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Environmental Assessment (EA) for Headquarters Building Construction and Main Gate Reconfiguration

White Bluff, Spokane, Washington

December 2012

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ACRONYMS AND ABBREVIATIONS

ACM	Asbestos-containing materials
AFB	Air Force Base
AFI	Air Force Instruction
AFOSH	Air Force Occupational and Environmental Safety, Fire Protection, and Health
AFPD	Air Force Policy Directive
ASTS	Above-ground petroleum storage tanks
AMC	Air Mobility Command
AT/FP	Anti-Terrorism/Force Protection
AQCR	Air Quality Control Region
BA	Biological Assessment
bgs	Below ground surface
BMP	Best management practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
COA	Course of Action
CRBG	Columbia River Basalt Group
CWA	Clean Water Act
dB	Decibel
dBA	A-weighted decibel
DNL	Day-night average A-weighted sounds level
DOD	Department of Defense
EA	Environmental Assessment
EBS	Environmental Baseline Survey
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EPA	U.S. Environmental Protection Agency
ERP	Environmental Restoration Program
ESA	Endangered Species Act
FAFB	Fairchild Air Force Base
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
ft2	Square feet
FY	Fiscal year
GHG	Greenhouse gas emissions
GIS	Geographical Information System
gpm	Gallon per minute
HAZWOPER	Hazardous Waste, Operations, and Emergency Response
HQ	Headquarters
HUD	Department of Housing and Urban Development
NEPA	National Environmental Policy Act
IICEP	Integrated and Intergovernmental Coordination for Environmental Planning
JPRA	Joint Personnel Recovery Agency
kV	Kilovolt
LBP	Lead-based paint
LEED	Leadership in Energy and Environmental Design
LID	Low Impact Development
msl	Mean sea level
MSW	Municipal Solid Waste
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_2	Nitrogen dioxide
NO_X	Nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Health and Safety Administration
Pb	Lead
PM10	Particulate matter equal to or less than 10 microns in diameter
PM2.5	Particulate matter equal to or less than 2.5 microns in diameter

POP	Communication point of presence
RCRA	Resource Conservation and Recovery Act
ROI	Region of influence
SCS	Soil Conservation Service
SIP	State Implementation Plan
SO2	Sulfur dioxide
SOC	Species of Concern
SRCAA	Spokane Regional Clean Air Agency
tpy	Tons per year
UFC	Unified Facilities Criteria
UGA	Urban Growth Area
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
UST	Underground storage tank
WAC	Washington Administrative Code
WB	White Bluff
WDFW	Washington Department of Fish and Wildlife
WOUS	Waters of the United States
WRIA	Water Resource Inventory Area
USGS	U.S. Geological Survey

COVER SHEET
ENVIRONMENTAL ASSESSMENT
HEADQUARTERS BUILDING CONSTRUCTION
AND MAIN GATE RECONFIGURATION
AT WHITE BLUFF

Responsible Agencies: U.S. Air Force (USAF), Joint Personnel Recovery Agency (JPRA), U.S. Army Corps of Engineers (USACE), and Fairchild Air Force Base (FAFB)

Affected Location: White Bluff, Spokane County, Washington

Proposed Action: Demolition of three existing antiquated buildings, construction of a new Headquarters (HQ) Building with associated infrastructure, and reconfiguration of the main gate.

Report Designation: Environmental Assessment (EA)

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Abstract. The proposed action is the construction of a new Headquarters (HQ) building, along with necessary supporting infrastructure, and the reconfiguration of the main gate at White Bluff (WB), a Fairchild Air Force Base (FAFB) operating site, located approximately 7 miles northwest of Spokane International Airport. WB is operated by the Joint Personal Recovery Agency (JPRA) as a tenant unit of Fairchild's 92nd Air Refueling Wing. Currently, JPRA mission support and command activities are distributed across the WB site in buildings that have aged beyond their useful life, and are operating with waivers for standard fire and force protection requirements. The proposed action will consolidate these activities into a single, purpose-built building, designed to best engineering practices and current DOD standards for economy and efficiency, supported with additional state of the art site utilities and infrastructure. Additionally, the WB main gate will be reconfigured to bring it into compliance with DOD security guidance and "best practices." Improvements will include construction of a gatehouse with capacity to receive and ship deliveries outside the WB perimeter fence, and the addition of traffic calming measures.

A total of five alternatives that would achieve the purpose and need were initially identified for environmental analysis. They include the five Action Alternatives (B-F) shown in the table below. In addition, the No Action Alternative was evaluated. Four of the alternatives provide for the same measures but at different siting locations (identified as action alternatives B-E in the table below). Alternative F proposed the remodeling of existing buildings, but was eliminated from further environmental analysis, due to the buildings in question being outdated and ineligible for upgrade, repair, or modernization.

This Environmental Assessment (EA) provides an analysis of Alternatives A-E, as shown in the table below, to determine if significant adverse impacts to the natural or human environment may occur as a result of their implementation. Common to each action alternative is the need to construct infrastructure supporting the HQ such as utilities, roads, and parking lots, and reconfiguration of the main gate area in its current location. Maps showing the proposed locations for Areas 1-4 are provided in Chapter 2.

WB Alternatives Identified (A-F)		Meets Project Purpose and Need
A	No Action Alternative	No
B	Construct New HQ in Area 1 and Reconfigure Existing Main Gate	Yes
C	Construct New HQ in Area 2 and Reconfigure Existing Main Gate	Yes
D	Construct New HQ in Area 3 and Reconfigure Existing Main Gate	Yes
E	Construct New HQ in Area 4 and Reconfigure Existing Main Gate	Yes
F	Demolish Buildings 1 and 2, Remodel Existing Building 3, Preserve Building 8, and Reconfigure Existing Main Gate	No

Existing conditions at WB were assessed to provide a baseline for comparison to future conditions with the proposed action implemented. Resources evaluated include geology, topography, land use, surface and groundwater, air quality, biology, cultural, noise, hazardous wastes, safety and health, utilities, aesthetics, socioeconomics, and environmental justice. The potential impacts that may occur to these resources as a result of implementation of each alternative were then assessed. The future "without-project" condition was assessed under the No Action Alternative for each resource.

There are no significant adverse impacts expected to result from implementation of any of the action alternatives. The No Action Alternative does not satisfy mission requirements. Alternative F was not carried forward for evaluation since it is prohibited by regulation and contravenes DOD policy.

Minor and temporary impacts of less than significant levels would be expected to result during construction of the HQ and reconfiguration of the main gate. These include increases in noise, delays in onsite traffic circulation, and potential interruption to utility services. All other potential impacts would be adequately avoided or minimized through careful planning, compliance with permit conditions, or implementation of Best Management Practices (BMPs).

FINDING OF NO SIGNIFICANT IMPACT (FONSI)
ENVIRONMENTAL ASSESSMENT
HEADQUARTERS BUILDING CONSTRUCTION
AND MAIN GATE RECONFIGURATION
AT WHITE BLUFF

Based on the findings of this Environmental Assessment for the Headquarters Building construction and Main Gate Reconfiguration at JPRA White Bluff, the USAF believes that the Proposed Action would not generate significant controversy or have a significant impact on the quality of the human or natural environment. The Draft EA and proposed FONSI were made available for a 30-day public review and comment period. After reviewing the comments, if the final determination is that the Proposed Action would have no significant impact, the FONSI will be signed and the action will be implemented. An Environmental Impact Statement will not be prepared. This analysis fulfills the requirements of NEPA and CEQ Regulations.

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Date Signature

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1.0 PURPOSE AND NEED

1.1 PURPOSE AND NEED FOR ACTION

The purpose of this Environmental Assessment (EA) is to determine whether there are potential significant adverse impacts to the natural or human environment associated with alternative courses of action (COAs) proposed to meet a military requirement to consolidate mission activities and modernize facilities at a Fairchild Air Force Base (FAFB) operating site known as White Bluff (WB). WB is located approximately 7 miles northwest of Spokane International Airport and is operated by the Joint Personal Recovery Agency (JPRA) as a tenant unit of Fairchild's 92nd Air Refueling Wing (Figure 1-1).

This EA provides the framework for selecting a preferred alternative, or COA, which is based on the alternative that provides the least possible adverse impact while still meeting project objectives and mission requirements at a reasonable cost. If the preferred alternative contains unavoidable and potentially significant impacts, mitigation measures will be developed to reduce those impacts below the level of significance or an Environmental Impact Statement (EIS) will be prepared to further analyze them.

Currently, JPRA mission support and command activities are distributed across the WB site in buildings that have aged beyond their useful life, and are operating with waivers for standard fire and force protection requirements. The proposed action will consolidate these activities into a single, purpose-built building, designed to best engineering practices and current DOD standards for economy and efficiency, supported with additional state of the art site utilities and infrastructure. Additionally, the WB main gate will be reconfigured to bring it into compliance with DOD security guidance and "best practices." Improvements will include construction of a gatehouse with capacity to receive and ship deliveries outside the WB perimeter fence, and the addition of traffic calming measures. In addition to fulfilling mission and security requirements, the proposed action will reduce maintenance and energy costs, optimize WB site utilization, and provide flexibility to adapt to potential future emergent DOD requirements including expansion of the WB workforce.

The project is needed:

- To build a new headquarters building because current buildings are waivered for AT/FP setbacks and fire protection, are beyond their service life, for mission efficiency, and to comply with DOD energy and 'green' policies;
- To reconfigure the gate for compliance with security regulations and best practices, and for the safety of the installation and personnel; and
- To demolish the buildings to comply with DOD policy of reducing obsolete real property holdings, including buildings that cannot be repurposed or remodeled.

1.2 SCOPE OF THE ANALYSIS

This EA provides an evaluation of the potential effects that the proposed action (COA) or possible alternatives would have on the natural or human environment as a result of implementation, including any adverse direct or indirect environmental impacts. Based on this evaluation, this EA will identify the preferred alternative (COA) that fulfills project objectives and mission requirements with the least adverse impact. This EA also provides an analysis of potential cumulative effects that would result from implementing the COA in combination with a suite of actions that might occur as separate projects at WB in the future.

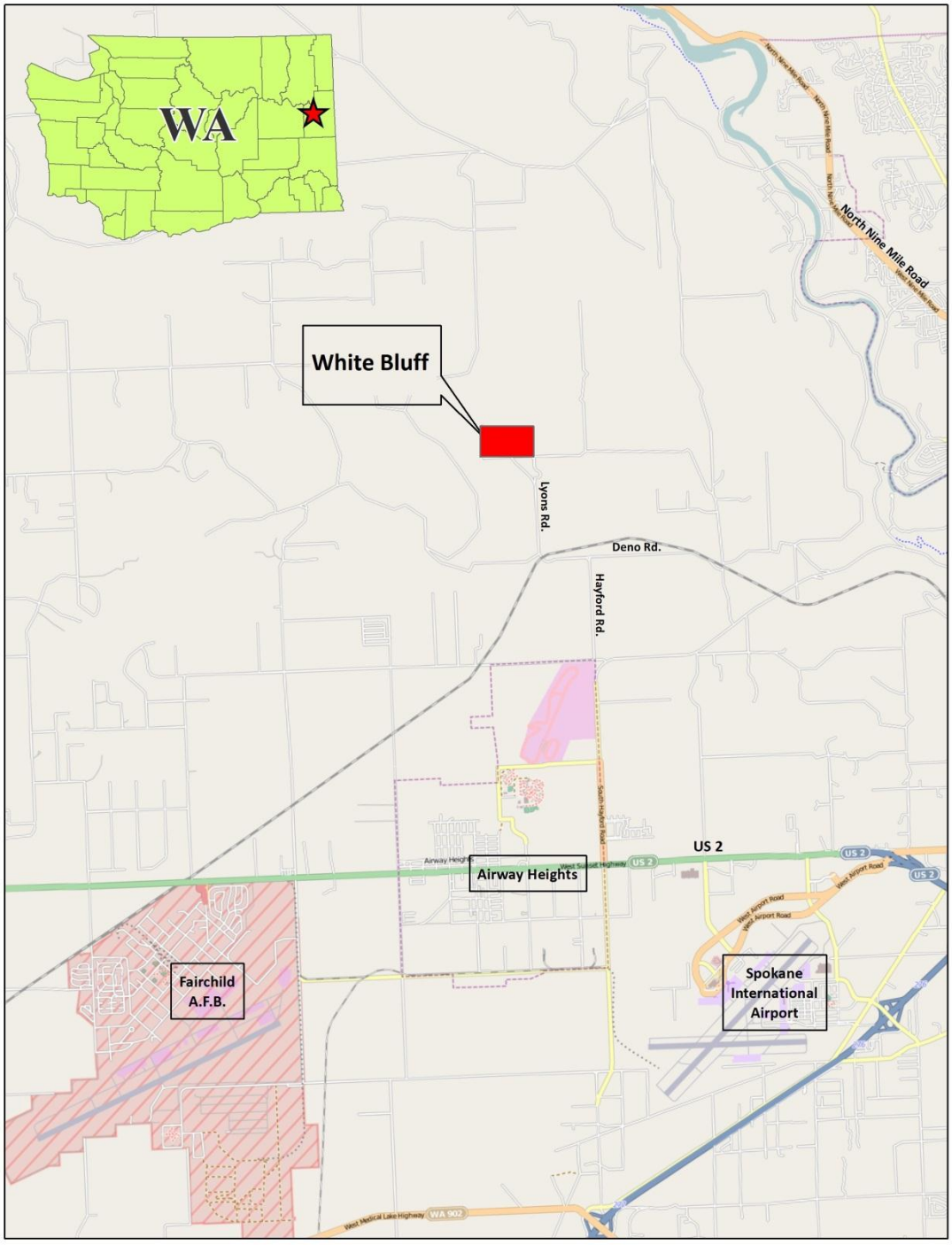

Figure 1-1 Project Location

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

This chapter describes the alternative selection standards and the alternatives selected for evaluation. During individual project planning and programming, suitable alternatives for the proposed projects will be considered and evaluated. The No Action Alternative is carried forward for analysis as a baseline to which all other alternatives are compared in accordance with NEPA Part 1502.14(d). Alternatives that do not support the purpose and need for the action as described in Chapter 1 are not carried forward for evaluation in Chapters 3 and 4. The preferred alternative or COA is then reviewed, and the decision to approve is made by the Facilities Board (FB), which is chaired by the Installation Commander at Fairchild Air Force Base (FAFB).

2.1 SELECTION STANDARDS

Proposed alternatives for the HQ were identified according to their compatibility with alternatives selection standards. In accordance with 32 CFR Part 989.8(c), the development of selection standards is an effective mechanism for the identification, comparison, and evaluation of reasonable alternatives. The following selection standards were developed to be consistent with the purpose and need for the action and to address pertinent environmental, safety, and health factors. Potentially viable operational and engineering solutions, including facility siting proposals, for construction of the new HQ, associated infrastructure and reconfiguration of the main gate area, were identified based on the following selection criteria:

Consistency with JPRA Mission. Solution must not hinder execution of the JPRA mission at WB and should not constrain ability to respond to emerging mission requirements in the future.

Consistency with WB Master Site Plan. Solution should support implementation of the WB Master Site Plan, which provides an approved framework for planned future development based on long range strategic planning.

Compliance with Federal, State, and Local Laws, and Regulations. Solution must not violate any civil law or other regulatory guidance.

Compliance with DOD, USAF, and FAFB Regulations and Policies. Solution must not violate any DOD regulatory policy or guidance.

Adjacencies, Collocation of Like Assets. Per USAF policy (AFPAM32-1010), solution should provide close proximity to existing facilities or other planned facilities to maintain operational and mission-related consistency, wherever possible (USAF 1998).

Impervious Surfaces. Per USAF policy, new facilities, including roads and parking areas, must be designed to ensure compliance with applicable storm water management directives and the USAF goal of reducing impervious surfaces (HQAMC 2010). This policy may constrain the size of acceptable impervious surface areas in the evaluated alternatives.

Topographical Constraints. Approximately 38 acres of the WB site contains naturally occurring basalt rock outcroppings that inhibit potential future development or require costly special design and construction to incorporate them.

Setback Constraints. Approximately 35 acres of WB site is unavailable for development because it lies within DOD mandated Anti-Terrorism and Force Protection (AT/FP) setbacks that specify standoff

distances from the site perimeter fence, buildings, roads and parking lots (DOD 2004, 2012). AT/FP setbacks apply to occupied buildings only.

