5 %

There would be no change in jobs or personnel, and little or no change in operational costs, since the USAR would move locally. The number of construction FTE jobs generated by the project would be 2.2 percent of the 2006 construction workforce in the ROI. Therefore, there would be no short-term or long-term impacts on housing supply or related community resources.

4.14.2.3 Alternative 2 – New Construction at Grazing Site

Under Alternative 2, direct and indirect socioeconomic impacts would be similar to those identified for the preferred alternative. Short-term minor beneficial effects on the regional economy, similar to those of the preferred alternative, would be expected from the construction activities required to implement Alternative 2. The size and cost of the proposed AFRC under Alternative 2 would be the same as under Alternative 1.

The number of construction FTE jobs generated by the project would be only 2.2 percent of the 2006 construction workforce in the ROI. Therefore, there would be no short-term or long-term impacts on housing supply or related community resources.

4.14.2.4 No Action Alternative

Under the no action alternative, no construction activities would occur. Therefore, there would be no impact on the social or economic characteristics of Cascade County, nor any impact on the community, regional economy, housing, or educational resources.

4.15 Environmental Justice

4.15.1 Affected Environment

EJ is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies (CEQ, 1997a). "Fair treatment" means that no group—including racial, ethnic, or socioeconomic groups—should bear a

disproportionate share of the adverse environmental consequences resulting from industrial, municipal, or commercial operations or the execution of federal, state, local, and tribal programs and policies.

In 1994, EO 12898, 59 FR 7629, *Executive Order on Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was issued and was designed to focus on environmental and human health conditions in minority and low-income communities. EO 12898 requires federal agencies to achieve EJ "to the greatest extent practicable" by identifying and addressing "disproportionately high adverse human health or environmental effects of…activities on minority populations and low income populations." The CEQ has issued guidance to federal agencies to assist them with their NEPA procedures so that EJ concerns are effectively identified and addressed (CEQ, 1997a). For the purposes of this analysis, a minority population comprises members of all non-white racial groups in addition to persons of Hispanic or Latino ethnicity (excluding any double-counting). Operationally, this translates into all persons with the exception of non-Hispanic whites.

For purposes of this analysis, the ROI to be considered for potential EJ impacts on minority and low-income populations is the county or region in which the new AFRC would be constructed, as well as the Census Tract (CT) encompassing or immediately adjacent to the AFRC.

4.15.1.1 Environmental Justice Populations in ROI

Based on 2000 U.S. Census data, the proportion of persons in Cascade County with incomes below the poverty level was comparable to state levels, accounting for 13.5 percent and 14.6 percent of the population, respectively (U.S. Census Bureau, 2000). Nationally, 12.4 percent of the population lives below the poverty level.

The total population of the U.S in 2000 was 281,421,906 (U.S. Census Bureau, 2000). At the national level, persons who are members of racial minority groups represent 24.9 percent of the total population. Individuals of Hispanic origin[2] accounted for 12.5 percent of the population. The African American population makes up the second most prevalent racial minority group at 12.3 percent. The “minority population” as defined for EJ purposes was 30.9 percent of the national population in 2000.

The racial minority population represents 9.3 percent of the total population in Cascade County and 9.4 percent in the State of Montana. Persons of American Indian and Alaskan Native origin are the predominant single racial minority group in the county, representing 4.2 of the population in Cascade County, 5.1 percent in the City of Great Falls; and 6.2 percent in the State of Montana. Persons of Hispanic or Latino ethnicity represent 2.4 and 2.0 percent of the populations of Cascade County and Montana, respectively. The minority population represents 10.5 percent of the total population in Cascade County and the State of Montana, 11.3 percent in the City of Great Falls, and 30.9 percent in the country.

[2] Hispanics or Latinos are those people who classified themselves in one of the specific Spanish, Hispanic, or Latino categories listed on the Census 2000 questionnaire—”Mexican, Mexican Am., Chicano,” “Puerto Rican,” or “Cuban”—as well as those who indicate that they are “other Spanish/Hispanic/Latino.” People who identify their origin as “other Spanish/Hispanic/Latino” may be of any race. Thus, the percent Hispanic should not be added to percentages for racial (i.e., minority) categories.

Malmstrom AFB is in CT 12. The areas outside the Malmstrom AFB boundaries included in CT 12 historically are not populated and are used for farming and ranching operations. Although CT 12 incorporates a small area outside of the Malmstrom AFB boundaries, it should not significantly change the U.S. Census 2000 data, if at all. Racial minorities represent 16.8 percent of CT 12. African Americans and Asians are the predominant racial minority groups in CT 12, representing 6.6 and 2.3 percent of the populations of CT 12, respectively. Persons of Hispanic and Latino origin accounted for 7.8 percent of the population of CT 12. The incidence of persons living below the poverty level at Malmstrom AFB is 6.2 percent, far below the national average and state levels.

Table 4-10 provides a summary of the racial and ethnic composition of the population in the proposed project area, as well as the City of Great Falls, Cascade County, State of Montana, and the U.S.

TABLE 4-10
Race, Ethnicity, Poverty, and Youth Data for the Proposed Action – Census Block for Malmstrom AFB, City of Great Falls, Cascade County, State of Montana, and the U.S.
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

Population	Proposed Action Area, Census Tract 12, Cascade County, Montana	City of Great Falls, Montana	Cascade County, Montana	State of Montana	U.S.
Race/Ethnicity					
White alone	83.19%	89.96%	90.72%	90.58%	75.14%
Black or African American alone	6.58%	0.95%	1.12%	0.30%	12.32%
American Indian and Alaska Native alone	0.59%	5.09%	4.22%	6.21%	0.88%
Asian alone	2.33%	0.86%	0.81%	0.52%	3.64%
Native Hawaiian and Other Pacific Islander alone	0.15%	0.09%	0.08%	0.05%	0.14%
Some other race alone	3.30%	0.60%	0.68%	0.59%	5.46%
Two or more races	3.85%	2.45%	2.36%	1.74%	2.43%
Hispanic or Latino [a]	7.83%	2.39%	2.43%	2.00%	12.55%
Racial Minority Population	16.81%	10.04%	9.28%	9.42%	24.86%
Minority Population	20.53%	11.29%	10.55%	10.46%	30.87%
Income Below Poverty Level					
Percent of population below poverty level	6.2%	14.5%	13.5%	14.6%	12.4%

TABLE 4-10
Race, Ethnicity, Poverty, and Youth Data for the Proposed Action – Census Block for Malmstrom AFB, City of Great Falls, Cascade County, State of Montana, and the U.S.
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

Population	Proposed Action Area, Census Tract 12, Cascade County, Montana	City of Great Falls, Montana	Cascade County, Montana	State of Montana	U.S.

Notes:

[a] Hispanic: The U.S. Census 2000 data included a category for Hispanic or Latino. This category is for individuals who classify themselves in one of the specific Hispanic or Latino categories such as "Mexican," Puerto Rican," or "Cuban," as well as those who indicate that they are "other Spanish, Hispanic, or Latino." Origin can be viewed as the heritage, nationality group, lineage, or country of birth of the person or the person's parents or ancestors before arrival in the U.S. People who identify their origin as Spanish, Hispanic, or Latino may be of any race.

[b] Total population of poverty data provided by the U.S. Census in Summary File 3 for CT 12 percent of population below poverty level was calculated using the poverty population divided by the total population.

Source: U.S. Census Bureau, 2000.

4.15.1.2 Protection of Children

EO 13045 – *Protection of Children from Environmental Health Risks and Safety Risk* (Federal Register: April 23, 1997, Volume 62, Number 78) requires that federal agencies make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children and ensure that policies, programs, and standards address disproportionate risks to children that result from environmental health or safety risks. Table 4-11 presents information showing the proportion of the total population below the age of 18 in each geographical area within the ROI and for the nation.

The youth population, which includes children under the age of 18, accounts for 26.0 percent of Cascade County's total population, compared to 25.5 percent at the state level. Persons under the age of 18 make up 36.2 percent of the population of CT 12 and 25.7 percent of the U.S. population.

TABLE 4-11
Individuals Under the Age of 18
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

Geographic Area	Individuals Under the Age of 18 (Percent)
State of Montana	25.5%
Great Falls, MT, MSA (Cascade County)	26.0%
CT 12	36.2%
United States	25.7%

Source: U.S. Census Bureau, 2000.

4.15.2 Consequences

4.15.2.1 Construct New AFRC on Montana ARNG Facility (Preferred Alternative)

As defined by the "Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analysis" (EPA, 1998), minority and low-income populations are identified where either:

- The minority or low-income population of the affected area is greater than 50 percent of the affected area's general population; or
- The minority or low-income population percentage of the area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

A disproportionate environmental justice impact would occur if a significant unavoidable environmental impact associated with the proposed project was to occur in an area identified as having a population of greater than 50 percent for either minority or low-income categories disproportionately over areas containing below 50 percent minority or low-income population.

The proposed action would result in short-term beneficial impacts associated with the creation of construction-related jobs in the ROI. Some of these construction jobs are likely to benefit the minority or low-income populations. In the absence of significant unavoidable impacts associated with implementation of the proposed project, no disproportionately high adverse human health or environmental effects on minority populations and low income populations are anticipated. Under the preferred alternative, there would be no adverse impacts on these populations or children.

4.15.2.2 Alternative 1 – New Construction Adjacent to Former RED HORSE Area

Potential impacts under Alternative 1 would be identical to those identified for the preferred alternative. There would be short-term beneficial impacts for local populations. A portion of these benefits would likely extend to minority or low-income populations. Under Alternative 1, there would be no adverse impacts on these populations or children.

4.15.2.3 Alternative 2 – New Construction at Grazing Site

Potential impacts under Alternative 2 would be identical to those identified for the preferred alternative. There would be short-term beneficial impacts for local populations. A portion of these benefits would likely extend to minority or low-income populations. Under Alternative 2, there would be no adverse impacts on these populations or children.

4.15.2.4 No Action Alternative

Under the no action alternative, no construction activities would occur. Therefore, there would be no impact on minority or low-income populations.

4.16 Cumulative Effects Summary

This section provides a definition of cumulative effects; a description of past, present, and reasonably foreseeable actions relevant to cumulative effects; and an evaluation of cumulative effects potentially resulting from these interactions.

4.16.1 Definition of Cumulative Effects

The most severe environmental degradation may not result from the direct effects of any particular action, but from the combination of effects of multiple, independent actions over time. As defined in 40 CFR 1508.7 (CEQ Regulations), a

> *"Cumulative Impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.*

Some authorities contend that most environmental effects can be seen as cumulative because almost all systems have already been modified. Principles of cumulative effects analysis are described (CEQ, 1997b) as follows:

> *For cumulative effects analysis to help the decision-maker and inform interested parties, it must be limited through scoping to effects that can be evaluated meaningfully. The boundaries for evaluating cumulative effects should be expanded to the point at which the resource is no longer affected significantly or the effects are no longer of interest to affected parties.*

Guidance for implementing NEPA requirements recommends that federal agencies identify the temporal and geographic boundaries of the potential cumulative effects of a proposed action (CEQ, 1997b). For purposes of this EA, the USAR, in coordination with Malmstrom AFB, considered activities and effects through 2011. This temporal boundary includes the periods of construction and transfer and integration of new reservists into the new AFRC. Emphasis is given to projects that may have a bearing on determining current conditions and future impacts.