Utilities. Solution must provide for utilities and infrastructure at an acceptable cost and in compliance with Unified Facility Criteria (UFC 4-010-01) and FAFB design standards.

Main Gate. The need for primary access to the site at a central location, and in alignment with the only access road (Lyons Rd), precludes the construction of a main gate at any other location at WB (Figure 2-1).

2.1.1 ALTERNATIVE DEVELOPMENT

2.1.1.1 HEADQUARTERS BUILDING

Design of the new HQ was based on a 3-day charrette interview process with future building occupants. Input consisted of descriptions of required spaces, including size, functionality, adjacencies, and special requirements. Architect/Engineers (A/Es) compiled the collected data into floor plans and a space requirement matrix that captured the input received as well grossing factors based on UFC for common areas and circulation. Through this process, designers determined that a minimum building size of 30,179 square foot (SF) was required and that a two-story design optimally met project objectives and mission requirements while minimizing building footprint and costs. Once the size and configuration of the building had been determined, four potential building sites were identified that could accommodate the project per the selection standards. Each area is described below and shown on Figure 2-2.

Area 1. Area 1 is centrally located on the north side of WB on a shallow hillside containing Ponderosa pine flats and ruderal land, adjacent to existing facilities.

Area 2. Area 2 is located on a relatively large, flat area of open and non-forested land in the northeast corner of WB that is topographically isolated from the rest of the site due to its lower elevation. It is the largest contiguous area available for development on WB, and provides adequate space to construct either a one or two-story building of the necessary size. It is directly accessible through an existing auxiliary gate at the eastern end of the south perimeter fence adjacent to Newkirk Road.

Area 3. Area 3 is centrally located on the south side of WB near the main gate area and WB's primary paved road.

Area 4. Area 4 is located on the western side of WB on generally flat ground containing dense stands of young Ponderosa pine trees. It provides several sufficiently large potential building sites.

2.1.1.2 MAIN GATE

The existing WB main gate area is out of compliance with DOD security guidance in that it does not provide for receiving and shipping deliveries outside the WB perimeter fence. Additionally, there is no provision for a manned gatehouse or for traffic calming measures in accordance with best DOD security practices. The proposed action will reconfigure the gate area to accommodate the improvements described above, and will also provide for the safe maneuvering of large vehicles (tractor-trailer trucks) at the intersection of the gate area with Lyons Road (which belongs to Spokane County). There is no feasible alternative location for the main gate. This is due to the geometry of the county road, lack of supporting infrastructure anywhere else on the WB southern perimeter, and the unreasonable cost that would be associated with relocating the main gate, which is a very large and heavily anchored piece of equipment.

2.1.1.3 BUILDINGS 1, 2, 3, AND 8

The activities and functions planned for relocation to the new HQ are currently housed in Buildings 1, 2, 3, and 8 (Figure 2-1). These buildings were constructed over 60 years ago and do not meet DOD standards for fire or force protection. The buildings are operating on a waiver for these conditions.

2.2 ALTERNATIVES

Six alternatives were identified for evaluation in this EA. These include Alternative A, which is the No Action Alternative; Action Alternatives B through E, which propose four different locations on WB for construction of the new HQ and associated infrastructure; and Action Alternative F, in which Buildings 1 and 2 are demolished while all of Building 3 is preserved, then remodeled and expanded to become the new HQ. Under each alternative, Building 8 will be left standing to house network connection points (hereafter referred to as "POP" for point of presence) that cannot be relocated.

2.2.1 COMPONENTS COMMON TO SOME OR ALL ACTION ALTERNATIVES (B-F)

Under all of the Action Alternatives (B-F)

WB's main gate area remains in its current location, but is reconfigured to include a gatehouse with a bathroom and attached annex totaling approximately 600 SF in size. The annex will contain a storage room and loading dock, for receiving and shipping deliveries outside the WB perimeter fence.

Construction or remodeling will require concurrent construction of additional new, and/or upgrade of existing, infrastructure to include water, electrical, and communications systems, and pavements. There are currently no utility capacity constraints at WB. The septic, water, and power systems at the site are adequate to accommodate all potential actions discussed in this assessment.

Compliance with Energy Independence and Security Act (EISA) including energy reduction goals, water efficiency, greenhouse gas reductions, and metering is mandatory.

Under Action Alternatives B-E

- Building 1 must be demolished to make room for the gate reconfiguration, because it is in the AT/FP setback and for policy compliance;
- Building 2 must be demolished, because it is in the AT/FP setback and for policy compliance; and
- Building 3 must be demolished for policy compliance.

2.2.2 ALTERNATIVE A

No Action

Under the No Action Alternative, no remodeled or new HQ would be constructed and the main gate would not be reconfigured.

2.2.3 ALTERNATIVE B

Construct New HQ in Area 1 and Reconfigure Existing Main Gate Area

Under Alternative B, a new two-story building designed to house 55 personnel engaged in mission support or command group activities, together with a parking lot for 45 vehicles, would be constructed on the north side of WB in Area 1. This area is centrally located along a shallow hillside containing Ponderosa pine flats, and ruderal land. New pathways and walks would be constructed to connect to adjacent existing facilities. Reconfiguration of the main gate area and demolition of Buildings 1 and 2 and all of Building 3 except the POP would occur.

2.2.4 ALTERNATIVE C

Construct New HQ in Area 2 and Reconfigure Existing Main Gate Area

Under Alternative C, the elements of construction and demolition are the same as under Alternative B. However, the HQ would be constructed in Area 2 under this alternative. Area 2 is a relatively large, flat area of open and non-forested land in the northeast corner of WB that is topographically isolated from the rest of the site due to its lower elevation. Area 2 contains the largest contiguous area available for development on WB, and provides adequate space to construct either a one or two-story building of the necessary size. The area is also directly accessible through an existing auxiliary gate at the eastern end of the south perimeter fence adjacent to Newkirk Road.

2.2.5 ALTERNATIVE D

Construct New HQ in Area 3 and Reconfigure Existing Main Gate Area

Under Alternative D, the elements of construction and demolition are the same as under Alternative B, however, the HQ would be constructed in Area 3, on a topographically elevated site near the main gate area on the south side of WB.

2.2.6 ALTERNATIVE E

Construct New HQ in Area 4 and Reconfigure Existing Main Gate Area

Under Alternative E, the elements of construction and demolition are the same as under Alternative B, except that the HQ would be constructed in Area 4, which is located on generally flat ground on the western side of WB that contains the site's largest expanse of Ponderosa pine forest. Area 4 provides several sufficiently large potential building sites, although proximity to dirt roads and the site perimeter could trigger setback constraints that would limit the size and configuration of the HQ.

2.2.7 ALTERNATIVE F

Demolish Buildings 1 & 2, Remodel/ Expand Building 3, and Reconfigure Existing Main Gate Area

Under this alternative, Buildings 1 and 2 would be demolished as under the other Action Alternatives. However, Buildings 3 and 8 would be remediated for lead-based paint and/or asbestos as required, then remodeled and expanded, along with existing infrastructure, to meet project objectives and mission requirements. Reconfiguration of the main gate area would occur as under all other action alternatives.

2.3 ALTERNATIVES NOT CARRIED FORWARD FOR EVALUATION

Demolish Buildings 1 and 2, Remodel/Expand Building 3, and Reconfigure Existing Main Gate Area

Applying the selection standards to Alternative F results in its elimination from further evaluation under this EA. Current DOD policy prohibits the use of capital investment to sustain, repair, or modernize buildings that are out of date and inefficient. Because Buildings 1, 2, and 3 are operating under waivers for fire protection and force setback, they are ineligible for expansion (AFI 32-1032 (5.1), AFI 32-1021 (Chapter 4), 10 USC 2805, and AFI 65-601). Instead, current policy directs removal of these obsolete buildings when possible to improve the efficiency and lessen the environmental impacts of governmental operations (HQAMC 2011).

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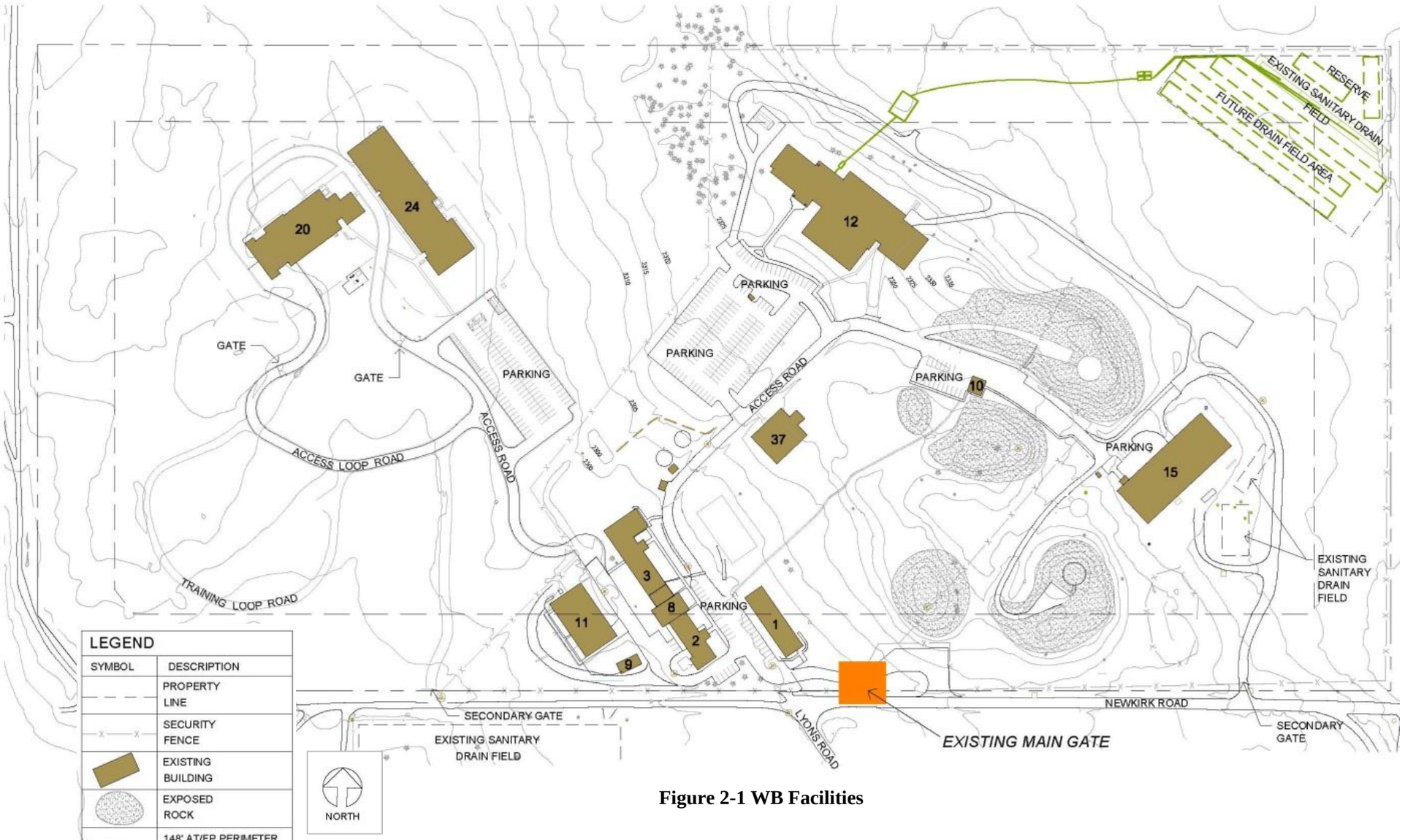

Figure 2-1 WB Facilities

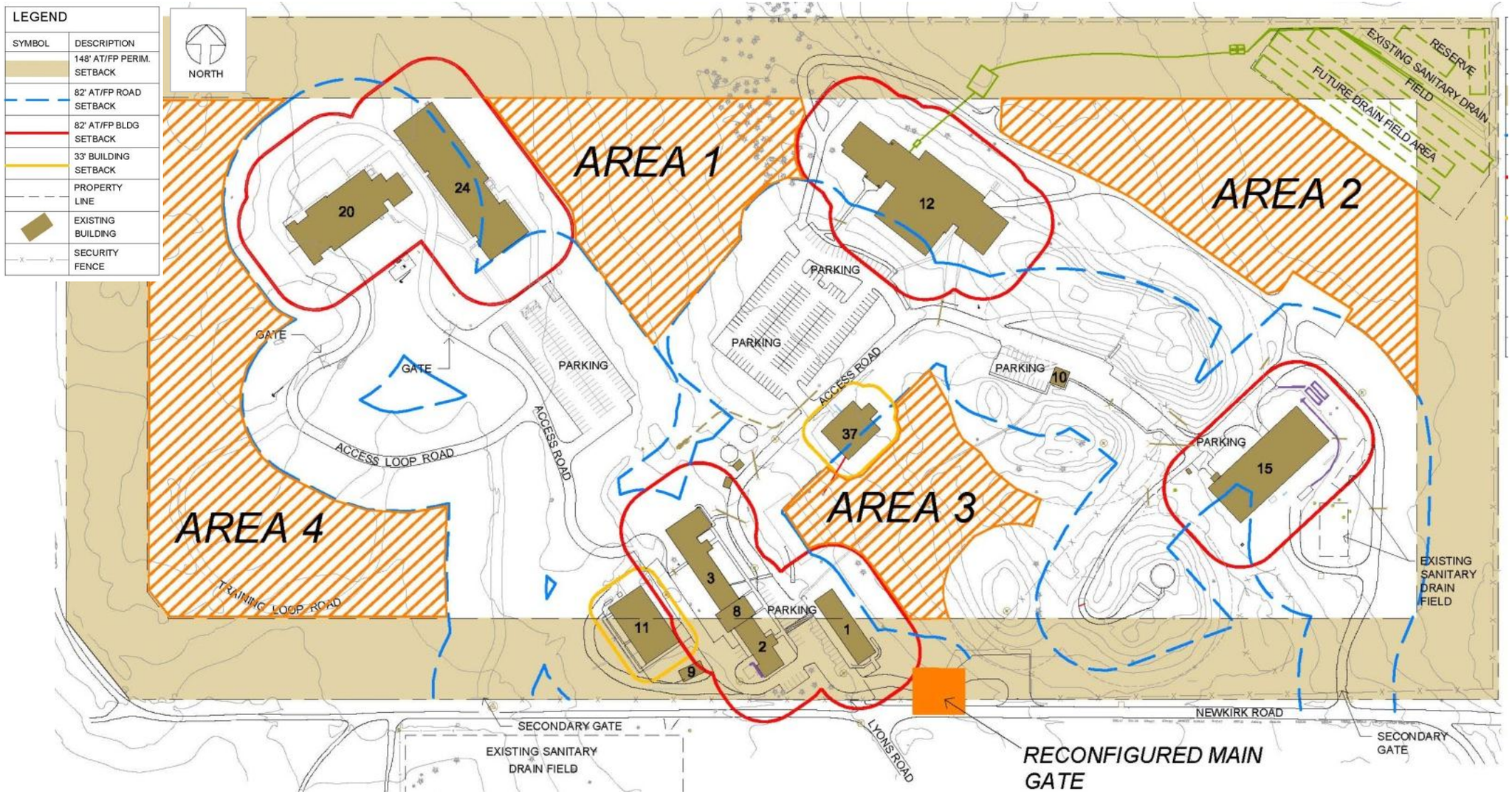

Figure 2-2 Constraints Boundaries and Alternative Siting Locations (Areas 1-4)

3.0 AFFECTED ENVIRONMENT

3.1 GEOLOGICAL RESOURCES

WB rests primarily within a 92-acre parcel that comprises the southern half of the southwest quarter of Section 36, Township 26 North, Range 41 East of the Willamette Meridian. Developed portions of the site are limited to the rectangular 92-acre parcel, which is generally oriented lengthwise east-west. The facility is located amongst sparse rural farmsteads and agricultural fields approximately four miles west of the municipal boundaries of Spokane. The area is characterized by gently undulating hills.

The elevation of the facility varies from approximately 2,280 feet above mean sea level (MSL) to about 2,340 feet MSL. The topography of the site descends generally to the southwest. A northwest-southeast-oriented ridge of land is located on the eastern half of the site. South of the ridge is a basalt outcrop that is the highest point on site. This southern outcrop once included communication equipment, the foundations of which still remain. The northeast corner of the site consists of flatland with slight depressions. The northeast corner is the lowest elevation area within the site and functions as the facility's primary onsite septic drain field. The topography on this eastern portion of the site descends to the northeast.