The geographic boundaries of analysis are generally on and directly adjacent to Malmstrom AFB, unless otherwise specified. In general, the proposed action would have limited potential to interact with future projects at Malmstrom AFB or in the greater Great Falls area. Once operational at any of the three locations, there would be minimal interaction among AFRC personnel and Malmstrom AFB staff. Under the preferred alternative, however, there may be moderate interaction between the visiting reservists and the eight full-time ARNG staff. There would be no interaction or notable effect on the visiting National Guardsmen.

There would be no change in the relationship between the AFRC and the non-military community, just a relocation of the services by approximately 7.5 miles. All potential impacts would be limited to 2nd Avenue leading to the installation Main Gate, 63rd Street accessing the preferred site, and the installation. These effects would not extend into the surrounding community.

4.16.2 Past, Present, and Reasonably Foreseeable Actions

Malmstrom AFB is an active military installation that often undergoes change in mission capability and training requirements. This process of change is consistent with the U.S. defense policy that the USAF must be ready to respond to threats to American interests throughout the world. No changes to current training scenarios are projected.

Since the Malmstrom AFB runway was decommissioned in 1996 (USAF, 2009), the installation has initiated planning for development in the area east of the airfield. Various projects and conceptual plans are being considered, including training courses, facility construction, and land outgrants for non-DOD land uses. Capital improvements to support these uses include extension of water supply and wastewater utilities into the area east of the airfield. This phased project is expected to be completed in 2011. Stormwater retention/detention construction was recently completed at stormwater Outfall 3 in Drainage Area 3. Further planning to retain stormwater onbase and reduce flows to Whitmore Ravine is ongoing.

Five projects, other than construction of the AFRC and associated facilities, are proposed in the vicinity of the three considered sites:

- Proposed development of a new 1-mile gravel road training course. This course would supplement an existing training course, simulating all types of terrains and conditions that may be encountered traveling between Malmstrom AFB and areas throughout a 23,500-square-mile training area encompassing central Montana and including numerous designated training ranges, referred to as the Missile Complex. The environmental review for this project is underway.
- Proposed expansion of the RED HORSE Squadron Compound, including the addition of 139,500 ft^2 of land to the southwest end of the taxiway. The environmental review for this project is underway.
- Proposed construction and operation of a community activity center (CAC) and demolition of an existing club on Malmstrom AFB. The proposed CAC site is located approximately 0.7 mile east of the main gate to Malmstrom AFB, west of the intersection of Goddard Drive and 72nd Street North. The proposed CAC facility would encompass approximately 19,800 ft^2 and would provide meeting space for 2,000 to 4,000 people. The environmental review for this project was completed in 2006 (USAF, 2006a).
- Proposed construction of a new 42,000-ft^2 base exchange shopping center located adjacent to the clinic in the Malmstrom AFB cantonment area.
- Proposed replacement of the existing 60,000-ft^2 fitness center with a larger 85,000-ft^2 facility in the same location, approximately 1 mile east of the Malmstrom AFB Main Gate along Goddard Drive (USAF, 2006c).

Operations by the Montana ARNG and adjacent recreational users at the preferred site would continue. Grazing would likely continue adjacent to Alternate Site 2. Other Malmstrom AFB planning efforts are still tentative.

The USAF anticipates a continuing mission for Malmstrom AFB, but the specific nature of that mission and the military units stationed at Malmstrom AFB are subject to change at the discretion of the U.S. Congress and the Executive Branch.

4.16.3 Analysis of Cumulative Impacts

Under the no action alternative, no construction activities would occur. Therefore, there would be no cumulative impacts, and no further evaluation of the no action alternative is included here. The following analysis includes an evaluation of whether impacts resulting from implementation of any of the project alternatives might result in cumulative impacts when considered with past, present, and reasonably foreseeable future actions (projects).

Construction activities, including the proposed action and those development projects discussed in Section 4.16.2, and continuation of training and installation operations on Malmstrom AFB would generate noise. Construction would also result in a short-term impact on air quality. Stormwater management would continue to be an issue for most of Malmstrom AFB, and the installation would continue to closely monitor development planning and mission operations to avoid impacts. Facility design would comply with installation stormwater controls ensuring no net increase in peak flow rates and total volume of runoff, specifically from those sites draining north to Whitmore Ravine. Development activities and utility trenching could result in permanent changes to biological resources by removing existing habitat and replacing it with paved or built areas. Neither endangered species nor their habitat would be affected. As a result, these impacts are considered long-term but minor.

When considering the potential for cumulative effects, project alternative action distinctions would be subtle, but relevant in the case of stormwater management and hydrology. Both the preferred site and Alternate Site 1 drain toward Whitmore Ravine and would therefore have the potential to contribute more heavily to offsite drainage flow. Alternatives 1 and 2 convert more existing open permeable space to paved and developed impermeable space. This could potentially increase stormwater runoff. In both cases, stormwater control measures, including onsite retention basins, would be incorporated into the design to retain stormwater. Although the alternative actions would have distinct differences, these variations would be slight, and the contributing cumulative impacts would be long-term and minor.

All cumulative activities discussed, including the proposed action, are consistent with the mission and character of Malmstrom AFB. There would be no adverse cumulative impact on cultural resources, socioeconomics, land use, or the health, safety, or welfare of the Great Falls community. There may be short-term beneficial impacts resulting from the construction phases.

4.17 Summary of Mitigation, Best Management Practices, and Project Design Features

No significant adverse impacts would result from the proposed action under any of the three project action alternatives, and no mitigation is proposed. This section summarizes the

procedures and project design features that would be implemented to avoid or minimize impacts to the extent practicable.

Malmstrom AFB would obtain any required permits, approvals, and certifications prior to implementing construction or demolition activities.

Construction personnel would strictly adhere to all applicable occupational safety requirements during construction activities.

Impacts could result from implementation of the proposed action, including generation of fugitive dust from construction areas, construction-related noise nuisance, and soil and water impacts from stormwater runoff. Specific project design features would be implemented to minimize or eliminate impacts or to reduce the nuisance level of impacts. Signage would be placed in the Gateway FamCamp to warn recreational users and horseback riders of the nearby construction zone with the potential for loud noise. Further, facility design would include stormwater controls sufficient to ensure no net increase in peak flow rates and total volume of runoff from the project site for all storm events up to and including the 10-year/2-hour and the 10-year/24-hour storm events. These requirements were developed to prevent significant effects on the environment, particularly Whitmore Ravine, while maintaining cost and technical feasibility.

A design-specific geotechnical study of the building site would be conducted if either Alternative 1 or Alternative 2 is selected to ensure the design of the facility is appropriate for site conditions. The final design would incorporate appropriate engineering design and construction practices to minimize impacts on soils during construction and to ensure structure stability.

Measures that would be implemented to reduce or eliminate fugitive dust emissions would include use of sprinkling, irrigation, and/or mulching to prevent generation of airborne dust and the use of revegetation and mulching as soon as work is complete to minimize the exposure of bare soil.

Construction activities would be limited to weekdays and daylight hours to minimize disturbance to residents living near the preferred site.

Appropriate BMPs would be implemented and maintained to minimize the potential for stormwater runoff during construction to cause soil erosion. BMPs could include, but would not be limited to, the use of silt fences or fiber rolls to prevent migration of sediment offsite, application of water to disturbed areas during working or windy conditions to prevent dust and erosion, and use of drip pans for mobile fueling. Non-structural BMPs may include good housekeeping practices, routine inspection, and preventative maintenance. Structural BMPs may include onsite surface containment, control berms, and other structural control techniques to minimize stormwater runoff.

5.0 Findings and Conclusions

5.1 Findings

Table 5-1 summarizes the consequences of the three project alternatives and the no action alternative. The following discussion provides a summary of the anticipated impacts of each alternative.

TABLE 5-1
Summary of Potential Environmental and Socioeconomic Consequences
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

	Environmental and Socioeconomic Consequences			
Resource	**No Action**	**Preferred Alternative**	**Alternative 1**	**Alternative 2**
Land Use	No Impact	Minor long-term impacts resulting from conversion of land use.	Minor long-term impacts resulting from conversion of land use.	Minor long-term impacts resulting from conversion of land use.
Visual Resources	No Impact	Minor long-term impacts resulting from development of open land.	Minor long-term impacts resulting from development of open land.	Minor long-term impacts resulting from development of open land.
Transportation	No Impact	Minor long-term impacts resulting from a slight increase in traffic one weekend per month.	Negligible long-term impacts resulting from a slight increase in traffic one weekend per month. Minor short-term traffic increase on base during construction.	Negligible long-term impacts resulting from a slight increase in traffic one weekend per month, including traversing 0.4 mile of unpaved road. Minor short-term traffic increase on base during construction.
Air Quality	No Impact	Minor short-term impact from construction-related fugitive dust that would be controlled through appropriate BMPs. Negligible (net *de minimis)* long-term impact from heating units, water heaters, and emergency generators.	Minor short-term impact from construction-related fugitive dust that would be controlled through appropriate BMPs. Negligible (net *de minimis)* long-term impact from heating units, water heaters, and emergency generators.	Minor short-term impact from construction-related fugitive dust that would be controlled through appropriate BMPs. Minor long-term increase in dust from use of unpaved road. Negligible (net *de minimis)* long-term impact from heating units, water heaters, and emergency generators.

TABLE 5-1
Summary of Potential Environmental and Socioeconomic Consequences
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

	Environmental and Socioeconomic Consequences			
Resource	**No Action**	**Preferred Alternative**	**Alternative 1**	**Alternative 2**
Water Resources	No Impact	Minor long-term impact resulting from the increase in impervious surfaces and short-term impact resulting from construction-related sedimentation. Use of appropriate BMPs and stormwater controls would reduce impacts on Whitmore Ravine.	Minor long-term impact resulting from the increase in impervious surfaces and short-term impact resulting from construction-related sedimentation. Use of appropriate BMPs and stormwater controls would reduce impacts on Whitmore Ravine.	Negligible long-term impact resulting from the increase in impervious surfaces and short-term impact resulting from construction-related sedimentation. Use of appropriate BMPs and stormwater controls would reduce impacts from construction activities, such as increased runoff, to a short-term minor level.
Geology and Soils	No Impact	Minor short-term erosion impact during site preparation that would be controlled through appropriate BMPs.	Minor short-term erosion impact during site preparation that would be controlled through appropriate BMPs.	Minor short-term erosion impact during site preparation that would be controlled through appropriate BMPs.
Biological Resources	No Impact	Minor long-term impact on common flora and fauna. No impact on wetlands or special status species.	Minor long-term impact on common flora and fauna. No impact on wetlands or special status species.	Minor long-term impact on common flora and fauna. No impact on wetlands or special status species.
Cultural Resources	No Impact	No Impact	No Impact	No Impact
Noise	No Impact	Moderate short-term impact on nearby Gateway FamCamp and minor impact on other nearby recreational users, residents, and schools, limited to daytime construction periods. Minor long-term impact on nearby Gateway FamCamp, residential, and recreation areas during training weekends.	Moderate short-term impact on nearby Pow Wow Park, limited to daytime construction periods. Minor long-term impact on nearby Pow Wow Park during training weekends.	Moderate short-term impact on nearby stables and riding arena, limited to daytime construction periods. Minor long-term impact on nearby horse stables during training weekends.

TABLE 5-1
Summary of Potential Environmental and Socioeconomic Consequences
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

	Environmental and Socioeconomic Consequences			
Resource	**No Action**	**Preferred Alternative**	**Alternative 1**	**Alternative 2**
Agriculture and Grazing	No Impact	No Impact	No Impact	Minor long-term impact resulting from 2 percent reduction in grazing land on Malmstrom AFB.
Hazardous Materials, Health, and Safety	No Impact	Negligible long-term impact resulting from the use of cleaners, solvents, and lubricants associated with operation of AFRC and OMS.	Negligible long-term impact resulting from the use of cleaners, solvents, and lubricants associated with operation of AFRC and OMS and siting near an explosive materials storage area.	Negligible long-term impact resulting from the use of cleaners, solvents, and lubricants associated with operation of AFRC and OMS.
Utilities and Services	No Impact	Minor long-term impact resulting from a 1.1% demand increase on utilities one weekend per month.	Minor long-term impact resulting from a 1.1% demand increase on utilities one weekend per month.	Minor long-term impact resulting from a 1.1% demand increase on utilities one weekend per month.
Socioeconomics	No Impact	Minor short-term beneficial impact on the local economy and employment during the construction phase. No impact on housing supply.	Minor short-term beneficial impact on the local economy and employment during the construction phase. No impact on housing supply.	Minor short-term beneficial impact on the local economy and employment during the construction phase. No impact on housing supply.
Environmental Justice	No Impact	Minor short-term beneficial impact on minority and low-income populations. No impact on children.	Minor short-term beneficial impact on minority and low-income populations. No impact on children.	Minor short-term beneficial impact on minority and low-income populations. No impact on children.

TABLE 5-1
Summary of Potential Environmental and Socioeconomic Consequences
BRAC Construction and Operation of Armed Forces Reserve Center, Malmstrom AFB, Montana

	Environmental and Socioeconomic Consequences			
Resource	**No Action**	**Preferred Alternative**	**Alternative 1**	**Alternative 2**
Cumulative Effects	Cumulative impacts would be the similar for all project alternatives. Because the no action alternative would have no project impacts, there would be no cumulative impacts.			
	Minor long-term cumulative impact on biological resources resulting from site alterations from development activities. Minor long-term cumulative impact on stormwater management and water resources due to new development in drainage areas contributing to Whitmore Ravine (preferred alternative and Alternative 1) and an increase in impermeable surfaces (Alternatives 1 and 2).			
	Minor short-term cumulative impact on air quality and noise resulting from construction and ongoing training and installation operations.			
	No adverse cumulative impact on geology and soils, cultural resources, socioeconomics, land use, or the health, safety, or welfare of the Great Falls community.			
	Continuing beneficial impact on employment and the economy from various Malmstrom AFB activities.			

5.1.1 Consequences of the Preferred Alternative

The preferred alternative would require alteration of the existing ARNG facility. There would be minor short-term construction-related impacts on geology, soils, air quality, and water resources (stormwater management). There would be a temporary moderate construction noise-related impact on nearby residents and recreational users at the Gateway FamCamp. Appropriate project BMPs and design measures would be used to reduce these effects. Specific BMPs for stormwater management facility design would include stormwater controls sufficient to ensure no net increase in peak flow rates and total volume of runoff from the project site for all storm events up to and including the 10-year/2-hour and the 10-year/24-hour storm events.

Further, there would be a negligible long-term impact related to hazardous materials, health, and safety, from the use of petroleum products and solvents for proposed AFRC operations. Compliance with installation Hazardous Materials Management Plans and Occupational Safety and Health Administration and installation health and safety requirements would mitigate potential impacts. Other negligible effects would apply to operational air quality emissions. Discontinuing the use of outdated facilities and equipment, however, would provide a negligible benefit to air quality.

Minor permanent or long-term impacts would affect biological resources (common flora and fauna), land use of the camping area immediately west of the ARNG fence line that would be converted to industrial use, the visual setting of the area, noise levels during training weekends, utilities and services, and traffic flow one weekend per month. Furthermore, due to the increase in impermeable surface under the preferred alternative, there would be a long-term effect on stormwater management as it has the potential to flow

toward the Whitmore Ravine; however, with the implementation of appropriate BMPs, this impact would be minor.

There could be a short-term beneficial effect on employment and the economy during the construction phase of the project. This short-term employment would likely extend to minority and low-income households, as well.

There would be no impact on wetlands, agriculture, grazing, cultural resources, housing supply, or children. The site is not within a floodplain or coastal zone and would not affect prime farmlands. There would be no impact on any other resources evaluated in this EA.

5.1.2 Consequences of Alternative 1 – New Construction Adjacent to Former RED HORSE Area

Implementation of Alternative 1 would have the same impacts as those identified for the preferred alternative, with the following exceptions: Similar to the preferred alternative, the potential noise-related impact from Alternative 1 would be moderate and short-term during daytime construction, and minor and long-term during training weekends. However, the impact would be slightly less than that identified for the preferred alternative because the closest potentially sensitive receptor is Pow Wow Park, approximately 600 feet northeast of Alternate Site 1, whereas the preferred alternative has the potential to affect the nearby Gateway FamCamp, recreational users, residents, and schools. Also similar to the preferred alternative, the impact on land use would be minor and long-term; however, the impact would be slightly higher under Alternative 1 because existing open space would be developed. The impact on transportation would be slightly less under Alternative 1, negligible and long-term as traffic would blend with onbase traffic flows.

All other impacts would be the same as those discussed in Section 5.1.1.

5.1.3 Consequences of Alternative 2 – New Construction at Grazing Site

Implementation of Alternative 2 would have the same impacts as those identified for Alternative 1, with the following exceptions. Alternative 2 would have a minor long-term impact on agricultural resources. Alternative 2 would result in an approximately 2 percent reduction in grazing land on Malmstrom AFB. Alternative 2 would also require visiting reservists to travel along 0.4 mile of unpaved road before reaching the site, which could result in an increased need for road repair and a long-term source of additional fugitive dust.

Similar to the preferred alternative, the potential noise-related impact from Alternative 2 would be moderate and short-term during construction, and minor and long-term during training weekends. However, the impact would be slightly less than that identified for the preferred alternative because the closest potentially sensitive receptor is a stables and riding arena approximately 300 feet west of Alternate Site 2, whereas the preferred alternative has the potential to affect the nearby Gateway FamCamp, recreational users, residents, and schools. Likewise, the impact on water resources (stormwater management) would be less than that identified for the preferred alternative and Alternative 1 because stormwater from Alternate Site 2 would flow south away from Whitmore Ravine and the Missouri River. This impact would be long-term and negligible.

All other impacts would be the same as those discussed in Section 5.1.2.

5.1.4 Consequences of the No Action Alternative

There would be no impact on any resources evaluated in this EA from the no action alternative.

5.2 Conclusions

Based upon the findings presented above, it has been concluded that no significant environmental, socioeconomic, or cumulative impacts would result from the proposed action, whether implemented under the preferred alternative, Alternative 1, or Alternative 2. Therefore, it is not necessary to prepare an EIS to address the proposed action, and a FONSI should be issued.

6.0 Distribution List

NATIVE AMERICAN TRIBAL GROUPS

Mr. John Murray, THPO
Blackfeet Nation
Blackfeet Tribe Culture Committee
PO Box 850
Browning, MT 98223-9056

Mr. Alvin Windyboy, THPO
Chippewa Cree Business Committee
Tribal Preservation Office
Rocky Boys Agency
Rocky Boys Route #544
Box Elder MT 59521

Ms. Clara Nomee, Chairperson
Crow Indian Reservation
Crow Tribal Council
P.O. Box 159
Crow Agency, MT 59022

Mr. Wes Cochran
Fort Belknap Community Council
RR 1 Box 66
Harlem MT 59526

Mr. Caleb Shields, Chairperson
Fort Peck Reservation
Fort Peck Tribal Executive Board
P.O. Box 1027
Poplar, MT 59255

Flathead Reservation
Confederated Salish & Kootenai Tribe
Mr. Michael T. Pablo, Chairperson
P.O. Box 278
Pablo, MT 59855

Northern Cheyenne Reservation
Northern Cheyenne Tribal Council
Mr. Lievando Fisher, President
P.O. Box 128
Lame Deer, MT 59043

AGENCIES, PUBLIC OFFICIALS and INTERESTED INDIVIDUALS

Dr. Mark Baumler, SHPO
State Historic Preservation Office
PO Box 201202
1410 8th Avenue
Helena, MT 59620-1202

Mr. Richard Opper, Director
Montana Department of Environmental Quality
PO Box 200901
Helena MT 59620-0901

Mr. Mark Wilson
U.S. Fish and Wildlife Service
Montana Field Office
585 Shepard Way
Helena MT 59601

Mr. Gary Bertellotti, Regional Supervisor
Montana Department of Fish, Wildlife, and Parks
4600 Giant Springs Road
Great Falls MT 59405

Great Falls Public Library
301 2nd Avenue North
Great Falls MT 59401-2593

7.0 List of Preparers

Leslie Garlinghouse/Project Manager/10 years of experience/Bachelor of Science

Holly Barbare/Environmental Planner/2 years of experience/Bachelor of Science

Mark Bradley/Graphic Design Specialist/35 years of experience/Bachelor of Science

Christopher Clayton/Economist and Senior Planner/38 years of experience/ PhD

Raena DeMaris/Cultural Specialist/10 years of experience/Bachelor of Arts

David Dunagan/Technical Editor/29 years of experience/Master of Arts

Ginny Farris/ Economist and Senior Planner/29 years of experience/Bachelor of Arts

Matt Gordon/Environmental Planner/5 years of experience/Master of Science

Heather Guthrie/Technical Editor/4 years of experience/Bachelor of Arts

Julie Petersen/Environmental Planner/12 years of experience/Bachelor of Science

Rich Reaves/ Senior Planner and Reviewer/15 years of experience/PhD

Russell Short/ Senior Planner and Reviewer/29 years of experience/Master of Science

Kira Zender/Senior Planner and Program Manager/14 years of experience/Master of Urban and Regional Planning

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9.0 Persons Consulted

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10.0 Acronyms and Abbreviations