The facility rests over the northern edge of an area loosely termed the Columbia Plateau, which is an area of gently undulating or flat lands covering approximately 62,900 square miles in eastern Washington, western Idaho and northeast Oregon (Tolan *et al.*1989). Plateau geology consists of layers upon layers of basalt from intermittent Miocene-era fissure volcano eruptions. These events occurred over thousands of years and thousands of square miles throughout eastern Washington, and pushed the Spokane River north to its present location. Generally, the plateau is level, although folding occurred in northern sections near Spokane.

The landscape of the area was further affected by repeated glacial flooding resulting from catastrophic breakage of an ice dam at Lake Missoula. The dam, located near the present day mouth of the Clark Fork River on Lake Pend d'Oreille, repeatedly formed and failed as many as 100 times between 15,000 and 12,000 years ago. Each failure resulted in widespread flooding across the plateau in eastern Washington (Eliot *et al.* 1986). The floods scoured the landscape of soil, leaving bare basalt in many areas. Mazama ash and windblown silt, termed loess, have since settled on the landscape, and helped to define the Channeled Scablands of eastern Washington, which describes the general physiognomy of the area.

The primary geology on site includes basalt of the Columbia River Basalt Group (CRBG). Shallow basalt is known as the Priest Rapids member (Tvwp-R3) of the Wanapum Basalts in the Yakima Subgroup of the CRBG. This is a fine to coarse-grained basalt flow with olivine and plagioclase phenocrysts commonly visible in a hand specimen. The Priest Rapids member is distinguished in part due to reverse magnetic polarity. The Wanapum overlies the larger Grand Ronde Basalt (N2) unit and, when present, the lakebed sediments of the Latah Formation (Swanson *et.al.* 1989, Derkey 1997).

In the Spokane area, the Priest Rapids member forms prominent rim rock and steep cliffs, commonly with well-developed columnar jointing. This geology is somewhat exposed southwest of the site along the ridgeline overlooking Deep Creek. Priest Rapids basalt outcrops occasionally on site, but is mostly overlain by flood deposits and gravel resulting from Quaternary (Pleistocene) glacial and periglacial deposits from glacial Lake Missoula flooding. This material is capped by overlain loess and ash.

Locally, the Wanapum basalts are about 160 to 190 feet thick and are referred to as "Basalt A", and the underlying Grand Ronde formation basalts are referred to as "Basalt B." The basalt A/B contact is marked by an interbed of low permeability silty clay claystone that varies from several feet to over 40 feet in

thickness in the area (CH_2M Hill 2000). It is probable that the claystone is part of the Latah Formation identified above. The basalt flows are underlain by massive granitic rock.

3.1.1 SOILS

The facility is primarily overlain by soil of the Hesseltine-Cheney-Uhlig association. These are moderately deep to shallow, gravelly or rocky soils of the Channeled Scablands. The association is on broad basaltic outwash plains south of the Spokane River, mostly in the western and southwestern parts of the county at elevations from about 2,300 to 2,500 feet. The annual precipitation is 16-20 inches.

Cheney, Hesseltine, and Uhlig soils are well-drained and medium-textured, and are underlain by gravel, cobblestones or basalt. In winter and spring these soils are saturated and the potholes, depressions, and drainageways are ponded. These shallow upland soils dry out rapidly. The frost-free season is approximately 125-140 days. The Soil Survey of Spokane County (SCS 1968) lists six specific soil types at WB. Table 3-1 below lists the soil types identified on site, the associated approximate acreages, and topographic positioning. Figure 3-1 shows 1986 SCS soil mapping over a 1950 aerial photograph.

Table 3-1 Soil Types in the Study Area

Taxonomy/Slope	Mapping Unit ID	Topographic Position on Site
Hesseltine silt loam, 0 to 10% slopes	HnB	Undulated western portion and far eastern property edge
Cheney and Uhlig silt loam, 0 to 8% slopes	CnB	Eastern lowlands
Hesseltine very rocky complex, 0 to 30% slopes	HvC	East central ridge
Hesseltine stony silt loam, 0 to 20% slopes	HsB	West and south edges, and two inclusions west and southwest of RTL building
Hesseltine extremely rocky complex, 0 to 30% slopes	HxC	North central property edge, northwest of JPRTF building
Uhlig silt loam, 0 to 5 % slopes	UhA	Southeastern lowland property edge

Hesseltine Series Soils. This soil is extensive in the Channeled Scablands, and formed in glacial outwash mixed in the upper part with loess and volcanic ash, under ponderosa pine and grass. These soils are primarily used as woodland.

In a representative profile, from 0 to 6 inches below ground surface (bgs), Hesseltine soil includes dark brown friable silt loam; granular structure in the upper three inches, and is slightly acidic to neutral in pH. From 6 to 17 inches bgs, this soil is dark brown, firm silt loam, gravelly below a depth of 13 inches; breaks into quarter inch to half inch subangular blocks, and is neutral. From 17 to 36 inches bgs, this soil

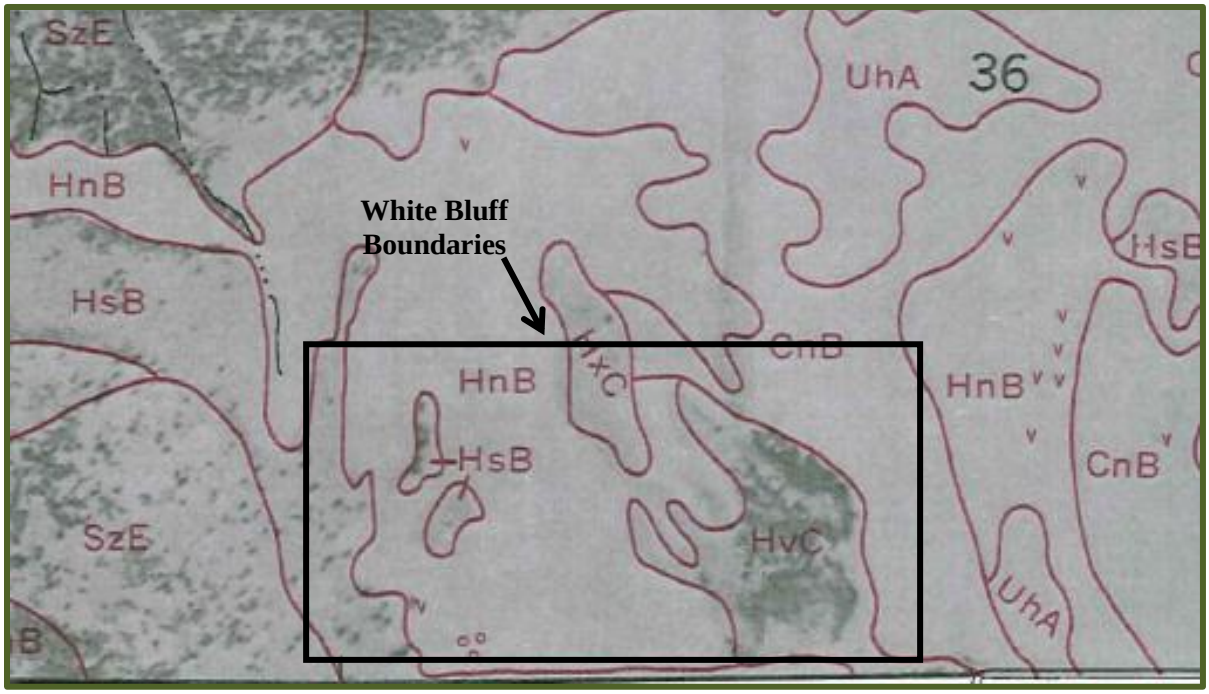

Figure 3-1 Soils Map

is multicolored, very gravelly, cobbly, and stony coarse sandy loam. From 36 to 60 inches bgs and beyond (when present), the profile includes gravel, cobblestones, and stones, and is nearly free of finer material.

- **Hesseltine Silt Loam**. This soil is a well-drained, medium textured soil underlain by sand, gravel, and cobblestones at a depth of 12 to 36 inches. Most slopes are between 4 and 8 percent. Bedrock is present in areas at depths of 20 inches.
- **Hesseltine Very Rocky Complex.** From 25 to 50 percent of this mapping unit consists of basalt rock outcrops and unnamed very stony, very shallow soils. Most of the rest is Hesseltine silt loam that has a slope range of 0 to 10 percent. Steeper areas of Hesseltine soils and a few small areas of the poorly drained Cocolalla soils were included in this unit.
- **Hesseltine Stony Silt Loam.** This soil is listed as too stony for cultivation purposes. Approximately 10 percent of this soil consists of basalt rock outcrops or of Hesseltine gravelly loam that has a slope range of 0 to 10 percent.
- **Hesseltine Extremely Rocky Complex.** From 60 to 80 percent of this unit consists of basalt rock outcrops and unnamed very stony, very shallow soils. Included in mapping were areas of steeper Hesseltine soils. Steeper areas of Hesseltine soils and a few small areas of the poorly drained Cocolalla soils were included in this unit. This complex of soils is used for grazing and the production of ponderosa pine.

Cheney Series Soils. This series consists of well-drained, medium-textured, mostly gravelly or stony soils underlain by coarse sand, gravel, or cobblestones at a depth of 20 to 40 inches. These soils formed under grass in glacial outwash mixed with loess and volcanic ash. They are nearly level to moderately steep.

In a representative profile, from 0 to 14 inches bgs, the soil is very dark brown, very friable silt loam; granular structure in the upper 10 inches; and pH neutral. From 14 to 28 inches bgs, the soil is dark

brown, very friable silt loam; neutral. From 28 to 35 inches bgs, the soil is a dark brown, loose and very gravelly sandy loam with mild alkalinity. From 35 inches and beyond, the profile consists of nearby clean gravel and cobblestones.

- **Cheney and Uhlig Silt Loam.** This soil consists of well-drained, medium-textured, mostly gravelly or stony soils underlain by coarse sand, gravel, or cobblestones at a depth of 20 to 40 inches. These soils formed under grass in glacial outwash mixed with loess and volcanic ash. The CnB soil is the dominant soil on the grassland of the glacial outwash plan in the western and southwestern parts of the county. Most slopes are between 3 and 8 percent.

Uhlig Series Soils. This series consists of dark-colored, well-drained, medium-textured soil. These soils are very deep, but bedrock is at a depth of 30 to 40 inches in some places. These soils formed under grass in glacial till mixed in the upper part with loess and volcanic ash. They occupy gently sloping to moderately steep uplands. Most slopes are between 6 and 10 percent. Lime can occur within the profile at depths of 36 inches. The soil is well-drained and moderately permeable.

In a representative profile, from 0 to 4 inches the soil is black, very friable silt loam; granular structure; and medium acidic. From 4 to 18 inches bgs, the soil is very dark gray, very friable silt loam above a depth of 10 inches; breaks into plates that are a sixteenth to three-eighths of an inch thick, slightly acidic; very dark brown, very friable loam below a depth of 10 inches, which is pH neutral. From 18 to 42 inches bgs, the soil is a dark brown, firm loam, friable below a depth of 32 inches; breaks into subangular blocks 1.2 to 1-inch wide; and pH neutral. From 42 to 60 inches bgs, the soil is brown, very friable fine sandy loam; neutral.

- **Uhlig Silt Loam.** This soil has a surface layer three to five inches thicker than that of the typical profile above, and the depth to lime is more than 60 inches. Surface runoff is slow, and the erosion hazard is slight.

The Hesseltine, Cheney, and Uhlig series soils do not appear limited in capability to support structures such as roadways and buildings, although with any construction, adequate geotechnical analysis is recommended beforehand. Hesseltine soils can include basalt bedrock at or near the surface. The Cheney-Uhlig series appear to include deeper soils; however, drainage is moderate and the surface runoff is slow. None of these soils was included on the Spokane County hydric soils list for wetlands, with exception of Hesseltine very rocky complex, 0 to 30 percent slopes (HvC), where rock outcrops can occur as depressions and include Cocolalla soils. This condition was not observed during reconnaissance of WB. Soil resources do not appear to pose significant constraints to development on site.

3.2 LAND USE

Land use refers to real property classifications that indicate either natural conditions or the types of human activity occurring on a parcel. The main objectives of land use planning are to ensure orderly growth and the arrangement of compatible activities in the most functionally effective and efficient manner (USAF 1998). The highest and best uses of real property are obtained when compatibility among land uses fosters societal interest and mission success, and provide the greatest security. The existing facilities at WB can be divided into Administrative, Industrial, Community, Outdoor Recreation and Open Space classifications.

The surrounding property is privately owned in single family residences, and platted for 10-acre parcels that have been zoned rural traditional and rural conservation. Private residences are sparse within a half-mile radius of the facility, and the nearest residences occur to the south and east of the facility. This low-

density residential development has slowly become established around the WB site over the last 10 years. There are no industrial or commercial land uses within a one-mile radius. Farming activities appear to occur where land has been cleared to the north of the facility. The nearest cities to the facility are Airway Heights and Spokane. Riverside State Park lands are roughly one mile north of the facility.

Currently, on-site perimeter land uses in violation of the AT/FP setback guidance include Buildings 1 and 2. Buildings 8, 9, and 11 are located within the existing perimeter setback, but are not subject to setback requirements since they are not occupied.

3.3 AIR QUALITY

WB is within the Eastern Washington-Northern Idaho Interstate Air Quality Control Region (AQCR) 62. The Washington State Department of Ecology (DOE) provides for systematic control of air pollution from air contaminant sources and for the proper development of the state's natural resources. It has established technically feasible and reasonably attainable standards and rules generally applicable to the control and prevention of the emission of air contaminants. DOE also conducts ongoing air quality monitoring throughout the state.

Federal and state air quality regulations that apply to the study area include the Environmental Protection Agency's (EPA) National Ambient Air Quality Standards (NAAQS), DOE air quality rules (WAC Chapter 173-400), and the Washington State Clean Air Act laws (Chapter 70.94 RCW). The standards set by NAAQS include criteria limits for carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), coarse and fine particulate matter (PM10 and PM2.5), ozone (O), and sulfur dioxide (SO_2). Of the criteria pollutants, the two that are of concern in the Spokane area are ozone and PM10. Criteria for ozone and PM10 have not been attained in the past, and as a result, Nonattainment Area Maintenance or Limited Maintenance Plans have been developed for the area. However, according to the Spokane Regional Clean Air Agency (SRCAA), WB is not within the established ozone or PM10 maintenance boundaries and shows overall attainment of air quality criteria (SCRAA 2012).

Although air quality concerns are present in the nearby Spokane area, air quality within the project vicinity is considered good and is in attainment of all applicable air quality criteria. The closest monitoring station to the project area is at the Airway Heights (12824 W 12th Ave) Station, where the monitored pollutant is PM2.5. In the past year, the air quality index, which provides a number between 0-100 to indicate level of attainment, has remained in the highest quality category of "good" with scores lower than 50 for the last two years (DOE 2012).

WB is part of the SRCAA registration program and is required to report on fuels and generator uses. As part of this program, JPRA has provided regular reports and is in compliance with SRCAA guidelines (Westby 2012). Annual inspections are also conducted by SRCAA for operations that may produce air quality concerns, including the presence of two USTs that store 30,000 gallons of diesel. JPRA has been in compliance and passed all SRCAA inspections conducted, including the most recent inspection completed within the last year (Westby 2012).

3.3.1 GREENHOUSE GAS EMISSIONS

Greenhouse gas emissions (GHG) are molecules that trap heat in the atmosphere. These include the most common GHGs emitted from human activities, such as carbon dioxide (CO_2), methane, and nitrous oxide. GHGs are produced by burning of fossil fuels and through industrial and biological processes. In September 2009, the EPA issued a final rule for mandatory GHG reporting from large GHG emissions sources in the United States. The purpose of the rule is to collect comprehensive and accurate data on CO_2 and other GHG emissions that can be used to inform future policy decisions. In general, the threshold for

reporting is 25,000 metric tons or more of CO_2 equivalent emissions per year but excludes mobile source emissions. In addition, the White House Council on Environmental Quality issued draft NEPA guidance in February 2010 regarding the inclusion of analysis of GHG emissions in NEPA documents. The guidance indicates 25,000 metric tons of directCO_2-equivalent GHG emissions could provide a useful, presumptive, threshold for discussion and disclosure of GHG emissions. However, the guidance does not propose this as an indicator of a threshold of significant effects, but rather as an indicator of a minimum level of GHG emissions that could warrant some description in the appropriate NEPA analysis involving direct emissions of GHGs.