AAQS	Ambient Air Quality Standards
AAM	annual arithmetic mean
AFB	Air Force Base
AFMAN	Air Force Manual
AFRC	Armed Forces Reserve Center
AGM	annual geometric mean
AICUZ	Air Installation Compatible Use Zones
APE	Area of Potential Effects
AQCR	Air Quality Control Region
ARNG	Army National Guard
AT/FP	Anti-Terrorism/Force Protection
bgs	below ground surface
BMP	Best Management Practice
BRAC	Base Closure and Realignment
CAA	Clean Air Act
CAC	community activity center
CEQ	President's Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	cubic foot per second
CO	carbon monoxide
Commission	Base Closure and Realignment Commission
CT	census tract
dBA	decibel (A-weighted scale)
DOD	U.S. Department of Defense
DRMO	Defense Reutilization and Marketing Office
EA	Environmental Assessment
EIFS	Environmental Impact Forecast System
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
ft^2	square foot
FTE	Full-Time Equivalent
HWMP	Hazardous Waste Management Plan
ICRMP	Integrated Cultural Resources Management Plan
INRMP	Integrated Natural Resources Management Plan
IRP	Installation Restoration Program

kV	kilovolt
MCA	Montana Code Annotated
MDEQ	Montana Department of Environmental Quality
MDFWP	Montana Department of Fish, Wildlife, and Parks
MEP	military equipment parking
mgd	million gallons per day
MPDES	Montana Pollutant Discharge Elimination System
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NHP	Natural Heritage Program
NHPA	National Historic Preservation Act
NO_2	nitrogen dioxide
NOI	Notice of Intent
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O_3	ozone
OMS	Organizational Maintenance Shop
OSHA	Occupational Safety and Health Administration
PM	particulate matter
$PM_{2.5}$	particulate matter less than 2.5 micrometers in diameter
PM_{10}	particulate matter less than 10 micrometers in diameter
ppm	part per million
PSD	prevention of significant deterioration
RCRA	Resource Conservation and Recovery Act
RED HORSE	Rapid Engineer Deployable Heavy Operational Repair Squadron Engineer
ROI	region of interest
RONA	record of non-applicability
RTV	regional threshold value
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO_2	sulfur dioxide
SPCC	Spill Prevention, Control, and Countermeasures
SWMP	Solid Waste Management Plan
SWPPP	Stormwater Pollution Prevention Plan
USAR	U.S. Army Reserve
USARC	U.S. Army Reserve Center
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service
yd^2	square yard

Appendix A
Agency Scoping

CH2M HILL
155 Grand Avenue, Ste 1000
Oakland, CA 94612
Tel 510.587.7505
Fax 510.622.9293

CH2MHILL

February 4, 2009

Mr. Richard Opper, Director
Montana Department of Environmental Quality
PO Box 200901
Helena MT 59620-0901

SUBJECT: Proposed BRAC Construction of Armed Forces Reserve Center and Associated Facilities, Malmstrom Air Force Base (MAFB), Montana

Dear Mr. Opper:

The US Army Reserve 88th Regional Support Command (RSC) is planning a Base Realignment and Closure (BRAC) construction project at the Malmstrom Air Force Base (MAFB) in Great Falls, Cascade County, Montana. RSC in coordination with MAFB and the Montana Army National Guard, is preparing an Environmental Assessment (EA) for the proposed construction of an Armed Forces Reserve Center (AFRC) and associated facilities within the boundaries of MAFB in accordance with Base Realignment and Closure recommendations. The EA will analyze three locations for the proposed complex (Enclosure 1).

The EA will evaluate potential environmental effects resulting from the proposed construction of a 24,907-square foot AFRC, a 4,820-square foot organizational maintenance shop, a 761-square foot unheated storage facility, and 730 square feet of paved parking. The EA will also examine the potential cumulative impacts from other past, present, and reasonably foreseeable future proposals.

Please contact Mr. Richard E. Ward, Environmental Protection Specialist, 96th RRC with any questions or concerns at 801-656-4258 or by email at richard.ward2@us.army.mil. Please address and mail written correspondence to: HEADQUARTERS, 96TH RRC, ATTN: ARRC-CUT-ENE (WARD), BLDG 102, SALT LAKE CITY, UT 84113-5007.

Sincerely,

Leslie Garlinghouse
CH2M HILL – Project Manager

CH2M HILL
155 Grand Avenue, Ste 1000
Oakland, CA 94612
Tel 510.587.7505
Fax 510.622.9293

CH2MHILL

February 4, 2009

Mr. Gary Bertellotti, Regional Supervisor
Montana Department of Fish, Wildlife, and Parks
4600 Giant Springs Road
Great Falls MT 59405

SUBJECT: Proposed BRAC Construction of Armed Forces Reserve Center and Associated Facilities, Malmstrom Air Force Base (MAFB), Montana

Dear Mr. Bertellotti:

The US Army Reserve 88th Regional Support Command (RSC) is planning a Base Realignment and Closure (BRAC) construction project at the Malmstrom Air Force Base (MAFB) in Great Falls, Cascade County, Montana. RSC in coordination with MAFB and the Montana Army National Guard, is preparing an Environmental Assessment (EA) for the proposed construction of an Armed Forces Reserve Center (AFRC) and associated facilities within the boundaries of MAFB in accordance with Base Realignment and Closure recommendations. The EA will analyze three locations for the proposed complex (Enclosure 1).

The EA will evaluate potential environmental effects resulting from the proposed construction of a 24,907-square foot AFRC, a 4,820-square foot organizational maintenance shop, a 761-square foot unheated storage facility, and 730 square feet of paved parking. The EA will also examine the potential cumulative impacts from other past, present, and reasonably foreseeable future proposals.

Army regulations require consideration of state-listed species in all Army actions. We are requesting a list of state listed threatened, endangered, or candidate species, as well as sensitive species known to occur or potentially occurring on or in the vicinity of MAFB. We would appreciate information on any other sensitive natural resources that could be impacted by the proposed action.

Please contact Mr. Richard E. Ward, Environmental Protection Specialist, 96th RRC with any questions or concerns at 801-656-4258 or by email at richard.ward2@us.army.mil. Please address and mail written correspondence to: HEADQUARTERS, 96TH RRC, ATTN: ARRC-CUT-ENE (WARD), BLDG 102, SALT LAKE CITY, UT 84113-5007.

Sincerely,

Leslie Garlinghouse
CH2M HILL – Project Manager

Garlinghouse, Leslie/BAO

From: FWP Region 4 [fwprg42@mt.gov]
Sent: Tuesday, February 17, 2009 8:30 AM
To: Garlinghouse, Leslie/BAO
Subject: FW: Malmstrom AFB Proposed BRAC Action - Coordination Letter

Here is my supervisor's answer. Hope this helps. Fred
-----Original Message-----
From: Taylor, Graham
Sent: Tuesday, February 17, 2009 9:17 AM
To: FWP Region 4
Subject: RE: Malmstrom AFB Proposed BRAC Action - Coordination Letter

Fred,
Have not got the letter. I reviewed the emailed letter sent here.

Further, have no additional information for their considerations. Species information that they request can be obtained through the MT Natural Heritage web site. FWP has no comment on their proposed actions.

Graham

-----Original Message-----
From: FWP Region 4
Sent: Tuesday, February 17, 2009 9:14 AM
To: Taylor, Graham
Subject: FW: Malmstrom AFB Proposed BRAC Action - Coordination Letter

Graham, Do you have this letter? I guess they want us to notify them that we received it. Fred
-----Original Message-----
From: Leslie.Garlinghouse@CH2M.com [mailto:Leslie.Garlinghouse@CH2M.com]
Sent: Monday, February 16, 2009 1:07 PM
To: FWP Region 4
Cc: Leslie.Garlinghouse@CH2M.com
Subject: Malmstrom AFB Proposed BRAC Action - Coordination Letter

Good afternoon,

A letter was sent to your office on January 30th, however a delivery receipt was not received. I'm attaching that letter, which includes information on a proposed BRAC Construction of an Armed Forces Reserve Center and Associated Facilities at Malmstrom Air Force Base (MAFB). The purpose of this letter is to notify the Montana Dept of Fish, Wildlife, and Parks of the project and provide any further information you may need. Can you confirm you have received this letter and let me know if you have any questions?

I appreciate it. Have a great week!

Leslie Garlinghouse
Project Planner - CH2M HILL

155 Grand Avenue, Suite 1000
Oakland, CA 94612

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Direct: (510) 587-7505
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CH2MHILL

February 4, 2009

Mr. Mark Wilson
U.S. Fish and Wildlife Service
Montana Field Office
585 Shepard Way
Helena MT 59601

SUBJECT: Proposed BRAC Construction of Armed Forces Reserve Center and Associated Facilities, Malmstrom Air Force Base (MAFB), Montana

Dear Mr. Wilson:

The US Army Reserve 88th Regional Support Command (RSC) is planning a Base Realignment and Closure (BRAC) construction project at the Malmstrom Air Force Base (MAFB) in Great Falls, Cascade County, Montana. RSC in coordination with MAFB and the Montana Army National Guard, is preparing an Environmental Assessment (EA) for the proposed construction of an Armed Forces Reserve Center (AFRC) and associated facilities within the boundaries of MAFB in accordance with Base Realignment and Closure recommendations. The EA will analyze three locations for the proposed complex (Enclosure 1).

The EA will evaluate potential environmental effects resulting from the proposed construction of a 24,907-square foot AFRC, a 4,820-square foot organizational maintenance shop, a 761-square foot unheated storage facility, and 730 square feet of paved parking. The EA will also examine the potential cumulative impacts from other past, present, and reasonably foreseeable future proposals.

This EA will analyze the potential effects of this proposed action on environmental resources. Pursuant to the Endangered Species Act and the National Environmental Policy Act, we request a list of federally listed threatened, endangered, or candidate species, as well as sensitive species known to occur, or potentially occurring on or in the vicinity of MAFB. We would appreciate receiving the information in digital format, if available.

Also, we would appreciate information on any other sensitive natural resources that could be impacted by the proposed action. We anticipate the EA will be made available for public and agency comment in April 2009.

Our contractor for this project is CH2M HILL and we would appreciate your cooperation during their data collection efforts.

Please contact Mr. Richard E. Ward, Environmental Protection Specialist, 96th RRC with any questions or concerns at 801-656-4258 or by email at richard.ward2@us.army.mil. Please address and mail written correspondence to: HEADQUARTERS, 96TH RRC, ATTN: ARRC-CUT-ENE (WARD), BLDG 102, SALT LAKE CITY, UT 84113-5007.

Sincerely,

Leslie Garlinghouse
CH2M HILL – Project Manager

United States Department of the Interior

FISH AND WILDLIFE SERVICE

ECOLOGICAL SERVICES
MONTANA FIELD OFFICE
585 SHEPARD WAY
HELENA, MONTANA 59601
PHONE (406) 449-5225, FAX (406) 449-5339

File: M10 (I) February 18, 2009

Ms. Leslie Garlinghouse
Project Manager
CH2M Hill
155 Grand Avenue, Suite. 1000
Oakland, CA 94612

Dear Ms. Garlinghouse:

This is in response to your February 4, 2009 letter requesting the U.S. Fish and Wildlife Service's (Service) review and comments regarding a proposed BRAC Construction of Armed Forces Reserve Center and Associated Facilities at Malmstrom AFB in Montana. We appreciate the opportunity to review and provide input for this project proposal. These comments have been prepared under the authority of and in accordance with the provisions of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et. seq.) and the Endangered Species Act (16 U.S.C. 1531 et. seq.).

Considering the location of the proposed action, the Service does not anticipate the occurrence of any federally listed threatened, endangered, candidate or proposed species. The project is not likely to have any significant effects on fish, wildlife or habitat resources under the purview of the Service. There may be state species of concern in the vicinity of the project and we recommend contacting the Montana Department of Fish, Wildlife and Parks at 1420 East Sixth Ave., P.O. Box 200701, Helena, MT 59620-0701, 406-444-2535, or the Montana Natural Heritage Program, 1515 East 6th Avenue, Box 201800, Helena, MT 59620-1800, 406-444-5354.

The Service appreciates your efforts to incorporate fish and wildlife resource concerns, including threatened and endangered species, into your project planning. If you have questions or comments related to this issue, please contact me at 406-449-5225, extension 205.

Sincerely,

R. Mark Wilson

R. Mark Wilson
Field Supervisor

DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL SUPPORT COMMAND
60 SOUTH O STREET
FORT MCCOY, WISCONSIN 54656

REPLY TO
ATTENTION OF

February 25, 2009

Directorate of Public Works

Dr. Mark Baumler, SHPO
State Historic Preservation Office
PO Box 201202
1410 8th Avenue
Helena, MT 59620-1202

Dear Dr. Baumler:

The US Army Reserve 88th Regional Support Command (RSC) is planning a Base Realignment and Closure (BRAC) and construction project at the Malmstrom Air Force Base (AFB) in Great Falls, Cascade County, Montana. The project involves acquisition of a suitable site and construction of an Armed Forces Reserve Center (AFRC) to include an Organizational Maintenance Shop (OMS), an unheated storage building, parking areas, and other support facilities.

Buildings on the site would be of permanent construction with mechanical, electrical, plumbing and Heating, Ventilation, and Air Conditioning (HVAC) systems. Project development would involve land clearing, grading, paving, berms, security systems, utilities and other improvements. The facilities would provide American Disability Act (ADA) accessibility and would implement sustainable design and Energy Policy Act Features. The design of facility and placement of its features is in the conceptual stage and is currently being developed. The enclosed site plan provides a detailed map of the project sites (Enclosure 1).

Three sites are currently proposed for the project: a preferred site and two alternate sites. All sites are located on the existing Malmstrom AFB and are approximately 10 acres in size. The preferred site is located in the NE ¼ of the SE ¼ of Section 10, Township 20 North Range 4 East. Alternate site 1 is located in the center of the SW ¼ of Section 12, Township 20 N Range 4 East. Alternate site 2 is located in the E ½ of the NW ¼ of Section 13, Township 20 N Range 4 East. The enclosed Figure 1 shows these project site locations. Each site's Area of Potential Effect (APE) is defined as the entire ~10 acres, since the entirety of each site has the potential to undergo ground disturbance and construction activities. The 88th RSC has determined that the APEs as defined adequately consider all reasonable potential effects to Historic Properties from this proposed undertaking.

In October 2008 and January 2009, Damon Murdo, Cultural Records Manager, Montana State Historic Preservation Office, was contacted by CH2M HILL regarding a literature review

for this project. Several Cultural Resource Annotated Bibliography System (CRABS) and Cultural Resource Information Systems (CRIS) results were returned (Enclosure 2).

Enclosed are copies of the "Prehistoric and Historic Resources at Malmstrom Air Force Base: Field Survey Report" completed by Argonne National Laboratory in March 1995 (Enclosure 3) and the "Base and Missile Cold War Survey: A Baseline Inventory of Cold War Material Culture at Malmstrom Air Force Base, Montana" completed by CH2M HILL in December 1997 (Enclosure 4). Additional surveys of the base were conducted by Historical Research Associates in 1988 and 1989. Many areas of the Base, including the preferred site, are characterized by heavy prior ground disturbances, excavation for missile sites and bunkers, and built-environment structures. A few pre-contact or ethno-historic sites and isolates were observed and documented during these field studies, none are located within the preferred or alternate sites and all were recommended as not eligible for the National Register of Historic Places (NRHP). All historic buildings and structures on the base were inventoried during the 1995 and 1997 cultural resource studies. Historic Cold War Era structures, and railroad segments are located on or adjacent to the Base, and, although some have been determined eligible for the NRHP, none are located within the preferred or alternate sites (Enclosure 5). Further, a National Historic Landmark, the Portage around the Great Falls, is located in the Base vicinity, although it is not located in the project area.

In addition to these studies, an Integrated Cultural Resource Management Plan (ICRMP) for the Base was recently prepared in September of 2008 and will be implemented on the Base. This plan is designed to adequately protect and preserve significant historic properties on the Base.

We initiated consultation with the federally listed tribes in the region, to include the Blackfeet Tribe Culture Committee of the Blackfeet Nation, Tribal Preservation Office of the Chippewa Cree Business Committee Rocky Boys Agency, the Crow Tribal Council of the Crow Indian Reservation, the Fort Belknap Community Council, the Fort Peck Tribal Executive Board of the Fort Peck Reservation, the Confederated Salish and Kootenai Tribe of the Flathead Reservation, and the Northern Cheyenne Tribal Council of the Northern Cheyenne Reservation, on January 30, 2009. We await responses from these Tribal groups and will address any questions or concerns they may have about this project.

Based on our current project description and design, we do not believe that the BRAC project will have any effect on NRHP eligible structures on the Malmstrom AFB. Proposed facilities would be in keeping with the Facilities Excellence Plan which stipulates the design, coloring, materials, and style of all buildings on base. In other words, although a site design and layout have not been completed, proposed structures would be of a function, type, size, and style consistent with existing structures on the base, and would be one story in height and would follow regulations for setbacks from existing roads and other facilities. For these reasons, we

believe the preferred alternative would not impact the NRHP eligibility of nearby historic resources.

We consider the cultural resource studies, inventories, and reports along with the ICRMP, comprehensive, thorough, and adequate and we agree with their methods, findings, and recommendations. Based on the previous studies and information provided, the US Army Reserve 88th RSC, as the lead Federal agency for Section 106 compliance, recommends no additional cultural resource site investigation and has determined no historic properties affected by the proposed action as per 36 CFR 800.4(d)(1).

Pursuant to 36 CFR 800.4(a)(ii), we would appreciate your comments on our determination for this undertaking. If we do not hear from you within thirty (30) days, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Richard Ward, at (801) 656-4258 or by email at richard.ward2@us.army.mil. Please address and mail written correspondence to: HEADQUARTERS, 96TH RRC, ATTN: ARRC-CUT-ENE (WARD), BLDG 102, SALT LAKE CITY, UT 84113-5007.

Sincerely,

DAVID L. MOORE
Environmental Division Chief

Enclosures

CC:
Rudy Verzuh, Chief, Natural Resources Management, Malmstrom AFB
Lana Hedlund, Environmental Engineer, Malmstrom AFB

Ward, Richard E Mr USAR 96TH RRC

From: Warhank, Josef [jwarhank@mt.gov]
Sent: Friday, March 20, 2009 11:15 AM
To: Ward, Richard E Mr USAR 96TH RRC
Subject: RE: ICRMP (UNCLASSIFIED)

Richard-
Thank you for the copy of the Malmstrom AFB ICRMP. You may take this email as our comment on the proposed placement of an AFRC including an OMS at Malmstrom. I checked into the confusion over the need for a Survey and in discussion with Damom Murdo, our records manager, it has come to light that the reason he did not give clearance on this undertaking was because the request was made by a misc. consultant and not by a Federal Agency. We would have cleared this undertaking based on the records, if the request had come from the Army Reserve. If you have any questions please contact me at (406) 444-0388.
Josef-

-----Original Message-----
From: Ward, Richard E Mr USAR 96TH RRC [mailto:richard.ward2@usar.army.mil]
Sent: Thursday, March 19, 2009 8:21 AM
To: Warhank, Josef
Subject: FW: ICRMP (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Mr. Warhank,

Here is the draft ICRMP for Malmstrom AFB. Are you available this morning for a call to discuss our submittal?

Richard E. Ward, REM
Supervisory Envir. Prot. Spec.
96th RRC, ARIM
801-656-4258
801-864-4863 (cell)
801-656-4243 (fax)

-----Original Message-----
From: Hedlund, Lana L Civ USAF AFSPC 341 CES/CEAN [mailto:lana.hedlund@malmstrom.af.mil]
Sent: Wednesday, March 18, 2009 2:33 PM
To: Ward, Richard E Mr USAR 96TH RRC
Subject: ICRMP

Here is the plan we discussed this morning. Please be aware that it is in draft right now.

Lana Hedlund

Environmental Engineer

341 CES/CEANQ

39 78th Street N

Malmstrom AFB 59402-7536

DSN 632-6175 Comm (406) 731-6175

lana.hedlund@malmstrom.af.mil <mailto:lana.hedlund@malmstrom.af.mil>

DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL SUPPORT COMMAND
60 SOUTH O STREET
FORT MCCOY, WISCONSIN 54656

REPLY TO ATTENTION OF

January 28, 2009

Directorate of Public Works

Caleb Shields, Chairperson
Fort Peck Reservation
Fort Peck Tribal Executive Board
P.O. Box 1027
Poplar, Montana 59255

Dear Chairperson Shields:

The US Army Reserve 88th Regional Support Command (RSC) is planning a Base Realignment and Closure (BRAC) and construction project at the Malmstrom Air Force Base (AFB) in Great Falls, Cascade County, Montana. The project involves acquisition of a suitable site and construction of an Armed Forces Reserve Center (AFRC) to include an Organizational Maintenance Shop (OMS), an unheated storage building, parking areas, and other support facilities.

Buildings on the site would be of permanent construction with mechanical, electrical, plumbing and Heating, Ventilation, and Air Conditioning (HVAC) systems. Project development would involve land clearing, grading, paving, berms, security systems, utilities and other improvements. The facilities would provide American Disability Act (ADA) accessibility and would implement sustainable design and Energy Policy Act Features. The design of facility and placement of its features is in the conceptual stage and is currently being developed. The enclosed site plan provides a detailed map of the project sites (Enclosure 1).

Three sites are currently proposed for the project: a preferred site and two alternate sites. All sites are located on the existing Malmstrom AFB and are approximately 10 acres in size. The preferred site is located in the NE ¼ of the SE ¼ of Section 10, Township 20 North Range 4 East. Alternate site 1 is located in the center of the SW ¼ of Section 12, Township 20 N Range 4 East. Alternate site 2 is located in the E ½ of the NW ¼ of Section 13, Township 20 N Range 4 East. The enclosed Figure 1 shows these project site locations.