GHG emissions are also factors in prevention of significant deterioration (PSD) and Title V of the Clean Water Act (CWA) permitting and reporting, according to a EPA rulemaking issued on 3 June 2010 (75 FR 31514). GHG emissions thresholds of significance for permitting of stationary sources are 75,000 tons CO_2 equivalent per year and 100,000 tons CO_2 equivalent per year under these permit programs.

Federal Leadership in Environmental, Energy, and Economic Performance, (Executive Order 13514) was signed in October 2009 and requires agencies to set goals for reducing GHG emissions. This requires development and implementation of an agency Strategic Sustainability Performance Plan (SSPP) that prioritizes agency actions based on lifecycle return on investment. On 26 August 2010, DOD released its SSPP to the public. This implementation plan describes specific actions the DOD will take to achieve its individual GHG reduction targets, reduce long-term costs, and meet the full range of goals of the EO. All SSPPs segregate GHG emissions into three categories: Scope 1, Scope 2, and Scope 3 emissions. Scope 1 GHG emissions are those directly occurring from sources that are owned or controlled by the agency. Scope 2 emissions are indirect emissions generated in the production of electricity, heat, or steam purchased by the agency. Scope 3 emissions are other indirect GHG emissions that result from agency activities but from sources that are not owned or directly controlled by the agency. The GHG goals in the DOD SSPP include reducing Scope 1 and Scope 2 GHG emissions by 34 percent by 2020, relative to FY 2008 emissions, and reducing Scope 3 GHG emissions by 13.5 percent by 2020, relative to FY 2008 emissions.

3.4 WATER RESOURCES

WB is located within a Water Resource Inventory Area (WRIA), which is an area formalized under the Washington Administrative Code (WAC) 173-500-040, and authorized under the Water Resources Act of 1971 as part of RCW 90.54. This WRIA includes the lower Spokane River.

Deep Creek is the closest permanent surface water to WB and is located approximately 1,200 feet to the west. Storm water runoff leaving WB eventually reaches Deep Creek or percolates into groundwater. There are no surface water features within the WB installation.

WB is not listed within a Federal Emergency Management Agency (FEMA)/Federal Insurance Rate Map (FIRM) “Special Flood Hazard Area” that would include a 100- or 500-year floodplain. No FEMA-associated flood hazards are applicable to water management on site.

3.4.1 GROUNDWATER

Groundwater present in the Spokane area occurs as part of or adjacent to the Spokane Valley-Rathdrum Prairie Aquifer (Spokane Aquifer Joint Board 2012). Ongoing monitoring of wells drawing water from this aquifer shows that nitrates are the primary concern. Other contaminants found have included traces of phosphorous, petroleum products, heavy metals, and industrial chemicals. However, overall the water quality of the aquifer is good. At WB, shallow groundwater or nuisance water can rest near the surface as a result of loess or ash deposits that coats regional basalts. Deeper groundwater on site rests within the

fissures and cracks in the basalt substrate, and within paleo-lacustrine depositional sediments resting between layers of basalt.

3.4.2 WELL WATER QUALITY

Two wells occur on site including the WB well with an Ecology tag of ACW896, and a USGS well with a site number of 474211117342401. The WB well appears to have been installed in 1989 (Adams and Clark 1988), and the USGS well is dated 1 February 1956. It appears that the USGS well has a static water level of about 110 feet below ground surface (EDR 2012). No water quality violations were listed with regard to either well.

The WB well is tested periodically for water quality and adequate flow. On a yearly basis, a sample is taken and sent to the Washington State Health Department for analysis. These tests have not revealed any change in water quality throughout the testing. The well meter pump is monitored on a periodic basis and indicates a consistent flow rate of approximately 46 gallons per minute. The tank levels are also monitored on a daily basis. The normal drawdown in the tank is about 1.4 feet prior to the pump activating for refill. About 4.5 hours are required to refill the 1.4 feet of water in the tank. Water production has varied over the years due to additional irrigation and broken water pipes, but has averaged around 3,000,000 gallons annually in the last 5 years.

The USAF holds a water right for this property dated 21 April 1993 for up to 50 gallons per minute or 80 acre-feet per year for community supply, cooling supply, and stand-by fire protection. An additional water rights application was submitted to Ecology in June 2004, but to date the additional water right has not been granted. The lack of redundancy with a single well source for water can curtail operations if the well became nonfunctional. Although the single well is providing sufficient water and is in good operating order at WB, the status and performance of the well must be checked periodically to mitigate the lack of redundancy for a water source at WB.

3.4.3 STORM WATER

Storm water occurs as runoff from precipitation events (rain) or melting (snow). Runoff occurs from impermeable or semi-permeable natural and human-made surfaces such as buildings, outcrops, roadways, and even soil during rain-on-snow events or when saturation has occurred.

Low Impact Development (LID) best management practices (BMPs) for storm water management have been employed at WB, which have adequately protected facilities from extreme storm events. Such techniques generally include construction of roadside swales, ditches, and bio-infiltration swales. These devices retain water briefly where water can eventually evaporate or percolate into the ground. Several swales noted include drywell devices where the intake for the drywell is elevated above the floor of the pond. This is an LID technique to remove sediments and possible contaminants, and provides additional storage during significant rain events. Storm water is not conveyed from the site by engineered surface waterways or subsurface piping.

Storm water retention features were installed with the construction of Buildings 12, 20, and 24. Much of the storm waters created by Buildings 20 and 24 infiltrates into the adjacent landscape. Runoff from the roofs and paved areas associated with Buildings 1, 2, 3, and 8 flows offsite to the southwest toward a drainage ditch on the north side of Newkirk Road, which evaporates and infiltrates along the ditch line. Swales were noted on the west and east sides of Buildings 8 and 2. These swales were noted to include elevated drywells.

WB does not currently experience any storm water related problems. From discussions with base maintenance personnel there are no locations on site that exhibit ponding water at any time during the year. The site drains well for the following reasons (1) most of the property is located at a higher elevation than adjacent properties and storm water is directed to ditches along roads and fence lines away from facilities, and (2) low levels of annual precipitation.

3.5 BIOLOGICAL RESOURCES

Biological resources include vegetation, general wildlife species, and general and sensitive habitat types. Because the proposed action would occur within the WB footprint and would not affect sensitive biological resources outside of the footprint through increased noise, light emission, or human presence, the study area for biological resources is confined to the area within the perimeter fence.

3.5.1 VEGETATION

According to data compiled by the Washington Department of Natural Resources (DNR 2009), there are four dominant vegetation communities within the project area. These include Foothill and Canyon Dry Grassland, Columbia Plateau Scabland Shrubland and Introduced Upland Vegetation – Annual Grassland. Historically, the area would have primarily been considered Northern Rocky Mountain Ponderosa Pine Woodland and Savanna, some of which remains in the western part of the base. The following descriptions are from DNR (2009) and provide a general indication of the habitat types and species that may be present within each community.

Columbia Basin Foothill and Canyon Dry Grassland. This habitat type is characterized by patchy graminoid cover, cacti, and some forbs. *Pseudoroegneria spicata, Festuca idahoensis, Aristida purpurea* ar. *longiseta, Poa secunda* and *Opuntia polyacantha* are common species. Deciduous shrubs *Symphoricarpos* spp., *Physocarpus malvaceus, Holodiscus discolor, Rhus glabrum,* and *Ribes* spp. are infrequent native species that may increase with fire exclusion.

Columbia Plateau Scabland Shrubland. Total vegetation cover is typically low in this habitat type, generally less than 50% and often much less than that. Open dwarf-shrub canopy dominated by *Artemisia rigida* exists along with other shrub and dwarf-shrub species, particularly *Eriogonum thymoides, E. douglasii, E. sphaerocephalum, E. compositum, E. strictum,* and *E. niveum*. Other shrub species are uncommon. Low cover of perennial bunch grasses, such as *Danthonia unispicata, Elymus elymoides,* or *Poa secunda,* as well as scattered forbs, including species of *Allium, Antennaria, Balsamorhiza, Lomatium, Phlox,* and *Sedum*, characterize these sites. Individual sites can be dominated by grasses and semi-woody forbs, such as *Stenotus stenophyllus*. Annuals may be seasonally abundant, and cover of moss and lichen is often high in undisturbed areas (e.g. 1-60% cover).

Introduced Upland Vegetation – Annual Grassland. These vegetation communities have been introduced due to farming or agricultural practices. In some locations, disturbance has led to ruderal conditions, where dominant species are weedy or non-native.

Northern Rocky Mountain Ponderosa Pine Woodland and Savanna: *Pinus ponderosa* var. *ponderosa* is the predominant conifer in this habitat type; *Pseudotsuga menziesii* may be present in the tree canopy but is usually absent. The understory can be shrubby, with *Artemisia tridentata*, *Arctostaphylos uva-ursi*, *Cercocarpus ledifolius*, *Physocarpus malvaceus*, *Purshia tridentata*, *Symphoricarpos albus*, *Prunus virginiana*, *Amelanchier alnifolia*, and *Rosa* spp. being common. Understory vegetation in the true savanna occurrences is predominantly comprised of fire-resistant grasses and forbs that resprout following surface fires and shrubs; understory trees and downed logs are uncommon in these areas. These more open stands support grasses such as *Pseudoroegneria spicata*, *Hesperostipa* spp., *Achnatherum*

spp., *Festuca idahoensis*, or *Festuca campestris*. The more mesic portions of this system may include *Calamagrostis rubescens* or *Carex geyeri*, species more typical of Northern Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest.

Clockwise: Mature ponderosa pine behind young dense stands; young dense Ponderosa pine adjacent to recently graded land; introduced annual grassland; ruderal vegetation.

While onsite, biologists confirmed that vegetation within the installation resembles the vegetation communities described above. However, development and modification to the land within the installation has reduced, fragmented, and diminished the quality and quantity of these communities. Overall, the remaining vegetation is primarily comprised of immature dense stands of Ponderosa pine, expansive disturbed areas of non-native grasses, and areas of bare ground and ruderal vegetation. In all areas except for the Ponderosa pine stands, non-native weedy species are dominant. These species include musk thistle *(Carduus nutans),* Canada thistle *(Cirsium arvense),* diffuse knapweed *(Centaurea diffusa),* spotted knapweed *(Centaurea stoebe),* and Dalmatian toadflax *(Linaria dalmatica).*

3.5.2 WETLANDS

There are no wetlands at WB. This resource category is not discussed further in this document.

3.5.3 FISH AND WILDLIFE

According to the Washington State Department of Fish and Wildlife (WDFW), the project area includes priority habitat for Rocky Mountain mule deer (*Odocoileus hemionus hemionus*). This species, and other large mammal species, are unlikely to be found within the installation, since it is surrounded by a chain-link fence that would prohibit their entry. However, numerous other species that are typically found in developed or suburban areas, as well as grasslands and pine forests, are likely to occur on-site on an occasional basis. These species may include wild turkeys, American badgers, coyotes, pocket gophers, and various species of mice and voles. Migratory bird species such as golden eagles, turkey vultures, grasshopper sparrows, and burrowing owls may forage on the facility, but only smaller passerines would possibly nest there. Burrowing owls may occupy gopher and ground squirrel holes in grassland habitat, of which an area of approximately 7 acres occurs in the north-central part of the site. There are no water features onsite and therefore no fish are present.

3.5.4 SPECIES OF CONCERN

Species of concern are those that are listed as endangered, threatened, or candidate species or species of concern under the federal Endangered Species Act (ESA) (16 USC §1531 et seq.); protected under the Migratory Bird Treaty Act (MBTA) (16 USC 703-712; Ch. 128; July 13, 1918; 40 Stat. 755); or protected under the Washington Endangered, Threatened, and Sensitive Wildlife Species Classification Rule (WAC 232-12-297).

Federal and state listed species or species of concern that may occur in the WB region of influence (ROI) are listed in Table 3-2. Species protected under the MBTA are too numerous to list, but may occur on an

Table 3-2 Sensitive Species Possibly Occurring in Project Area

Common Name	Scientific Name	Federal Status	State Status
Birds			
Bald eagle	*Haliaeetus leucocephalus*	None	S
Burrowing owl	*Athene cunicularia*	SOC	C
Ferruginous hawk	*Buteo regalis*	SOC	T
Loggerhead shrike	*Lanius ludovicianus*	SOC	C
Northern goshawk	*Accipiter gentilis*	SOC	C
Olive-sided flycatcher	*Contopus cooperi*	SOC	None
Peregrine falcon	*Falco peregrinus*	SOC	S
Mammals			
Long-eared myotis	*Myotis evotis*	SOC	None
Townsend's big-eared bat	*Corynorhinus townsendii pallescens*	SOC	C
Plants			
Idaho gooseberry	*Ribes oxycanthoides* ssp. *irriguum*	None	S

C: Candidate, SOC: Species of Concern, SS: State Sensitive, T: Threatened. Sources: USFWS 2012, Selser 2012, WDFW 2012.

occasional basis. However, due to extensive development of much of the installation, lack of appropriate habitat, fragmentation of remaining habitat types, and disturbance of native habitats by vehicular use, few of these species are likely to be found within the boundaries of the base, except on an occasional basis as they forage or migrate through the area. Some nesting or roosting habitat may occur in the stands of

Ponderosa pines located at the western end of the installation, and ground nesting birds may find some suitable habitat in the north-central part of the installation, west of Building 12. Potential habitat for Idaho gooseberry may also occur in the Ponderosa pine stands.

3.6 CULTURAL RESOURCES

Cultural resources include prehistoric and historical archaeological sites, buildings, structures, districts, artifacts, objects or any physical evidence of human activity considered important to a culture, subculture or community for scientific, traditional, or religious purposes. Cultural resources may include archaeological resources, which are locations where prehistoric or historic activity measurably altered the earth or produced deposits of physical remains (e.g., arrowheads, bottles); historic architectural resources, which include standing buildings, dams, canals, bridges, and other structures of historic or aesthetic significance; and traditional resources, which are associated with cultural practices and beliefs of a living community that are rooted in its history, and are important in maintaining the continuing cultural identity of the community.

A reconnaissance level cultural resources survey was completed for the eastern half of WB (Salo, 1985). One documented site (45SP90) was identified as pre-historic and potentially of importance, but that site does not occur within any of the proposed development areas. The site is being further evaluated as an archaeological site and current understanding is that it will be ineligible for listing on the National Register (Selser, 2012).

A recent historical resource survey has been completed at WB (Heritage Consulting Group, 2008). Under this survey, Section 106/110 consultation with the State Historic Preservation Office (SHPO) on 9 December 2008 concluded that none of the resources were individually eligible for listing and that the entire complex as a whole was ineligible for listing as a historic district (DAHP, 2008).

3.7 NOISE

Applicable noise regulations for the study area are provided by the Federal Noise Control Act of 1972, Washington State Laws and Rules (Chapter 70.107 RCW, Chapter 46.09 RCW, Chapter 173 WAC), and the City of Spokane Municipal Code (Title 10, Chapter 10.08.020).

Under the Noise Control Act, the EPA has established noise guidelines and regulations for the purpose of protecting citizens from potential hearing damage and from various other adverse physiological, psychological, and social effects associated with noise. Noise impacts can threaten personal safety, if noise masks warning signals such as sirens, bells, or horns, or if loud or persistent noises cause hearing pain or damage.

Sound is measured in decibels (dB) and weighted based on frequency; dBA is the weighted sound measurement that represents the range of human hearing. A whisper is normally 30 dBA and considered to be very quiet while an air conditioning unit 20 feet away is considered an intrusive noise at 60 dBA. Noise levels can become annoying at 80 dBA and very annoying at 90 dBA. To the human ear, noise can become harmful at 85 dBA and each 10 dBA increase seems twice as loud (EPA 1981).

Measurements considered when determining noise impacts include the Day-Night Average Sound Level (DNL) and peak sound levels. A peak sound level is a single noise event and is the estimated maximum noise level that is heard during the event. DNL is the federally designated metric for measuring noise impacts because it represents a daily average. DNL represents the average dBA for a one day period.