Enclosed is a copy of the Prehistoric and Historic Resources Survey completed at the Malmstrom Air Force Base by Argonne National Laboratory in March 1995 (Enclosure 2). Additional surveys of the base were conducted in 1988 and 1989. In effect, the entire base has been inventoried for cultural resources. The surveys located archaeological materials, but the results of subsurface testing on the sites indicate that they do not meet requirements for National Register Historic Places (NRHP) eligibility. Historic built-environment resources on the base have also been documented and several do meet NRHP Eligibility Criteria. However, no cultural

resources are located within the project's preferred or alternate sites. Because we believe that no historic properties will be affected by this project as per the National Historic Preservation Act (NHPA) and its implementing regulations found in 36CFR800, we are recommending project clearance and no further investigation of the project areas.

Please accept this correspondence as notification, as required by the NHPA, as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. Per the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

If 88th RSC activities were to impact cultural resources not previously identified, we will immediately proceed to inform you of the discovery and to invite you to assist the 88th RSC in the development of procedures for minimizing adverse impacts to the newly discovered cultural resources.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in Montana to invite them to consult with us on this issue.

I look forward to working with you or your designated representative. If we do not hear from you within thirty (30) days, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact, Mr. Richard Ward, at 801-656-4258 or by email at richard.ward2@us.army.mil. Please address and mail written correspondence to: HEADQUARTERS, 96TH RRC, ATTN: ARRC-CUT-ENE (WARD), BLDG 102, SALT LAKE CITY, UT 84113-5007.

Sincerely,

LTC, EN

FOR L. Ralph Hersey
Colonel, US Army
Director, Public Works

Enclosures

DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL SUPPORT COMMAND
60 SOUTH O STREET
FORT MCCOY, WISCONSIN 54656

REPLY TO
ATTENTION OF

January 28, 2009

Directorate of Public Works

Wes Cochran
Fort Belknap Community Council
RR 1 Box 66
Harlem, Montana 59526

Dear Mr. Cochran:

The US Army Reserve 88th Regional Support Command (RSC) is planning a Base Realignment and Closure (BRAC) and construction project at the Malmstrom Air Force Base (AFB) in Great Falls, Cascade County, Montana. The project involves acquisition of a suitable site and construction of an Armed Forces Reserve Center (AFRC) to include an Organizational Maintenance Shop (OMS), an unheated storage building, parking areas, and other support facilities.

Buildings on the site would be of permanent construction with mechanical, electrical, plumbing and Heating, Ventilation, and Air Conditioning (HVAC) systems. Project development would involve land clearing, grading, paving, berms, security systems, utilities and other improvements. The facilities would provide American Disability Act (ADA) accessibility and would implement sustainable design and Energy Policy Act Features. The design of facility and placement of its features is in the conceptual stage and is currently being developed. The enclosed site plan provides a detailed map of the project sites (Enclosure 1).

Three sites are currently proposed for the project: a preferred site and two alternate sites. All sites are located on the existing Malmstrom AFB and are approximately 10 acres in size. The preferred site is located in the NE ¼ of the SE ¼ of Section 10, Township 20 North Range 4 East. Alternate site 1 is located in the center of the SW ¼ of Section 12, Township 20 N Range 4 East. Alternate site 2 is located in the E ½ of the NW ¼ of Section 13, Township 20 N Range 4 East. The enclosed Figure 1 shows these project site locations.

Enclosed is a copy of the Prehistoric and Historic Resources Survey completed at the Malmstrom Air Force Base by Argonne National Laboratory in March 1995 (Enclosure 2). Additional surveys of the base were conducted in 1988 and 1989. In effect, the entire base has been inventoried for cultural resources. The surveys located archaeological materials, but the results of subsurface testing on the sites indicate that they do not meet requirements for National Register Historic Places (NRHP) eligibility. Historic built-environment resources on the base have also been documented and several do meet NRHP Eligibility Criteria. However, no cultural

resources are located within the project's preferred or alternate sites. Because we believe that no historic properties will be affected by this project as per the National Historic Preservation Act (NHPA) and its implementing regulations found in 36CFR800, we are recommending project clearance and no further investigation of the project areas.

Please accept this correspondence as notification, as required by the NHPA, as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. Per the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

If 88th RSC activities were to impact cultural resources not previously identified, we will immediately proceed to inform you of the discovery and to invite you to assist the 88th RSC in the development of procedures for minimizing adverse impacts to the newly discovered cultural resources.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in Montana to invite them to consult with us on this issue.

I look forward to working with you or your designated representative. If we do not hear from you within thirty (30) days, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact, Mr. Richard Ward, at 801-656-4258 or by email at richard.ward2@us.army.mil. Please address and mail written correspondence to: HEADQUARTERS, 96TH RRC, ATTN: ARRC-CUT-ENE (WARD), BLDG 102, SALT LAKE CITY, UT 84113-5007.

Sincerely,

LTC, EN

FOR L. Ralph Hersey
Colonel, US Army
Director, Public Works

Enclosures

DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL SUPPORT COMMAND
60 SOUTH O STREET
FORT MCCOY, WISCONSIN 54656

REPLY TO ATTENTION OF

January 28, 2009

Directorate of Public Works

Flathead Reservation
Confederated Salish & Kootenai Tribe
Michael T. Pablo, Chairperson
P.O. Box 278
Pablo, MT 59855

Dear Chairperson Pablo:

The US Army Reserve 88th Regional Support Command (RSC) is planning a Base Realignment and Closure (BRAC) and construction project at the Malmstrom Air Force Base (AFB) in Great Falls, Cascade County, Montana. The project involves acquisition of a suitable site and construction of an Armed Forces Reserve Center (AFRC) to include an Organizational Maintenance Shop (OMS), an unheated storage building, parking areas, and other support facilities.

Buildings on the site would be of permanent construction with mechanical, electrical, plumbing and Heating, Ventilation, and Air Conditioning (HVAC) systems. Project development would involve land clearing, grading, paving, berms, security systems, utilities and other improvements. The facilities would provide American Disability Act (ADA) accessibility and would implement sustainable design and Energy Policy Act Features. The design of facility and placement of its features is in the conceptual stage and is currently being developed. The enclosed site plan provides a detailed map of the project sites (Enclosure 1).

Three sites are currently proposed for the project: a preferred site and two alternate sites. All sites are located on the existing Malmstrom AFB and are approximately 10 acres in size. The preferred site is located in the NE ¼ of the SE ¼ of Section 10, Township 20 North Range 4 East. Alternate site 1 is located in the center of the SW ¼ of Section 12, Township 20 N Range 4 East. Alternate site 2 is located in the E ½ of the NW ¼ of Section 13, Township 20 N Range 4 East. The enclosed Figure 1 shows these project site locations.

Enclosed is a copy of the Prehistoric and Historic Resources Survey completed at the Malmstrom Air Force Base by Argonne National Laboratory in March 1995 (Enclosure 2). Additional surveys of the base were conducted in 1988 and 1989. In effect, the entire base has been inventoried for cultural resources. The surveys located archaeological materials, but the results of subsurface testing on the sites indicate that they do not meet requirements for National Register Historic Places (NRHP) eligibility. Historic built-environment resources on the base have also been documented and several do meet NRHP Eligibility Criteria. However, no cultural

resources are located within the project's preferred or alternate sites. Because we believe that no historic properties will be affected by this project as per the National Historic Preservation Act (NHPA) and its implementing regulations found in 36CFR800, we are recommending project clearance and no further investigation of the project areas.

Please accept this correspondence as notification, as required by the NHPA, as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. Per the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

If 88th RSC activities were to impact cultural resources not previously identified, we will immediately proceed to inform you of the discovery and to invite you to assist the 88th RSC in the development of procedures for minimizing adverse impacts to the newly discovered cultural resources.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in Montana to invite them to consult with us on this issue.

I look forward to working with you or your designated representative. If we do not hear from you within thirty (30) days, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact, Mr. Richard Ward, at 801-656-4258 or by email at richard.ward2@us.army.mil. Please address and mail written correspondence to: HEADQUARTERS, 96TH RRC, ATTN: ARRC-CUT-ENE (WARD), BLDG 102, SALT LAKE CITY, UT 84113-5007.

Sincerely,

LTC, EN

FOR L. Ralph Hersey
Colonel, US Army
Director, Public Works

Enclosures

DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL SUPPORT COMMAND
60 SOUTH O STREET
FORT MCCOY, WISCONSIN 54656

REPLY TO
ATTENTION OF

January 28, 2009

Directorate of Public Works

Clara Nomee, Chairperson
Crow Indian Reservation
Crow Tribal Council
P.O. Box 159
Crow Agency, Montana 59022

Dear Chairperson Nomee:

The US Army Reserve 88th Regional Support Command (RSC) is planning a Base Realignment and Closure (BRAC) and construction project at the Malmstrom Air Force Base (AFB) in Great Falls, Cascade County, Montana. The project involves acquisition of a suitable site and construction of an Armed Forces Reserve Center (AFRC) to include an Organizational Maintenance Shop (OMS), an unheated storage building, parking areas, and other support facilities.

Buildings on the site would be of permanent construction with mechanical, electrical, plumbing and Heating, Ventilation, and Air Conditioning (HVAC) systems. Project development would involve land clearing, grading, paving, berms, security systems, utilities and other improvements. The facilities would provide American Disability Act (ADA) accessibility and would implement sustainable design and Energy Policy Act Features. The design of facility and placement of its features is in the conceptual stage and is currently being developed. The enclosed site plan provides a detailed map of the project sites (Enclosure 1).

Three sites are currently proposed for the project: a preferred site and two alternate sites. All sites are located on the existing Malmstrom AFB and are approximately 10 acres in size. The preferred site is located in the NE ¼ of the SE ¼ of Section 10, Township 20 North Range 4 East. Alternate site 1 is located in the center of the SW ¼ of Section 12, Township 20 N Range 4 East. Alternate site 2 is located in the E ½ of the NW ¼ of Section 13, Township 20 N Range 4 East. The enclosed Figure 1 shows these project site locations.

Enclosed is a copy of the Prehistoric and Historic Resources Survey completed at the Malmstrom Air Force Base by Argonne National Laboratory in March 1995 (Enclosure 2). Additional surveys of the base were conducted in 1988 and 1989. In effect, the entire base has been inventoried for cultural resources. The surveys located archaeological materials, but the results of subsurface testing on the sites indicate that they do not meet requirements for National Register Historic Places (NRHP) eligibility. Historic built-environment resources on the base have also been documented and several do meet NRHP Eligibility Criteria. However, no cultural

resources are located within the project's preferred or alternate sites. Because we believe that no historic properties will be affected by this project as per the National Historic Preservation Act (NHPA) and its implementing regulations found in 36CFR800, we are recommending project clearance and no further investigation of the project areas.

Please accept this correspondence as notification, as required by the NHPA, as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. Per the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

If 88th RSC activities were to impact cultural resources not previously identified, we will immediately proceed to inform you of the discovery and to invite you to assist the 88th RSC in the development of procedures for minimizing adverse impacts to the newly discovered cultural resources.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in Montana to invite them to consult with us on this issue.