The Federal Interagency Committee on Noise developed land use compatibility guidelines for noise in terms of DNL (FICON 1992). USAF, FAA, and the U.S. Department of Housing and Urban Development (HUD) criteria specify that noise levels in noise-sensitive land use areas are normally considered unacceptable where they exceed a DNL of 65 dBA. According to the USAF, FAA, and HUD criteria, residential units and other noise-sensitive land uses are "clearly unacceptable" in areas where the noise exposure exceeds 75 dBA DNL, "normally unacceptable" in regions exposed to noise between 65 and 75 dBA DNL, and "normally acceptable" in areas exposed to noise of 65 dBA DNL or less. For outdoor activities, the EPA recommends 55 dBA DNL as the sound level below which there is no reason to suspect that the general population would be at risk from any of the effects of noise (EPA 1974).

Under the Noise Control Act, the Occupational Safety and Health Administration (OSHA) established workplace standards for noise. The minimum requirement states that constant noise exposure must not exceed 90 dBA over an 8-hour period. The highest allowable sound level to which workers can be constantly exposed is 115 dBA and exposure to this level must not exceed 15 minutes within an 8-hour period. The standards limit instantaneous exposure, such as impact noise, to 140 dBA. If noise levels exceed these standards, employers are required to provide hearing protection equipment that will reduce sound levels to acceptable limits (29 CFR Part 1910.95).

Noise regulations for Washington State are provided in Title 173 of the Washington Administrative Code (WAC), Chapter 60: Maximum Environmental Noise Levels. This code includes limits for several types of environments. However, sound originating from temporary construction activity, sound created by blasting, sound created through training exercises or other activities on the installation, and sound created by repair of essential utility services are all exempt between the hours of 7:00 am and 10:00 pm (Washington State 2012).

The Spokane County Code of Ordinances states that it is unlawful for any person to make a sound which creates a noise disturbance (Spokane County 2011a). However, per Section 612.20: Exemptions (Spokane County 2011b), sounds originating from temporary construction sites as a result of construction activity are exempt between the hours of 7:00 a.m. and 10:00 p.m. or when conducted more than 1,000 feet from any residence where humans reside.

Ongoing noise generation primarily results from onsite automobile traffic, and the use of power generators. The only possible sensitive noise receptors in the area include residences, which occur in low density. Near WB cumulative noise levels are attributed to seasonal farming activity, light vehicular movement on secondary roads, and occasional overhead aircraft utilizing FAFB and Spokane International Airport. Commercial aircraft flight patterns do not pass over the facility.

3.8 HAZARDOUS AND TOXIC WASTES AND MATERIALS

Hazardous materials are defined by 49 CFR 171.8 as hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (49 CFR 172.101), and materials that meet the defining criteria for hazard classes and divisions in 49 CFR Part 173. Transportation of hazardous materials is regulated by the U.S. Department of Transportation regulations within 49 CFR Parts 105-180.

Hazardous wastes are defined by the Resource Conservation and Recovery Act (RCRA) at 42 USC 6903(5), as amended by the Hazardous and Solid Waste Amendments, as "a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential

hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed."

Special hazards are those substances that might pose a risk to human health and are addressed separately from other hazardous substances. Special hazards include asbestos-containing materials and lead-based or lead-containing paint. The EPA is given authority to regulate these special hazard substances by the Toxic Substances Control Act (TSCA) Title 15 USC Chapter 53. TSCA Subchapter I identifies polychlorinated biphenyls (PCBs), Subchapter II handles ACMs, and Subchapter IV discusses lead based paint. The EPA has established regulations regarding asbestos abatement and worker safety under 40 CFR Part 763 with additional regulation concerning emissions (40 CFR Part 61). Whether from lead abatement or other activities, depending on the quantity or concentration, the disposal of the LBP waste is potentially regulated by the RCRA at 40 CFR Part 260. The disposal of PCBs is addressed in 40 CFR Parts 750 and 761.

Hazardous materials are managed at WB through implementation of the Hazardous Waste Management Plan, which complies with 40 CFR Parts 260 to 272 and is required under AFI 32-7042. The plan prescribes the roles and responsibilities of all personnel at WB with respect to the waste stream inventory, waste analysis plan, hazardous waste management procedures, training, emergency response, and pollution prevention. In addition, the plan establishes procedures to comply with applicable Federal, state, and local standards for solid waste and hazardous waste management.

Congress formally established the Environmental Restoration Program (ERP) in 1986, which requires each military installation to identify, investigate, and clean up contaminated sites. AFPD 32-70, Environmental Quality, and the AFI 32-7000 series incorporate the requirements of all Federal regulations, and other AFIS and DOD directives for the management of hazardous materials, hazardous waste, and special hazards. Evaluation extends to generation, storage, transportation, and disposal of hazardous wastes.

Baseline surveys for hazardous materials were conducted onsite in 1992 and 1996 and found no hazardous materials of concern. Use of petroleum products onsite including diesel fuel, heating oils, hydraulic fluids, and lubricating oils for generators and air compressors was reported in a 1999 EA, though no potential concerns were noted (FAFB1999). Lands acquired subsequent to these studies have also been evaluated for hazardous materials (Corps 2005). An Environmental Baseline Survey (EBS) done in 2002 showed no hazardous materials of concern onsite and has subsequently been recertified in 2003 and 2007 (DNR 2007).

A recent review of a government clearinghouse database of hazardous materials did not result in the identification of any sites of interest from within the installation (EDR 2012). However, one record was reported under local lists of hazardous waste and contaminated sites, but does not specify the nature of the hazardous waste, its location, or its current condition. This apparent state-listed database entry was investigated further with Ecology's Eastern Regional Office database manager. Ecology indicated that no Hazardous Waste inspection file exists for the site, and that the referenced "Tier 2" entry on the facility site database is a generic regulatory requirement, and apparently not representative of actual hazardous waste generation. Base personnel interviewed for this report do not have institutional knowledge of any special hazardous waste designation.

Special hazards are assumed to be onsite within buildings including lead-based paint, asbestos-containing materials, PCB light ballasts, and mercury within older fluorescent light fixtures. Specific asbestos-containing materials were noted during interviews with WB personnel. The underlayment and insulation in buildings that include flat gravel-style roofs was reported to include asbestos, and the pipe wrap near the 250kW generator also reportedly contains asbestos. However, until sampling can be completed to

prove otherwise, it is generally considered that all building materials other than wood, steel, or glass are asbestos-containing materials. Similarly, there are many structures on site that were reportedly constructed in the 1950s and that likely have been painted with lead-based paint. While latex paint is the only variety of paint used and stored on site currently, it is prevailing practice to consider any building constructed prior to 1979 as likely to contain at least a substrate of lead-based or lead-containing paint. Other types of hazardous materials used at White Bluff include vehicle maintenance and facility maintenance products and chlorine used for water treatment.

As noted previously, there are five standby generator systems on site that provide backup power and utilize fuels. At the south end, a 250kW emergency/stand by generator/fuel tank system serves Buildings 2, 3, and 11. At the north end, a 750kW generator and fuel tank system serves Building 15. A 400kW generator serves Building 12 and a 30kW generator serves Building 1. A new 750kW generator-set was installed for buildings 20 and 24 in 2011. Several of these generator sets include belly tanks, which are considered above-ground petroleum storage tanks (ASTs). These tanks include one 1,100-gallon diesel tank, one 2,400-gallon diesel tank, and an 80-gallon diesel tank that are connected to their respective generators. A singular 1,100-gallon AST on site includes heating oil. The AST supplies an oil-fired boiler that heats Buildings 1, 2, 3, and 8.

Each of the ASTs and underground storage tanks (USTs) on site are monitored regularly and have no history of leakage. Furthermore, it is reported that the base rules require that only low sulfur fuel be added to ASTs and USTs, and that ASTs and USTs on site can only be filled to 90 percent of their engineered capacities.

Minor amounts of hazardous materials may be used at a woodshop at the facility, but are present as commercially-available small quantity containers. Paint, biocides, a limited amount of gasoline for lawn mowing and similar activities, and oil are occasionally used. These materials are reportedly stored within fire lockers on site and are listed with the local fire department.

3.9 SAFETY AND OCCUPATIONAL HEALTH

Human and occupational health addresses workers' health and public safety during operation, demolition, and construction activities. Onsite health and safety considerations are safeguarded by numerous DOD and USAF regulations designed to comply with standards issues by the Occupational Safety and Health Administration (OSHA) and EPA. These standards specify the amount and type of training required for industrial workers, the use of protective equipment and clothing, engineering controls, and maximum exposure limits for workplace stressors.

The USAF Mishap Prevention Program (AFI 91-202) outlines the Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Program, which implements Safety Programs (AFPD 91-2) and Occupational Safety and Health (AFPD 91-3). It establishes mishap prevention program requirements (including the Bird Aircraft Strike Hazard Program), assigns responsibilities for program elements, and contains program management information. The purpose of the AFOSH Program is to minimize loss of USAF resources and to protect USAF personnel from occupational deaths, injuries, or illnesses by managing risks.

Operations safety guidelines are strictly followed at WB and personnel are regularly briefed on hazards and safety concerns existing in their particular workplace. Potential health and safety hazards occur at WB on a daily basis, and as a result of construction, operations, and maintenance of facilities. Day-to-day risks include exposure to noise, chemicals (e.g. petroleum products), airborne particles (e.g. dust), and machinery (e.g. vehicles or workshop tools).

At WB, industrial hygiene programs address exposure to and protection from applicable hazardous materials or airborne particles through use of personal protective equipment and availability of Material Safety Data Sheets. Safe use of machinery is part of the required training for any personnel using such machinery at WB. Vehicle safety parameters for operation and maintenance are strictly enforced onsite.

Construction and demolition safety guidelines are also strictly followed by WB personnel and construction contractors. All contractors performing construction and demolition activities are responsible for following ground safety regulations and workers compensation programs and are required to conduct activities in a manner that does not pose any risk to workers or personnel. Contractors are required to review potentially hazardous workplace operations, monitor exposure to workplace chemicals, physical hazards and biological agents, and to recommend and evaluate controls to ensure a medical surveillance program is in place to identify health related concerns.

3.10 UTILITIES AND INFRASTRUCTURE

Infrastructure consists of the human-made systems and physical structures that convey services to a building or structure. The infrastructure and utilities components discussed in this section include transportation, electrical supply, central heating and cooling systems, liquid fuel supply, natural gas supply, water supply, sanitary sewer and wastewater treatment, storm water systems, communications systems, and solid waste.

3.10.1 TRANSPORTATION

Travel to WB may occur via flights into the nearby Spokane International Airport or FAFB. Vehicles use Highway 2, North Hayford Road, West Euclid Road, North Lyons Road, and finally Newkirk Road to reach the facility. The installation is then accessed via Newkirk Road, to the west of its junction with North Lyons Road. There are no other public roads into the area.

Transportation within the facility includes paved and unpaved roadways, parking areas, and pedestrian networks. The primary paved roads and parking areas are constructed of asphaltic concrete pavement over a crushed rock base. New roads were recently constructed to access buildings 20 and 24 are a combination of one-lane and two-lane roadways with shoulders. Parking is provided at or near each of the installation's buildings. Paved roads service the entry gate, all buildings and the east auxiliary gate. Unpaved, graded roads service the perimeter of the installation and the west side of the site. Paved and unpaved trails allow pedestrians and motorized carts to traverse the site.

The asphalt is in serviceable condition throughout most of the site, although heaving due to severe weather conditions is apparent in a few locations. Within the next five to ten years, most of the existing paved roads will require resurfacing. Accessible parking will be required at all new installations.

3.10.2 POWER/COMMUNICATIONS/FUELS

Electrical power to WB is provided by AVISTA from the overhead 13.2kV line along Lyons/Newkirk Roads, which is terminated at the power pole next to the main entry gate on the south end of the site. It is converted to an underground 13.2kV primary power distribution system owned by the government and which distributes 13.2kV primary power throughout the site.

The existing 750kW standby generator and fuel tank system serving Building 15 will remain for the near term; however, the fuel tank system (two 30,000 gallon single-walled fiberglass tanks with a 30-year warranty) was installed in 1991 and is under warranty for 30 years. Their expected useful life is expected to extend well past 2020.

The current buildings have a mix of mechanical systems using propane, fuel oil and electricity for heating. Buildings 1, 2, 3, and 8 are heated by fuel oil, and Buildings 15 and 10 are heated by electricity. Buildings 11, 12, 20 and 24 are heated using propane. The long-range desire for WB is to use natural gas for heating and air-cooled chillers for cooling with individual boilers and chillers at each building. New building systems should be designed to be convertible to natural gas when it does become more economically available. Compliance with Energy Independence and Security Act (EISA) including energy reduction goals, water efficiency, greenhouse gas reductions, and metering is required for construction at WB.

3.10.3 WATER SUPPLY

WB receives water from a 730-foot deep well, set at 415 feet with 292 feet of head, centrally located near Building 12. The USAF holds a water right for this property dated April 21, 1993 for up to 50 gallons per minute or 80 acre-feet per year for community supply, cooling supply, and stand-by fire protection. An additional water rights application was submitted to Ecology in June 2004, though the water right has not been awarded to date. See Section 3.4 for details regarding wells onsite.

3.10.4 WASTE SYSTEMS

WB is serviced by three septic tanks/drain fields. The largest is located south of Newkirk Road on eleven acres of property owned by USAF. It was constructed in 1956 and serves Buildings 1, 2, 3, 8, 11, 20 and 24. A new 1500 gal distribution siphon tank was installed in 2005 at the outlet end of the 10,000 gallon tank and the laterals were jetted. A second traditional septic tank and drain field is located just east of Building 15 and only receives sewage effluent from Building 15 has a daily capacity of 1750 gallons. The septic system has functioned properly since a broken switch valve in the drain field was repaired in the early 1990s and an assessment in 2003 determined its capacity at 1,570 GPD. The third on-site septic system was constructed in conjunction with Building 12. The facility was equipped with a pre-sand filter and pressure-mounded septic system located in the gently sloping open area at the northeast corner of the installation. The existing septic system south of Newkirk Road has available capacity for additional sewage flow. Wastewater effluent from proposed new construction will be directed to this existing septic system, following an evaluation of the system.

Municipal solid waste (MSW) is managed in accordance with guidelines specified in AFI 32-7042, Solid and Hazardous Waste Compliance. It established the requirement for implementing and maintaining a solid waste management program that incorporates a solid waste management plan, procedures for handling storage, collection, and disposal of solid waste, recordkeeping and reporting, and pollution prevention.

MSW is collected onsite using waste receptacles and dumpsters. Waste is transferred to either the Spokane Regional Waste to Energy Facility or to Graham Road Landfill. Construction and demolition waste is the responsibility of the associated contractor. Contractors are required to comply with federal, state, local and USAF regulations for collection and disposal of MSW from the installation. Waste contaminated with hazardous waste, ACM, LBP, or other potentially harmful materials is managed in accordance with AFI 32-7042.

3.11 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

Socioeconomics is the study of the characteristics that define the human environment in a region, such as population, demographics, income, employment, and regional economic trends. These characteristics are often summarized for the region, within the overall state or national context. Data from the 2010 U.S. Census is the primary source of information for this socioeconomic assessment.

3.11.1 DEMOGRAPHICS

Using census data, this analysis describes socioeconomic characteristics at three scales: at and adjacent to WB, within Spokane County, and within the State of Washington. Because the area around the facility is largely rural, the census tract the facility lies within (104.02) covers a large area (175 square miles) that does not accurately represent the developments near the facility. Three other adjacent census tracts were added to better represent the areas surrounding the project site, including tracts 10601, 13700, and 10401. By including these tracts, Airway Heights and the Hwy 2 and I-90 corridors near the project site are represented in the assessment to give a better overall representation of the regional conditions. These tracts are shown in Figure 3-3.

Table 3-3 Current Population

Local Impact Area Only			Regional Context	
Tract	**Population**	**%**	**Area**	**Population**
10401	6,246	32%	Local Impact Area	19,749
10402	6,937	35%	Spokane County	471,221
10601	3,490	18%	Washington	6,724,540
13700	3,076	16%	United States	308,745,538
LIA Total	19,749	100%		

Source: U.S. Census Bureau 2010a.

In the LIA surrounding WB, the 2010 population was estimated at 19,749. The Airway Heights area, which occupies most of census tract 10401, accounts for about 35% of this population. Census tract 10402, the largest tract, accounts for about 32% of the total, but with the population dispersed over a much larger area. Census tracts 10601 and 13700 account for 18% and 16% of the population, respectively. The LIA accounts for about 4.2% of the total population of Spokane County. Table 3-3 summarizes population in the LIA.

The LIA has experienced 24% population growth since the 2000 Census. This growth outpaced the overall growth of Spokane County over the same period, which grew 13%. Nationally, population grew by 9.7% between 2000 and 2010.

In 2009, Spokane County published the *10-Year Urban Growth Area Update* (Spokane County 2009), which projected growth in the county population of approximately 150,000 by 2031, with two-thirds of this growth expected to occur with the Urban Growth Area (UGA). While the LIA is not within the UGA, it is adjacent to both the City of Spokane and Airway Heights, both of which are in the UGA. As Spokane County continues to grow in the future, population growth in the LIA is likely to outpace other rural areas of the county as development continues in and adjacent to the UGA.

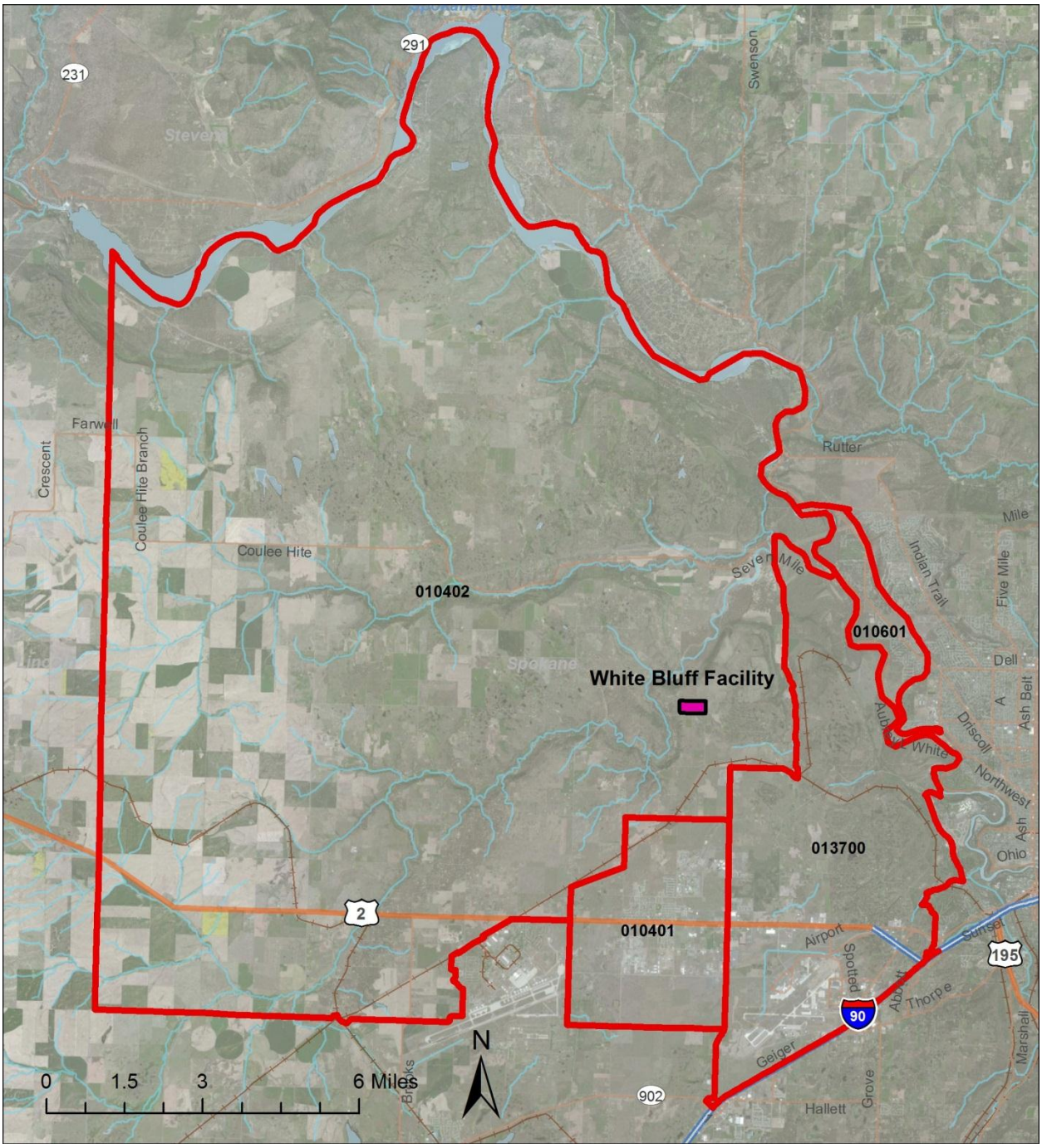

Figure 3-2 Census Tracts Included in Demographics Analysis

3.11.1.1 EMPLOYMENT AND INCOME

Peak occupancy at WB is currently 260 personnel. The main economic contribution of these employees within the LIA is based on purchase of goods and services at local business, as well as additional contribution by those employees that live within the LIA and Spokane County. While the presence of nearby FAFB, with nearly 5,000 employees, has a much stronger impact on the regional economy than WB, the facility does contribute positively to the businesses in the LIA and within larger regional economy of Spokane County.

Median household income in the LIA ranged between $37,000 and $75,000 among the four tracts in the 2010 Census (Table 3-4). All four tracts saw positive growth in median household income since the 2000 Census, ranging from 15% to 41% growth over the period. This growth is consistent with the overall growth of the county, which grew 27% between 2000 and 2010. Table 3-5 summarizes employment by industry for the LIA.

3.11.1.1 HOUSING CHARACTERISTICS

In 2010, the Census reported that Spokane County had a total of 201,434 housing units, 7.1% of which were vacant. The LIA had a reported total of 7,421 housing units, with an 8% vacancy rate. Within the County, 35.5% of the units were renter-occupied, while in the LIA, renter-occupied units accounted for 29.9%.

In the LIA, the densest development exists in Airway Heights, with a community of single family homes on residential streets. Other housing units in the LIA tend to be single family homes located on rural property. Due to the relatively small size of WB, additional development at the facility is not likely to have a significant effect on housing development in the LIA, though it will contribute to the overall effect in the county.

Table 3-4 Median Household Income

Median Household Income	Tract 10401	Tract 10402	Tract 10601	Tract 13700	Spokane County	Washington	U.S.
2000 Census	$30,000	$53,405	$56,807	$38,262	$37,308	$45,776	$41,994
2010 Census	$37,049	$75,261	$67,996	$44,139	$47,250	$57,244	$51,914
Percent Change	23%	41%	20%	15%	27%	25%	24%

Source: 2005-2010 ACS Estimates (U.S. Census Bureau 2010b) and 2000 Census SF3 (U.S. Census Bureau 2000).

Table 3-5 Employment by Industry

Employment Types	Local Impact Area	Spokane County	Washington State	United States
Population 16 Years and Over in Labor Force	15,697	365,404	5,186,380	238,733,844
Percent of population 16 years and over in labor force employed within the armed forces	1.9	1.0	1.0	0.5
Percent Unemployed	7.0	8.1	7.6	7.9

Table 3-6 Employment by Industry Cont'd				
Percent of Employed Persons (Age 16 +) Civilian Labor Force				
Agriculture, forestry, fishing and hunting, and mining	1.1	0.7	2.6	1.9
Construction	6.8	6.3	7.4	7.1
Manufacturing	7.5	8.2	10.7	11.0
Wholesale Trade	3.5	3.7	3.2	3.1
Retail Trade	14.9	12.3	11.4	11.5
Transportation and warehousing, and utilities	7.4	5.0	5.2	5.1
Information	1.4	2.2	2.6	2.4
Finance, insurance, real estate, and rental and leasing	8.8	7.8	6.2	7.0
Professional, scientific, management, administrative, and waste management services	7.6	9.7	11.6	10.4
Educational, health, and social services	20.1	25.7	20.6	22.1
Arts, entertainment, recreation, accommodation, and food services	9.1	9.1	8.6	8.9
Other services (except public administration)	3.0	4.7	4.6	4.9
Public administration	8.8	4.6	5.3	4.8
Source: U.S. Census Bureau 2010b, U.S. Census Bureau 2000.				

3.11.2 ENVIRONMENTAL JUSTICE

Specific consideration is given to protection of minority and low-income population in a region. The 1994 Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, makes it part of the mission of federal agencies to identify and address disproportionately high and adverse human health and environmental effects of its programs, policies, and activities on minority and low-income populations (EPA 1994). U.S. Census data is used to identify and describe minority and low-income populations in the study area.

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks* (*Protection of Children*), was issued to identify and address anticipated health or safety issues that affect children. The protection of children analysis addresses the distribution of population by age in areas potentially affected by implementation of the proposed action.

The following definitions are used for the purpose of the environmental justice analysis. Minority populations are persons identified by the Census of Population and Housing to be of Hispanic or Latino

origin, regardless of race, plus non-Hispanic persons who are Black or African American, American Indian and Alaskan Native, Asian, Native Hawaiian and Other Pacific Islander, Some Other (i.e., non-white) Race or Two or More Races. Low income populations include all persons who fall within the statistical poverty thresholds published by the U.S. Census Bureau in the Current Population Survey are considered to be low-income. For the purposes of this analysis, low-income populations are defined as persons living below the poverty level ($22,314 for a family of four with two children, adjusted based on household size and number of children), as reported in the 2010 Census. The percentage of low-income persons is calculated as the percentage of all persons for whom the Census Bureau determines poverty status, which is generally a slightly lower number than the total population since it excludes institutionalized persons, persons in military group quarters and college dormitories, and unrelated individuals under 15 years old. Children include all persons identified by the Census of Population and Housing to be under the age of 18 years.

Census data was used to identify the low-income and minority populations in the LIA. Data from the 2010 census identifies the number of families living below the poverty level by census tract, as well as the distribution of population by race and census tract. Table 3-6 summarizes the population in poverty in the four census tracts of the LIA. Table 3-7 summarizes the minority populations in the LIA.

Table 3-7 Families in Poverty Overview

Families in Poverty	Tract 10401	Tract 10402	Tract 10601	Tract 13700	Spokane County	Washington	U.S.
1999 (2000 Census)	97 (14.2%)	64 (3.8%)	10 (1.0%)	37 (9.4%)	8,889 (8.3%)	110,663 (7.3%)	6,620,945 (9.2%)
2010 Census	263 (26.6%)	72 (3.7%)	6 (0.6%)	48 (7.7%)	10,710 (9.1%)	136,561 (8.2%)	7,701,686 (10.1%)

Source: 2005-2010 ACS Estimates (U.S. Census Bureau 2010b) and 2000 Census SF3 (U.S. Census Bureau 2000).

Table 3-8 Minority Population Overview

Demographic Data	LIA	Spokane County	Washington State	United States
Total Population	19,749	471,221	6,724,540	308,745,538
White	90.3%	92.7%	81.4%	74.8%
Hispanic or Latino	1.3%	1.5%	5.7%	6.7%
Black of African American	4.0%	2.8%	4.8%	13.6%
American Indian and Alaska Native	3.7%	3.0%	3.0%	1.7%
Asian	3.5%	3.2%	9.0%	5.6%
Native Hawaiian and Other Pacific Islander	0.9%	0.7%	1.0%	0.4%
Other	1.6%	1.7%	6.0%	7.0%

Source: 2005-2010 ACS Estimates (U.S. Census Bureau 2010b) and 2000 Census SF3 (U.S. Census Bureau 2000).

Airway Heights (census tract 10401) contains the largest population in poverty of any community within the sampled census tracts and showed a major increase in families in poverty from 2000 to 2010. While in

the LIA, this community is only affected by WB to the extent that personnel at the facility live or spend money in Airway Heights.

The race and distribution of the minority population in the LIA is consistent with the trends seen in the county. Spokane County as a whole has a larger percentage of white population than the State of Washington.

3.12 AESTHETICS

Facility aesthetics are driven by construction regulations, which determine the elevations, architecture, security needs, and colors used for buildings, as well as by the vegetation and geology of the area. The site was once open grassland with intermittent stands of mature forest, primarily comprised of Ponderosa pine. Since development of the area, mature Ponderosa pine stands occur in only a few areas. On the west side of the property, densely packed stands of immature Ponderosa pine have become established and dominate the area, and on the east side, an expansive disturbed grassy area prevails. Regular mowing keeps grass low and controls spread of non-native and weedy species.

Between the undeveloped pine stands and grassy area are the facility's administrative and operations buildings. These are designed to be low profile and blend into the existing landscape with low elevations and neutral color schemes. Paved and gravel roads connect buildings. Topography does not fluctuate dramatically, although some relief is created by basalt outcrops in the southeast corner of the facility, which are the highest elevation onsite, that give way to the grassy expanse on the east side, which offers the lowest site elevation. Security cyclone fencing separates the facility from its surroundings.

Rolling hills of open grassland and Ponderosa pine vegetation communities extend in all directions from the facility, punctuated occasionally by a private home or utility infrastructure. No communities or commercial developments are visible from the site. Grasslands in the surrounding valley transition into forested riparian habitat along nearby Deep Creek. In the distance to the northeast, Mt. Spokane rises amidst the Selkirk Mountain Range.

4.0 ENVIRONMENTAL CONSEQUENCES

This chapter describes the environmental consequences of implementing the alternatives for each resource area. In order to determine the level of effect on the resource, it is necessary to identify the threshold at which an effect occurs. This is the significance criteria, which is established for each resource area at the beginning of each section below.

In the event that no significant adverse effects are anticipated to occur as a result of the proposed action, a Finding of No Significant Impact (FONSI) can be prepared for the project. A complete review of impacts may only be realized when all past, present, and reasonably foreseeable projects are also discussed. These are the cumulative impacts and are presented in Chapter 5.

In the following paragraphs, the significance criteria for impacts are defined and the proposed action is analyzed for potential impacts that would result from alternatives carried forward, including the No Action Alternative, and Action Alternatives B through E. These impacts may be short or long term, direct or indirect, and may range from beneficial to adverse. In general, impacts may be caused by the demolition or construction activities necessary to achieve the proposed action, as well as by the activities that could occur in newly developed or constructed areas.

4.1 GEOLOGICAL RESOURCES

4.1.1 SIGNIFICANCE CRITERIA

An alternative would be considered to have a significant adverse impact to geologic and soil resources or topography if any of the following were to occur:

- It increased the exposure of people or structures to risk of loss, injury, or death resulting from earthquakes, liquefaction, or landslides,
- It resulted in substantial soil erosion loss or the loss of topsoil;
- It was constructed within a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landside, lateral spreading, subsidence, liquefaction, or collapse,
- It would result in loss of a known valuable mineral resource or in the loss of availability of a locally important mineral resource identified in an approved land use plan, or
- One or more distinct and prominent geologic or topographic features was destroyed, permanently covered, or materially and adversely modified.

4.1.2 ALTERNATIVES IMPACTS

Alternative A. Under the No Action Alternative, no changes would be made to the existing configuration of buildings at WB. As a result, topography and soils would remain unchanged.

Alternative B. Construction of the new HQ and demolition of Buildings 1, 2, and part of 3 would primarily impact geological resources through ground disturbance. Clearing and grading of the new construction site would result in the removal of surface soils, which could contribute to increased erosion during precipitation events, or generation of fugitive dust. Demolition efforts would disturb the ground only in staging areas and where waste was temporarily stored prior to offsite disposal. Truck haul routes would also be disturbed.

However, impacts are considered to be less than significant because; (1) the area would only be temporarily disturbed during construction, (2) soils in the area have already been disturbed in the past, and (3) measures would be incorporated into construction efforts to avoid or minimize erosion. Soils that remain exposed following completion of construction would be replanted or landscaped with native vegetation, which would return the area to its initial condition. Conditions within Area 1 have already been disturbed; vegetation in the area is ruderal which indicates that disturbance has already occurred. Soils in the area are not likely to be further degraded through additional disturbance. Finally, use of BMPs would allow for avoidance or minimization of impacts. Such measures could include mulching or other erosion control measures to reduce soil loss during precipitation events, the minimization of truck haul routes, and regrading of steepened areas to reduce potential for soil erosion. Erosion control measures would be further specified in an erosion control plan, to be prepared prior to construction.

Disturbance of ground for reconfiguration of the main gate would occur in a small area and would impact a small portion of exposed soils. Staging areas and construction could occur primarily on paved roads. As with the HQ construction, areas exposed would be managed per applicable erosion control measures to ensure that runoff did not result in erosion.