I look forward to working with you or your designated representative. If we do not hear from you within thirty (30) days, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact, Mr. Richard Ward, at 801-656-4258 or by email at richard.ward2@us.army.mil. Please address and mail written correspondence to: HEADQUARTERS, 96TH RRC, ATTN: ARRC-CUT-ENE (WARD), BLDG 102, SALT LAKE CITY, UT 84113-5007.

Sincerely,

LTC, EN

FOR L. Ralph Hersey
Colonel, US Army
Director, Public Works

Enclosures

DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL SUPPORT COMMAND
60 SOUTH O STREET
FORT MCCOY, WISCONSIN 54656

REPLY TO ATTENTION OF

January 28, 2009

Directorate of Public Works

Alvin Windyboy, THPO
Chippewa Cree Business Committee, Tribal Preservation Office
Rocky Boys Agency
Rocky Boy Route #544
Box Elder, Montana 59521

Dear Mr. Windyboy:

The US Army Reserve 88th Regional Support Command (RSC) is planning a Base Realignment and Closure (BRAC) and construction project at the Malmstrom Air Force Base (AFB) in Great Falls, Cascade County, Montana. The project involves acquisition of a suitable site and construction of an Armed Forces Reserve Center (AFRC) to include an Organizational Maintenance Shop (OMS), an unheated storage building, parking areas, and other support facilities.

Buildings on the site would be of permanent construction with mechanical, electrical, plumbing and Heating, Ventilation, and Air Conditioning (HVAC) systems. Project development would involve land clearing, grading, paving, berms, security systems, utilities and other improvements. The facilities would provide American Disability Act (ADA) accessibility and would implement sustainable design and Energy Policy Act Features. The design of facility and placement of its features is in the conceptual stage and is currently being developed. The enclosed site plan provides a detailed map of the project sites (Enclosure 1).

Three sites are currently proposed for the project: a preferred site and two alternate sites. All sites are located on the existing Malmstrom AFB and are approximately 10 acres in size. The preferred site is located in the NE ¼ of the SE ¼ of Section 10, Township 20 North Range 4 East. Alternate site 1 is located in the center of the SW ¼ of Section 12, Township 20 N Range 4 East. Alternate site 2 is located in the E ½ of the NW ¼ of Section 13, Township 20 N Range 4 East. The enclosed Figure 1 shows these project site locations.

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resources are located within the project's preferred or alternate sites. Because we believe that no historic properties will be affected by this project as per the National Historic Preservation Act (NHPA) and its implementing regulations found in 36CFR800, we are recommending project clearance and no further investigation of the project areas.

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If 88th RSC activities were to impact cultural resources not previously identified, we will immediately proceed to inform you of the discovery and to invite you to assist the 88th RSC in the development of procedures for minimizing adverse impacts to the newly discovered cultural resources.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in Montana to invite them to consult with us on this issue.

I look forward to working with you or your designated representative. If we do not hear from you within thirty (30) days, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact, Mr. Richard Ward, at 801-656-4258 or by email at richard.ward2@us.army.mil. Please address and mail written correspondence to: HEADQUARTERS, 96TH RRC, ATTN: ARRC-CUT-ENE (WARD), BLDG 102, SALT LAKE CITY, UT 84113-5007.

Sincerely,

LTC, EN

Enclosures

FOR L. Ralph Hersey
Colonel, US Army
Director, Public Works

DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL SUPPORT COMMAND
60 SOUTH O STREET
FORT MCCOY, WISCONSIN 54656

REPLY TO ATTENTION OF

January 29, 2009

Directorate of Public Works

John Murray, THPO
Blackfeet Nation
Blackfeet Tribe Culture Committee
PO Box 850
Browning, Montana 98223-9056

Dear Mr. Murray:

The US Army Reserve 88th Regional Support Command (RSC) is planning a Base Realignment and Closure (BRAC) and construction project at the Malmstrom Air Force Base (AFB) in Great Falls, Cascade County, Montana. The project involves acquisition of a suitable site and construction of an Armed Forces Reserve Center (AFRC) to include an Organizational Maintenance Shop (OMS), an unheated storage building, parking areas, and other support facilities.

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resources are located within the project's preferred or alternate sites. Because we believe that no historic properties will be affected by this project as per the National Historic Preservation Act (NHPA) and its implementing regulations found in 36CFR800, we are recommending project clearance and no further investigation of the project areas.

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If 88th RSC activities were to impact cultural resources not previously identified, we will immediately proceed to inform you of the discovery and to invite you to assist the 88th RSC in the development of procedures for minimizing adverse impacts to the newly discovered cultural resources.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in Montana to invite them to consult with us on this issue.

I look forward to working with you or your designated representative. If we do not hear from you within thirty (30) days, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact, Mr. Richard Ward, at 801-656-4258 or by email at richard.ward2@us.army.mil. Please address and mail written correspondence to: HEADQUARTERS, 96TH RRC, ATTN: ARRC-CUT-ENE (WARD), BLDG 102, SALT LAKE CITY, UT 84113-5007.

Sincerely,

LTC, EN

Enclosures

FOR L. Ralph Hersey
Colonel, US Army
Director, Public Works

DEPARTMENT OF THE ARMY
HEADQUARTERS, 88TH REGIONAL SUPPORT COMMAND
60 SOUTH O STREET
FORT MCCOY, WISCONSIN 54656

REPLY TO
ATTENTION OF

January 28, 2009

Directorate of Public Works

Northern Cheyenne Reservation
Northern Cheyenne Tribal Council
Lievando Fisher, President
P.O. Box 128
Lame Deer, Montana 59043

Dear President Fisher:

The US Army Reserve 88th Regional Support Command (RSC) is planning a Base Realignment and Closure (BRAC) and construction project at the Malmstrom Air Force Base (AFB) in Great Falls, Cascade County, Montana. The project involves acquisition of a suitable site and construction of an Armed Forces Reserve Center (AFRC) to include an Organizational Maintenance Shop (OMS), an unheated storage building, parking areas, and other support facilities.

Buildings on the site would be of permanent construction with mechanical, electrical, plumbing and Heating, Ventilation, and Air Conditioning (HVAC) systems. Project development would involve land clearing, grading, paving, berms, security systems, utilities and other improvements. The facilities would provide American Disability Act (ADA) accessibility and would implement sustainable design and Energy Policy Act Features. The design of facility and placement of its features is in the conceptual stage and is currently being developed. The enclosed site plan provides a detailed map of the project sites (Enclosure 1).

Three sites are currently proposed for the project: a preferred site and two alternate sites. All sites are located on the existing Malmstrom AFB and are approximately 10 acres in size. The preferred site is located in the NE ¼ of the SE ¼ of Section 10, Township 20 North Range 4 East. Alternate site 1 is located in the center of the SW ¼ of Section 12, Township 20 N Range 4 East. Alternate site 2 is located in the E ½ of the NW ¼ of Section 13, Township 20 N Range 4 East. The enclosed Figure 1 shows these project site locations.

Enclosed is a copy of the Prehistoric and Historic Resources Survey completed at the Malmstrom Air Force Base by Argonne National Laboratory in March 1995 (Enclosure 2). Additional surveys of the base were conducted in 1988 and 1989. In effect, the entire base has been inventoried for cultural resources. The surveys located archaeological materials, but the results of subsurface testing on the sites indicate that they do not meet requirements for National Register Historic Places (NRHP) eligibility. Historic built-environment resources on the base have also been documented and several do meet NRHP Eligibility Criteria. However, no cultural

resources are located within the project's preferred or alternate sites. Because we believe that no historic properties will be affected by this project as per the National Historic Preservation Act (NHPA) and its implementing regulations found in 36CFR800, we are recommending project clearance and no further investigation of the project areas.

Please accept this correspondence as notification, as required by the NHPA, as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. Per the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

If 88th RSC activities were to impact cultural resources not previously identified, we will immediately proceed to inform you of the discovery and to invite you to assist the 88th RSC in the development of procedures for minimizing adverse impacts to the newly discovered cultural resources.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in Montana to invite them to consult with us on this issue.

I look forward to working with you or your designated representative. If we do not hear from you within thirty (30) days, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact, Mr. Richard Ward, at 801-656-4258 or by email at richard.ward2@us.army.mil. Please address and mail written correspondence to: HEADQUARTERS, 96TH RRC, ATTN: ARRC-CUT-ENE (WARD), BLDG 102, SALT LAKE CITY, UT 84113-5007.

Sincerely,

LTC, EN

FOR L. Ralph Hersey
Colonel, US Army
Director, Public Works

Enclosures

Appendix B
General Conformity – Record of Non-Applicability

General Conformity – Record of Non-Applicability

Construction and Operation of Armed Forces Reserve Center on Malmstrom Air Force Base, Great Falls, Montana

The proposed action is to implement the Defense Base Closure and Realignment (BRAC) Commission's (Commission's) recommendation as mandated by the BRAC legislation, Public Laws 101-510 and 107-107. The Commission's recommendation is to:

> *"Close Galt Hall Army Reserve Center in Great Falls, MT and relocate units to a new Armed Forces Reserve Center on Malmstrom Air Force Base, Great Falls, MT."*

To accomplish this recommendation, the U.S. Army Reserve (USAR) is realigning personnel to Malmstrom Air Force Base (AFB) as directed by the Commission. Units currently stationed at the Galt Hall USAR Center include the 889th Detachment Headquarters, under the 311th Sustainment Command, and the Retention Officer of the 96th Regional Readiness Command. The mission of the 889th Detachment is primarily administrative (including planning, logistics, transportation, supplies, etc.). These units will be transferred to the new Armed Forces Reserve Center (AFRC) on Malmstrom AFB. The USAR proposes to construct suitable facilities (an AFRC, an Organizational Maintenance Shop, and unheated storage) and organizational parking for vehicles and equipment on Malmstrom AFB.

General Conformity under the Clean Air Act, Section 176 has been evaluated for the project described above according to the requirements of 40 Code of Federal Regulations 93, Subpart B. The requirements of this rule are not applicable to this action because the facility is located in an area in attainment of all National Ambient Air Quality Standards.

Supporting documentation and emission estimates are not necessary.

SIGNED _____

TITLE _____

DATE _____

Appendix C
Economic Impact Forecast System
Modeling Results

APPENDIX C

ECONOMIC IMPACT FORECAST SYSTEM

THE NEED FOR SOCIOECONOMIC IMPACT ASSESSMENT

Assessing socioeconomic impacts that result from Army actions can be one of the more controversial issues related to the realignment or closure of an installation. The economic and social well-being of a local community can be dependent upon the activities of the installation, and disruptions to the status quo can become politically charged and emotion-laden. The objective of a socioeconomic analysis of Army actions is an open, realistic, and documented assessment of the potential effects.