Completion of construction would result in beneficial impacts, since disturbed areas would then be restored with native vegetation, which would reduce erosion and runoff in the area. There are no significant geologic or topographic features in this area. Therefore, there would be no significant adverse impacts to physical land resources as a result of the action.

Alternative C. Construction of the new HQ in Area 2 and reconfiguration of the main gate would result in similar impacts to Alternative B. However, fewer existing paved or dirt roadways would be available for creating truck haul routes, and as a result, a greater area of ground disturbance would occur. However, use of BMPs and preparation of an erosion control plan would reduce adverse impacts to levels below significant. There are no significant geologic or topographic features in this area. There would be no significant adverse effects to the environmental resource.

Alternative D. Construction of the HQ in Area 3 and reconfiguration of the main gate would result in similar ground disturbance impacts to Alternative B. The area is centrally located and accessible by paved roads. Basalt outcrops would have to be avoided or incorporated in the design during construction. However, steeper slopes could potentially contribute to greater erosion potential. Implementation of BMPs and a soil erosion control plan would be expected to reduce adverse impacts to below significant levels. There would be no significant adverse effects to the environmental resource.

Alternative E. Construction of the HQ in Area 4 and reconfiguration of the main gate would result in similar ground disturbance impacts to Alternative B. There are no topographic or geologic features that would be disturbed in this area. There would be no significant adverse effects to the environmental resource.

4.2 LAND USE

4.2.1 SIGNIFICANCE CRITERIA

A proposed action could have a significant adverse effect on land use if a development caused any of the following:

- Inconsistency or non-compliance with existing plans or policies,
- Diminished the viability of existing land uses,

- Diminished or eliminated the proper use or occupation of an area,
- Incompatibility with adjacent land uses resulting in a threat to public health or safety, or
- Conflict with planning criteria established to ensure the safety and protection of human life and property.

4.2.2 ALTERNATIVES IMPACTS

Demolition or construction of new facilities and infrastructure would not have a significant adverse effect on land uses within the installation or be incompatible with surrounding land uses. Long-term, beneficial impacts will be realized through demolition of buildings that no longer support mission requirements and which occur within the AT/FP setback.

Alternative A. Failure to remove the outdated Buildings 1 and 2 would result in their continued presence within the AT/FP perimeter setback. This would not be consistent with the purpose of the AT/FP setback zone, but would not constitute a significant impact on land use.

Alternative B. Under this alternative, the new HQ would be located in Area 1. This location is optimal for meeting mission requirements given its position relative to the rest of the buildings at WB and the added security provided by the distance between Area One and the main gate area. There would be no significant adverse effects to the environmental resource.

Alternative C. Construction of the HQ in Area 2 would locate the new HQ at the greatest distance from all other primary facilities at WB. Though the area is supportive of the HQ land use, it is not the optimum configuration of land uses within the installation. Additionally siting the HQ at this location would not comply with USAF policy to collocate like facilities. However, adverse effects would be less than significant to land use.

Alternative D. Under this alternative, the HQ would be located in Area 3, in the central part of WB. This site is topographically challenging to construction as a result of basalt outcrops, which would either force the HQ into an area closer than prudent for security reasons to the main gate area or dramatically raise design and construction costs. However, adverse effects would be less than significant to land use.
Alternative E. Construction of the HQ in Area 4 would result in proximity to Buildings 11, 20, and 24, but would not be consistent with the WB Master Site Plan and would not meet mission requirements. However, adverse effects would be less than significant to land use.

4.3 AIR QUALITY

4.3.1 SIGNIFICANCE CRITERIA

WB is located in an area that is in attainment for all criteria pollutants; therefore, there are no nonattainment or maintenance area air quality evaluation criteria applicable. Within areas of NAAQS attainment, the criteria threshold for significant adverse impacts is when an action would result in a net increase in pollutant emissions that may cause any of the following:

- Violation of any national or state ambient air quality standard,
- Exposure of sensitive receptors to substantially increased pollutant concentrations,
- Exceedance of any evaluation criteria establish by the State Implementation Plan (SIP), or

- Increase of emissions by 250 tons per year (tpy) for any criteria pollutant or their precursors (i.e., NO_X, VOCs, CO, PM10, PM2.5, and SO_2) unless the proposed activity qualified for an exemption under the Federal General Conformity Rule.

Although the 250 tpy stationary plus mobile source threshold is not a regulatory driven threshold, it is being applied as a conservative measure of significance in attainment areas. The rationale for this conservative threshold is that it is consistent with the threshold for a PSD major source in attainment areas.

4.3.2 ALTERNATIVES IMPACTS

Action Alternative A. Under the No Action Alternative, air quality would remain in its current state. Occasional maintenance activities, use of heavy equipment, or increase in vehicular use at WB would increase emissions of NAAQS pollutants intermittently or periodically, but would not increase or decrease overall from current levels. If construction or demolition projects are pursued, independent impacts analysis would be required.

Action Alternatives (B, C, D, E). Impacts to air quality would potentially result during demolition or construction of any of the alternatives. Because construction efforts are comparable between each of the proposed alternatives (same level of construction and demolition effort for each alternative), the following section describes the general potential impacts that would result from implementation of any of the action alternatives.

Short-term, minor, adverse impacts on air quality would be expected from implementation of the proposed demolition actions. Demolition activities would generate air pollutant emissions as building materials are deconstructed and through the use of vehicles and equipment that burn fuel or disturb the ground. Fugitive dust and building debris emissions would occur during active demolition and would vary from day to day depending on the work phase, level of activity, and prevailing weather conditions. The quantity of fugitive dust emissions from a demolition site is proportional to the area of land being worked, the total amount of building debris generated, and the control measures implemented during construction. The building contractor would be instructed to strive for 100% containment of emissions of particulate matter from building materials.

In a recent EA prepared for FAFB, estimated annual air emissions from proposed demolition activities were found to fall below the level of significance of 250 tpy for NAAQS criteria (USAF 2012). Proposed demolition activities within WB are less extensive than those proposed at FAFB; therefore they are expected to be similar in terms of emissions.

Construction activities will generate emissions in varying degrees throughout the construction phase. Estimated annual air emissions from construction projects in the FAFB did not exceed the 250 tpy for NAAQS criteria. Construction activities at WB are comparable to, or expected to generate less than, the emissions at FAFB. In the event that it is not possible to meet the threshold of state or federal regulations, WB would notify the EPA and appropriate state entities prior to demolition activities.

Implementation of BMPs would allow for the control and minimization of these emissions. For example, demolition activities are guided by USAF policy and provide measures for reducing fugitive dust, such as through wetting of the site. Other BMPs include proper maintenance of work vehicles, containment of building debris, offsite transport, and contingency schedules to avoid work in particularly windy conditions. As a result, HQ/main gate construction projects are not expected to result in significant

adverse effects resulting from an increase in emissions during construction. Impacts from operations would largely occur as a result of running heaters and air conditioners and would be negligible.

The overall increases in potential GHG emissions from stationary sources has not been calculated but is expected to be well below the PSD and Title V permitting thresholds for GHGs. The resulting installation-wide stationary GHG emissions from existing sources and the proposed action is expected to be below the 100,000 tons per year Title V major source threshold for GHGs; however, it is recommended that the installation wide potential GHG stationary source emissions be calculated to confirm this.

Temporary impacts to air quality would be less than significant with adequate implementation of BMPs.

4.4 WATER RESOURCES

4.4.1 SIGNIFICANCE CRITERIA

Evaluation criteria for effects on water resources are based on water availability, quality, and use, and application of associated regulations. Significant adverse impacts may include:

- Substantially reduce water availability or supply to existing users,
- Overdraft groundwater basins,
- Exceed safe annual yield of water supply sources,
- Substantially affect water quality adversely,
- Endanger public health by creating or worsening health hazard conditions,
- Threaten or damage unique hydrologic characteristics, or
- Violate established laws or regulations adopted to protect water resources.

4.4.2 ALTERNATIVES IMPACTS

Alternative A. Under the No Action Alternative, no changes would be made to facilities at WB. No changes would occur to surface water as there are no natural water bodies existing onsite, e.g. wetlands, lakes, ponds. Storm water runoff would continue to be managed through the requirements of the NPDES permit and related pollution prevention plans. New construction would require confirmation of storm water compliance.

Action Alternatives (B-E). Minor, adverse impacts on groundwater and storm water runoff may occur from demolition or construction activities associated with the proposed action. Potential for fuels and other hazardous materials to enter the groundwater system or as runoff into the storm water system is present during use of heavy machinery.

In accordance with USAF requirements, construction contractors would employ standard construction practices (e.g. soil stockpiling, covering soil stockpiles when necessary, watering) that would limit both wind and water erosion. Storm water management controls would be designed and implemented consistent with NPDES Phase II permit requirements and the SWPPP to minimize potential adverse impacts on storm water. BMPs listed within site specific SWPPPs and the requirements of the Eastern Washington Storm water Manual will be implemented. The contractor would also prepare a Spill Prevention Plan to allow for a rapid and efficient response in case of spilled or leaked fuel or other hazardous material.

Upon completion of the selected projects, there would be an overall increase in impervious surface area of approximately 28,000 SF. All storm water resulting from the impervious areas would be treated and infiltrated on site using low impact design (LID) methods such as bio-retention, direct infiltration and pervious pavements. No storm water would be allowed to drain to offsite areas. The use of the LID methods would result in improved storm water management since water is not currently treated and is allowed to run off site.

Adverse impacts would be temporary and minor and would be less than significant along with implementation of BMPs.

4.5 BIOLOGICAL RESOURCES

4.5.1 SIGNIFICANCE CRITERIA

The significance of effects on biological resources, including both plants and animals, is based on the following:

- The proportion of the resource that would be affected relative to its occurrence in the region
- The sensitivity of the resource to proposed activities
- The duration of potential effect on potentially occurring species
- The potential to "take" threatened or endangered species
- Degree of disturbance of threatened or endangered species habitat.

The degree of impacts to each resource type is also assessed based on the importance of the resource, which is determined according to such factors as population sizes, habitat quality, listing status, whether a resource is endemic to the area, or the regional context of the resource. Impacts may be considered more adverse if the action affects previously undisturbed habitat or if the impact would occur over a large portion of available habitat in the region.

4.5.2 ALTERNATIVES IMPACTS

4.5.2.1 VEGETATION

Demolition will only occur in previously disturbed areas, where the vegetation community consists primarily of cultivated ornamental species and lawns. Demolition sites will be recontoured and revegetated with an appropriate mix of ornamental and native species, resulting in a net benefit to vegetation in sites formerly occupied by buildings.

Temporary effects to vegetation would occur during construction of the HQ and main gate, due to the use of heavy equipment. Disturbed areas will be revegetated with an appropriate mix of ornamental and native species.

Permanent loss of vegetation will occur where new facilities are constructed. In general, the proposed construction areas do not contain sensitive vegetation types or communities; therefore the impact to vegetation under all alternatives is less than significant.

Alternative A. Under the No Action alternative, current management of vegetation and wildlife would continue, therefore no significant adverse effects would occur.

Alternative B. Sparse immature Ponderosa pines and weedy grassland form the dominant vegetation matrix in Area 1. Construction of the new HQ may require removal of these species in a small area. Loss of these trees and plants will not significantly reduce the value of the vegetation as habitat, since the area is small and the vegetation already disturbed.

Alternative C. Area 2 offers a building site with minimal vegetation and that has already been disturbed. Construction here would not result in significant impacts to vegetation.

Alternative D. Area 3 has also been significantly disturbed in the past and construction of the HQ in this area would result in little effect on native vegetation habitat.

Alternative E. Area 4 is home to the most well-developed vegetation communities onsite. Though most of the area is comprised of dense stands of immature Ponderosa pine, a single mature stand of Ponderosa pine is present to the northwest of Buildings 20 and 24 and occupies a roughly 1 acre area. Constructing of the HQ in this area would result in removal of the greatest amount of mature native vegetation of any of the alternatives. Careful siting could possibly reduce the number of mature forest trees removed somewhat mitigating the impact of locating the building in Area 4.

4.5.2.2 WILDLIFE

Demolition of buildings and reconfiguration of the main gate will only occur in areas that are already highly developed and offer habitat only for species that are highly adapted to human presence, such as crows and squirrels. No significant adverse impacts to wildlife species are anticipated to result from demolition.

The project area is surrounded by open farmland, which is not managed for wildlife but which may offer foraging and nesting habitat by virtue of being relatively undeveloped. Some of this habitat extends into the project area, though it is fenced and does not offer access to large mammals in the area. Mild disturbance to small mammals and birds could occur due to noise and human presence during installation of infrastructure features, but would be less than significant. Construction of the new HQ could result in loss of habitat for some species. However, the area of construction would be small in comparison to habitat availability in surrounding lands and therefore not significant.

The proposed action is not expected to result in a significant adverse effect to non-sensitive wildlife species under any of the proposed action alternatives, as the affected area is a very small component of a large expanse of similar habitat outside of the installation, and the existing habitat value is already low.

Alternative A. Under the No Action alternative, current management of vegetation and wildlife would continue, therefore no significant adverse effects would occur.

Alternative B. Removal of the limited pine forest in Area 1 could reduce nesting and perching habitat for common bird species, while removal of the disturbed grassland may reduce habitat for ground nesting and foraging birds or small mammals. However, the area of impact would include a small portion of already disturbed habitat within the installation and an even smaller area of the overall available habitat in the larger landscape.

Alternative C. Area 2 is home to a relatively wide expanse of disturbed grassland which is regularly mowed. As a result, construction of the HQ here is unlikely to impact any existing species.

Alternative D. Area 3 offers extremely limited perching or nesting habitat, but may be home to borrowing or ground nesting species. Development of the HQ in this area may reduce wildlife habitat, but would not be expected to significantly reduce wildlife populations as a result.

Alternative E. Area 4 offers the greatest area of forested habitat on the installation. However, careful siting of the HQ could avoid substantial tree removal and thereby have no significant impact on wildlife habitat.

4.5.2.3 WETLANDS

No wetlands occur at WB, therefore there will be no impacts to them.

4.5.2.4 SENSITIVE SPECIES

No habitat for listed or sensitive species is found within the proposed demolition or main gate areas, therefore there would be no significant adverse effects to these species from any of the alternatives proposed in these areas.

Alternative A. Under the No Action alternative, current management of vegetation and wildlife would continue, therefore no significant adverse effects would occur.

Alternative B. Avoidance measures would be taken to ensure that no sensitive species were harmed during construction of the HQ in Area 1. If sensitive bird or bat species were found to be roosting, nesting or breeding in the grassland or trees at this location, construction would be designed to avoid disturbing them, including delaying construction until juvenile birds had fledged. Therefore, there would be no significant impacts to sensitive wildlife species.

Possible habitat for Idaho gooseberry occurs in the mature Ponderosa pine forest found in Area 1. The base natural resources manager would confirm that this species does not occur in any project area during the design phase. Assuming that absence of this species was confirmed prior to construction, there would be no effect to sensitive plant species under this alternative.

Alternative C. Habitat quality and extent at this location is minimal. Avoidance measures described under Alternative B would also occur under this alternative. There would be no significant impacts to sensitive species under this alternative.

Alternative D. Habitat quality and extent at this location is minimal. Avoidance measures described under Alternative B would also occur under this alternative, as needed. There would be no significant impacts to sensitive species under this alternative.

Alternative E. Avoidance measures described under Alternative B would also occur under this alternative. Therefore, there would be no significant impacts to sensitive species.

4.6 CULTURAL RESOURCES

4.6.1 SIGNIFICANCE CRITERIA

Impacts on cultural resources are addressed under Section 106 of the NHPA and 36 CFR 800. Adverse impacts would be considered to occur under the following conditions:

- Physical alteration, damage or destruction of all or part of a resource;

- Alteration of characteristics of the surrounding environment that contribute to the resource's significance;
- Introduction of visual or audible elements that are out of character with the property or that alter its setting;
- Neglect of the resource to the extent that it deteriorates or is destroyed; or
- The sale or transfer or lease of the property out of agency ownership without adequate legally enforceable restrictions or conditions to ensure preservation of the property's historic significance.

4.6.2 ALTERNATIVES IMPACTS

Alternative A. There would be no potential effects relating to cultural resources if the No Action Alternative is chosen. No earth moving would occur; therefore, no unknown cultural resources could potentially be discovered.