The requirement to assess socioeconomic impacts in environmental assessments (EAs) or environmental impact statements (EISs) has been a source of legal discussion since the passage of the National Environmental Policy Act (NEPA). Although NEPA is predominately oriented toward the biophysical environment, court decisions have supported the need for analyzing socioeconomic impacts when they are accompanied by biophysical impacts.

THE ECONOMIC IMPACT FORECAST SYSTEM

The U.S. Army developed the Economic Impact Forecast System (EIFS) with the assistance of many academic and professional economists and regional scientists to address the economic impacts pursuant to NEPA and to measure the significance of the impacts. As a result of its designed applicability, and in the interest of uniformity, the Assistant Secretary of the Army (Installations, Logistics, and Environment) (ASA [IL&E]) mandates using EIFS in the NEPA assessment of base realignment and closure recommendations. EIFS is designed for the scrutiny of a populace affected by the actions being studied. The algorithms in EIFS are simple and easy to understand, but still have firm, defensible bases in regional economic theory.

EIFS, in its current form, exists as a World Wide Web-based application. The application resides on a Web server hosted by the US Army Corps of Engineers, Mobile District. The EIFS model is available to U.S. government employees, contractors, and other people who have an approved login and password. Military planners, analysts and their contractors are authorized to access the EIFS application for the purpose of preparing the 2005 Base Realignment and Closure Act (BRAC) National Environmental Policy Act (NEPA) documentation.

As currently configured, EIFS provides:

- Selected statistics about the socioeconomic characteristics of any county or any multi-county area in the United States, including metropolitan statistical areas, and planning commission regions.
- An analytical process for estimating the magnitude and significance of potential socioeconomic effects of proposed military activities in these areas.

THE EIFS IMPACT MODEL

The basis of the EIFS analytical capabilities is the calculation of multipliers that are used for estimating the impacts resulting from Army-related changes in local expenditures and employment. In calculating the multipliers, EIFS uses the economic base model approach that relies on the ratio of total economic activity to "basic" economic activity. Basic, in this context, is defined as the production or employment engaged to supply goods and services outside the ROI or by federal activities (such as military installations and their employees). According to economic base theory, the ratio of total income to basic income is measurable (as the multiplier) and sufficiently stable so that future changes in economic activity can be forecast. This technique is especially appropriate for estimating "aggregate" impacts and makes the economic base model ideal for the EA/EIS process.

The multiplier is interpreted as the total impact on the economy of the region resulting from a unit change in its basic sector; for example, a dollar increase in local expenditures due to an expansion of a military installation. EIFS estimates its multipliers using a "location quotient" approach, which is based on the concentration of industries within the region relative to the industrial concentrations for the nation.

The EIFS model produces output that includes:

- Change in total sales by local businesses
- Change in total income
- Change in total employment
- Change in total population
- The significance of these changes

THE SIGNIFICANCE OF SOCIOECONOMIC IMPACTS

Once model projections are obtained, the rational threshold values (RTV) enable the user to evaluate the significance of the impacts. This analytical tool shows the historical trends for the defined region and develops measures of local historical fluctuations in sales volume, employment, income, and population. The evaluation identifies a range of positive and negative changes, within which a project can affect the local economy without creating a significant impact.

The techniques have two major strengths: (1) they are specific to the region under analysis and (2) they are based on actual historical time series data for the defined region. The use of the EIFS impact model in combination with the RTV has proven very successful in addressing perceived socioeconomic impacts. The EIFS model and the significance-measuring techniques are theoretically sound and have been reviewed on numerous occasions.

RTVs are positive and negative percent changes that establish an acceptable range around the maximum historic percentage fluctuations in the ROI. The average yearly decreases or increases in the ROI are obtained by analyzing regional data for the last 16 to 19 years, depending on data availability. For each variable (sales volume, employment, income, and population), the current time-series data available from the U.S. Bureau of Economic Analysis (BEA) for the ROI is used. The average annual change is calculated as the difference between the first and last observations in the particular data set, divided by the

number of years in the time series (see RTV tables, following). The maximum percent positive and negative deviations from that average are the basis for the RTVs.

Negative RTVs are percentages of the maximum negative deviations. These percentages are weighted to reflect the severity of potential impacts on individuals. Population changes are the most heavily weighted, at 50 percent, followed by employment and personal income changes (67 percent); changes in sales volume receive the least weight (75 percent). Using population as an example, if the greatest historic negative deviation from the annual average population change in the ROI was -0.952 percent, a population decrease of more than half of that (-0.476 percent) would be considered significant.

Positive RTVs represent the maximum positive historical fluctuation in the ROI, because of the generally positive connotations of economic growth. If the maximum historic positive deviation from annual average employment growth was 2.368 percent, an increase of more than 2.368 percent would be considered significant in the ROI.

Economic Impact Forecast System
US Army Corps of Engineers
Mobile District

EIFS REPORT

5/27/2009

PROJECT NAME

Malmstrom AFRC-Preferred Alt

STUDY AREA

30013 Cascade, MT

FORECAST INPUT

Change In Local Expenditures	$5,028,282
Change In Civilian Employment	63
Average Income of Affected Civilian	$39,778
Percent Expected to Relocate	0
Change In Military Employment	0
Average Income of Affected Military	$0
Percent of Military Living On-post	0

FORECAST OUTPUT

Employment Multiplier	2.65	
Income Multiplier	2.65	
Sales Volume - Direct	$5,145,653	
Sales Volume - Induced	$8,490,328	
Sales Volume - Total	$13,635,980	0.37%
Income - Direct	$2,966,906	
Income - Induced)	$1,249,874	
Income - Total(place of work)	$4,216,780	0.23%
Employment - Direct	83	
Employment - Induced	34	
Employment - Total	117	0.24%
Local Population	0	
Local Off-base Population	0	0%

RTV SUMMARY

	Sales Volume	Income	Employment	Population
Positive RTV	7.73 %	7.73 %	4.4 %	2.64 %
Negative RTV	-8.89 %	-5.95 %	-2.5 %	-2.37 %

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

EIFS REPORT

5/27/2009

PROJECT NAME

Malmstrom AFRC-Alts 1 & 2

STUDY AREA

30013 Cascade, MT

FORECAST INPUT

Change In Local Expenditures	$6,197,881
Change In Civilian Employment	78
Average Income of Affected Civilian	$39,778
Percent Expected to Relocate	0
Change In Military Employment	0
Average Income of Affected Military	$0
Percent of Military Living On-post	0

FORECAST OUTPUT

Employment Multiplier	2.65	
Income Multiplier	2.65	
Sales Volume - Direct	$6,353,616	
Sales Volume - Induced	$10,483,470	
Sales Volume - Total	$16,837,080	0.45%
Income - Direct	$3,670,782	
Income - Induced)	$1,543,287	
Income - Total(place of work)	$5,214,069	0.29%
Employment - Direct	103	
Employment - Induced	42	
Employment - Total	145	0.30%
Local Population	0	
Local Off-base Population	0	0%

RTV SUMMARY

	Sales Volume	Income	Employment	Population
Positive RTV	7.73 %	7.73 %	4.4 %	2.64 %
Negative RTV	-8.89 %	-5.95 %	-2.5 %	-2.37 %

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

Source: Original cost and SF from 1391 64485 (AR Center Great Falls, Montana) revised 17July2008. SF further revised and cost prorated per the Preferred Alternative (Addition/Alteration to Montana ARNG Facility) as described in the Final EA, May 2009 - Table 3-1.

	1391 July 2008		**Preferred Alternative May 2009**		
Armed Forces Reserve Center	19,132	SF	19,964	SF	
Organizational Maintenance Shop	3,115	SF	2,851	SF	
Unheated Storage Building	458	SF	366	SF	
Total Requirement	22,705		23,181	2%	increase from 1391
Separate Military Equipment Parking	730	SY	750	SY	
	(in $1,000)				
ESTIMATED CONTRACT COST	6,838				
CONTINGENCY PERCENT (5.00%)	342				
SUBTOTAL	7,180				
SUPERVISION, INSPECTION & OVERHEAD (5.7(	409				
DESIGN/BUILD - DESIGN COST (4.0000%)	287				
CATEGORY E EQUIPMENT	0				
TOTAL REQUEST	**7,876**		**8,041.117**	2%	prorated increase
TOTAL REQUEST (ROUNDED)	7,900				
INSTALLED EQT-OTHER APPROPRIATIONS	-1,002				

ESTIMATED CONSTRUCTION START	**MAR 2010**
ESTIMATED MIDPOINT OF CONSTRUCTION	SEP 2010
ESTIMATED CONSTRUCTION COMPLETION	**MAR 2011**

Alternatives 1 and 2

(Source: SF per Alternatives 1 & 2 as described in the Final EA, May 2009, Table 3-2; costs prorated from 1391 64485 (AR Center Great Falls, Montana) revised 17July2008; see above.)

	Preferred Alternative May 2009		
Armed Forces Reserve Center	25,000	SF	
Organizational Maintenance Shop	3,115	SF	
Unheated Storage Building	458	SF	
Total	28,573		
Paved Parking	750	SY	
SF difference from 1391	5,868		
% diff to cost estimate for Alternatives 1 & 2 EIFS	26%		
Estimated cost for Alternatives 1 & 2	9,911.515		(in $1,000)

Malmstrom EA Preferred Alternative - Cost Breakout

	Project Cost FY 2008	Escalated Project Cost FY 2010		
	$8,041,117	$8,202,743	$8.20	million

Construction cost estimated breakout	calc (escalated)	MSA avg wage (BEA 2006 escalated to 2010)	Construction FTEs	
Labor	$2,510,039	$39,778	63	1.8%
Materials/services	$5,028,282			of region

Malmstrom EA Alternatives 1 and 2 - Cost Breakout

	Project Cost FY 2008	Escalated Project Cost FY 2010		
	$9,911,515	$10,110,736	$10.11	million

Construction cost estimated breakout	calc (escalated)	MSA avg wage (BEA 2006 escalated to 2010)	Construction FTEs	
Labor	$3,093,885	$39,778	78	2.2%
Materials/services	$6,197,881			of region

Construction Labor and Materials Requirements

	Labor	Materials	check	% excluded (OH, design)
TOTAL CONSTRUCTION ACTIVITY	34.2%	57.8%	92.0%	8.0%
NEW CONSTRUCTION	30.6%	61.3%	91.9%	8.1%
Hotels & Motels	29.2%	63.8%	93.0%	7.0%
Industrial Buildings	38.0%	56.8%	94.8%	5.2%
Office Buildings	33.8%	61.3%	95.1%	4.9%
Garages & Service Stations	33.1%	59.0%	92.1%	7.9%
Stores & Restaurants	35.9%	61.9%	97.8%	2.2%
Amusement & Recreation Buildings	35.0%	60.5%	95.5%	4.5%
Local Transit Facilities	29.6%	63.0%	92.6%	7.4%
Other nonbuilding facilities	33.0%	60.6%	93.6%	6.4%

Source: US Army Corps of Engineers, EIFS model documentation (calculated %'s) and BEA, Detailed Input-Output Structure of the US Economy (base data)