Alternative B. There are no NRHP-eligible buildings or sites at WB (DAHP, 2008). Therefore, demolition of buildings would not result in adverse impacts to registered historic sites. The area that would be disturbed by demolition activities has already been disturbed during the initial construction of these facilities.

There are no known archeological artifacts in Area 1 or in the area of the main gate. Two Standard Operating Procedures (SOPs) described in Fairchild AFB's Integrated Cultural Resources Management Plan (ICRMP) (FAFB 2012), which covers WB, are in place to protect archaeological resources or human remains in the event of inadvertent discovery during construction. These SOPS describe procedures project managers, construction staff, security personnel, and the cultural resources manager to follow in case of inadvertent discovery, and authorize staff to stop work, protect resources, and notify the SHPO within 24 hours. The SOPs further stipulate that work at the site will not resume until the site has been cleared by the cultural resources manager. As a result, demolition and construction components of the proposed alternative are not anticipated to result in significant adverse impacts.

Alternative C. Construction of the HQ in Area 2 would not result in significant adverse impacts to cultural resources. As with Alternative B, SHPO consultation, compliance with Section 106 requirements, and implementation of SOPs described under Alternative B would ensure that no unknown cultural resources are adversely impacted.

Alternative D. Construction of the HQ in Area 3 would occur near the rocky outcrop that may potentially have a significant cultural resource. However, this area is already prohibited from construction or other ground disturbance activities due to the presence of the outcrop. As with Alternative B, SHPO consultation, compliance with Section 106 requirements, and implementation of SOPs described under Alternative B would ensure that no unknown cultural resources are adversely impacted.

Alternative E. Construction of the HQ in Area 4 would not result in significant adverse impacts to cultural resources. As with Alternative B, SHPO consultation, compliance with Section 106 requirements, and implementation of SOPs described under Alternative B would ensure that no unknown cultural resources are adversely impacted.

4.7 NOISE

4.7.1 SIGNIFICANCE CRITERIA

Noises generated by demolition, construction, or operations within the installation could have significant impacts if they:

- Exceeded levels specified by the USAF, FAA, HUD, and OSHA (Applicable regulations limit constant noise exposure to 90 dBA or below over an 8 hour period, while the highest allowable sound level to which workers can be constantly exposed is 115 dBA and exposure to this level must not exceed 15 minutes within an 8 hour period.), or
- Exposed workers or onsite staff to an instantaneous noise level of greater than 140 dBA.

4.7.2 ALTERNATIVES IMPACTS

Projected noise levels generated by construction equipment would fall well below the threshold of significance at any dwellings outside WB. Table 4-1 shows how projected noise levels attenuate over various distances. Therefore, none of the proposed alternatives would impact sensitive noise receptors. Each proposed action alternative includes construction and demolition efforts, though the location of construction would vary through alternatives.

Table 4-1 Construction Equipment Noise Emission Levels

Equipment Type	Equipment Usage Factor (%)	Equipment Noise Level (dBA Lmax) at 50 Feet	Composite Noise Level (dBA Leq) at 50 Feet	Composite Noise Level (dBA Leq) at 100 Feet	Composite Noise Level (dBA Leq) at 250 Feet	Composite Noise Level (dBA Leq) at 500 Feet
Hydraulic Excavator	40	85	88	83	75	69
Tractor	40	85				
Loader	40	80				
Scraper	40	85				
Crane	16	85				
Water Truck	50	80				
Grader	40	85				
Paver	50	85				
Compactor	20	80				

Source: FHWA, January 2006

Noise impacts related to the construction of a new HQ, demolition of Buildings 1, 2, and part of 3, and reconfiguration of the existing main gate area will primarily result from the use of large equipment. Construction equipment usually exceeds the ambient sound levels by 20 to 25 dBA in an urban environment and up to 30 to 35 dBA in a quiet suburban area. The loudest equipment necessary for demolition will likely include bulldozers, jackhammers, backhoes, or graders. These machines may

generate up to 98 dBA at a distance of up to 50 feet (FHWA 2006). Noise generated during demolition efforts (under all action alternatives) would potentially impact the buildings, nearest its source.

During construction and demolition efforts, reasonable and prudent measures will be taken to minimize noise impacts to within acceptable levels, as defined in the criteria. Equipment that generates noise greater than 90 dBA will only occur within the established time constraints. No noise above 140 dBA will be permitted. Noise generated from demolition and construction will be adequately regulated to minimize noise impacts to the population at WB and to residents of the area surrounding the installation. It is assumed that construction would occur between 7:00 AM and 4:30 PM.

If the new HQ were constructed, it would not be expected to generate noise above the existing ambient level. The HQ would be designed to keep noise within acceptable limits. Generators, power lines and pump houses may all contribute to ambient noise levels. However, none of the proposed infrastructure is anticipated to create noise above the already existing ambient levels. Installation may temporarily increase noise in the area, but will be monitored and controlled through regulations.

In addition to the noise impact considerations that apply to all action alternatives equally, the following paragraphs discuss impacts specific to each action alternative.

Alternative A. Under the No Action Alternative, the noise environment would remain in its current state. Occasionally mission activities may raise noise levels intermittently or periodically, but would not increase or decrease from current levels. If other construction or demolition projects are pursued, independent impacts analysis would be required.

Alternative B. Locating the HQ in Area 1, would potentially result in noise impacts to Buildings 12, 20, and 24, and to nesting birds in the Ponderosa pine habitat in this area while construction was underway. However if noise reduction measures were implemented that would maintain noise within acceptable criteria limits during construction, no significant adverse noise impacts would be expected to occur.

Alternative C. Locating the HQ in Area 2 would likely not cause any significant adverse noise impacts due to the distance from other WB facilities.

Alternative D. Locating the HQ in Area 3 would likely result in potential noise impacts to Buildings 15 and 37 while construction was underway. However if noise reduction measures were implemented that would maintain noise within acceptable criteria limits during construction, no significant adverse noise impacts would be expected to occur.

Alternative E. Locating the HQ in Area 4 would potentially result in noise impacts to Buildings 11, 20, and 24 while construction was underway. However if noise reduction measures were implemented that would maintain noise within acceptable criteria limits during construction, no significant adverse noise impacts would be expected to occur.

4.8 HAZARDOUS AND TOXIC WASTE AND MATERIAL

4.8.1 SIGNIFICANCE CRITERIA

A proposed action could have a significant effect with respect to hazardous materials and wastes if it were to result in:

- Noncompliance with applicable Federal and state regulations,

- Disturbance or creation of contaminated sites resulting in adverse effects on human health or the environment,
- Inability of existing management policies, procedures, and handling capacities to accommodate the proposed activities.
- A spill or release of a reportable quantity of a hazardous substance as defined by the EPA in 40 CFR Part 302.

4.8.2 ALTERNATIVES IMPACTS

Alternative A. Under the No Action Alternative, hazardous materials would continue to be regulated, handled, and contained per DOD requirements, and Federal guidelines and laws. As a result, there would be no significant adverse effects in the short or long term as a result of the No Action Alternative.

Action Alternatives (B-E). Hazardous materials or wastes may be needed, encountered, or generated during construction or demolition of the proposed action alternatives. Because impacts are anticipated to be similar for each of the proposed action alternatives, this section addresses all action alternatives together.

Hazardous materials that are encountered during the demolition of existing buildings would be processed and disposed of per DOD requirements and Federal laws and policies. To avoid worker exposure to hazardous materials, a Hazardous Materials Building Survey will be completed prior to embarking upon demolition activities. This inspection is the primary way to identify the absence of such hazards, which are otherwise assumed, and includes a thorough inspection for asbestos and lead paint. Asbestos surveys are required of all buildings where significant renovation or demolition is to occur, regardless of building age, as many buildings have been constructed utilizing stockpiled materials from the past and materials from foreign places that can include asbestos. Further, Washington State regulates any amount of asbestos or lead exposure in the workplace, and requires adequate training and protection when such materials are suspected to be present in building materials affected by renovation or demolition. Certain types of asbestos-containing materials are required to be abated before demolition or disposal. Generally, lead-based paint and some non-friable asbestos-containing materials can remain in place during demolition, but must be disposed of in an EPA-approved disposal facility.

Demolition contractors would be required to comply with federal, state, and local environmental laws. Permits for handling and disposal of hazardous material will be acquired by the contractor. All hazardous materials used at the demolition site would be removed or secured at the end of each workday. Only quantities of hazardous materials required to carry out the work for the day would be permitted on site. Contractors will complete Material Safety Data Sheets upon bringing any hazardous materials to the site, and will complete a HAZMAT safety plan prior to demolition.

Due to the implementation of these methods, the impacts of hazardous materials resulting from demolition will be avoided and contained to the greatest extent possible. No significant adverse effects are expected to result. Instead, long-term beneficial impacts will be realized when outdated buildings containing hazardous materials are removed from the site.

During the construction phase, a temporary and minor increase in hazardous materials would be onsite as a result of increased use of fuel-powered equipment, and other construction materials such as glues or paints. In accordance with the Hazardous Materials Management Plan, hazardous materials would be managed during construction with BMPs designed to minimize or respond to spills. All hazardous materials would be secured or removed from the installation at the end of each work day. No long-term hazardous materials impacts are expected from construction or operations activities. Temporary and

minor adverse impacts resulting from construction would be less than significant with the implementation of BMPs.

4.9 SAFETY AND OCCUPATIONAL HEALTH

4.9.1 SIGNIFICANCE CRITERIA

Any increase in safety risks would be considered an adverse impact on safety. A proposed action could have a significant effect with respect to health and safety if the following were to occur:

- Substantial increases in the risks associated with the safety of construction personnel, contractors, or the local community,
- Substantial hindrance to the ability to respond to an emergency, or
- Introduction of a new health or safety risk for which the installation is not prepared or does not have adequate management and response plans in place.

4.9.2 ALTERNATIVES IMPACTS

Alternative A. Under the No Action Alternative, there are not expected to be changes to safety and occupational health conditions at WB. Safe practices and protective measures will continue to be guided by DOD and Federal policies. Facilities constructed with hazardous materials, such as lead-based paint and asbestos, would continue to be present onsite. Buildings 1, 2, and 3 were likely constructed with these materials.

Action Alternatives (B-E).Impacts to health and safety would be similar regardless of the location of construction. Demolition efforts would occur in the same area in each action alternative. As a result, impacts have been described in general for all action alternatives.

Demolition of Buildings 1, 2, and 3 could increase exposure of construction workers and WBs personnel to hazardous materials or conditions for the period of time needed to complete demolition efforts. Similarly, construction work on the HQ and main gate may result in increased risk of unsafe conditions.

Due to the potential for hazardous materials and conditions to be encountered during demolition or construction, a health and safety plan would be prepared in accordance with DOD, EPA, and OSHA requirements prior to work initiation. If necessary, workers may require OSHA 40-hour Hazardous Waste, Operations, and Emergency Response (HAZWOPER) training. Should contamination be found during demolition or construction activities, the handling, storage, transportation, and disposal activities would be conducted in accordance with applicable Federal, state and local regulations. Under these health and safety guidelines, significant adverse effects of construction or operation would be less than significant.

Following demolition of Buildings 1, 2, and part of Building 3, all of WB will be in compliance with AT/FP setback requirements resulting in significant beneficial impacts to safety. In addition planned reconfiguration of the main gate area will bring the physical security measures for the WB perimeter into compliance with DOD requirements and best practices substantially increasing safety for all onsite personnel.

4.10 UTILITIES AND INFRASTRUCTURE

4.10.1 SIGNIFICANCE CRITERIA

Effects on infrastructure are evaluated based on their potential for disruption or improvement of existing levels of service and additional needs for energy and water consumption, sanitary sewer and wastewater systems, and transportation patterns and circulation. Impacts might arise from physical changes to circulation, introduction of construction-related traffic on local roads or changes in daily or peak-hour traffic volumes, and energy needs created by either direct or indirect workforce and population changes related to installation activities. A proposed action could have a significant effect with respect to infrastructure if the following were to occur:

- Capacity of a utility was exceeded,
- Long-term interruption of a utility,
- Violation of a permit condition, or
- Violation of an approved plan for that utility.

4.10.2 ALTERNATIVES IMPACTS

Alternative A. Selection of the No Action Alternative would result in the continued use of existing utilities and infrastructure within WB. Communications, energy utilities, and traffic infrastructure would remain in its current configuration. Over time, if there was a large increase in assigned personnel, that could result in additional pressure on existing utilities. A review of energy usage indicates that AVISTA power supply is adequate for the proposed HQ and gatehouse. Similarly, the septic and well systems are anticipated to continue to provide adequate supply to the site (USACE 2012).

Alternatives B-E. Impacts to infrastructure and utilities may result from demolition or construction components of the proposed action, and would be the same for all action alternatives. Communications, traffic circulation, and energy utilities could potentially be impacted by demolition and construction efforts on a temporary basis.

A small portion of Building 3 houses the network POP for the WB site and the integrity of this area must be maintained without interruption in service during the demolition and phase to prevent significant adverse impacts to site communications. The demolition plans proposed under Alternatives B-E would be carefully designed to ensure protection of the POP, preventing adverse impacts due to service loss or interruption.

Beneficial impacts would result from demolition of outdated buildings with inefficient utilities, and construction of the HQ and main gate with efficient and sustainable utilities. Propane or natural gas would replace inefficient boilers, and outdated communications and electrical conduit would be replaced. The demolition process would not require a significant amount of additional use of onsite utilities (e.g., power, communications, etc.).

During the demolition and construction phases, transportation would remain uninterrupted. BMPs require roadways necessary for normal circulation, safety access, and mission fulfillment to be kept open and accessible. If temporary closures are necessary, adequate warning would be provided to ensure minimal inconvenience. Safety routes would remain open at all times.

A number of policies and guidelines provide for the incorporation of sustainable principles into the project design, development, and construction, resulting in a new facility that is more energy efficient

than the old facilities. Construction of the HQ and reconfiguration of the main gate area would occur in accordance with DOD Sustainable Design and High Performance Green Buildings (SD&HPGBB) requirements, Executive Order 13423, Energy Policy Act of 2005 (P.L. 109-58) and other applicable laws and executive orders. Newly constructed facilities are mandated to meet sustainable design goals and are intended to achieve Leadership in Energy and Environmental Design (LEED) Silver Certification as a minimum. Per USAF directive, all new or altered generator installations must be reviewed and approved by the Air Force Civil Engineer Center (AFCEC).

Review of existing utilities indicates that the new buildings proposed for construction would be adequately served by the existing AVISTA power supply. The proposed building construction has been accompanied by additional parking areas when needed, and would therefore continue to meet the needs for transportation and parking on the site. Long-term beneficial effects are anticipated for transportation and circulation following the reconfiguration of the main gate area, since it is designed to reduce congestion, even when large delivery trucks are present.

Based on the analysis, construction and operation of the alternatives would not result in significant adverse effects to utilities and infrastructure when regulations are followed and BMPs are implemented.

4.11 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

4.11.1 SIGNIFICANCE CRITERIA

Implementation of the preferred alternative could result in significant adverse impacts if it resulted in:

- Reduction or compromise of economic operation or growth in the area or region,
- Disproportionately affected low income and minority populations in the region,
- Directly or indirectly reduce property values, employment opportunities, or wage rates, and/or
- Increased crime rates, school enrollment, or the need for public services.

4.11.2 ALTERNATIVES IMPACTS

Alternative A. Under the No Action Alternative, socioeconomic conditions in the area would continue to change with the growing populations and changing mixture of ethnic groups. The regional economy would continue to fluctuate in accordance with regional and national trends, but would not be adversely or beneficially affected by ongoing mission fulfillment at WB. Selection of the No Action Alternative would not disproportionately affect low income or minority populations in the region.

Action Alternatives (B-E). During the implementation phase, construction and demolition efforts may require short-term increases in local population as contractors join the community. However, this temporary increase in population would be too small to have a significant impact. If local companies are contracted to construct or provide construction supplies, there may some minor temporary beneficial impacts to the local economy.

All proposed construction is contained within the existing WB footprint. As such, construction would primarily affect WB assigned personnel. The exception to this is that short-term, intermittent impacts to service infrastructure such as roads outside the facility could occur, primarily in the form of increased traffic during construction. The main road to the installation sees minimal traffic, is sparsely populated, and does not contain a disproportionate population of minorities or low-income residents. Therefore, the construction phase of the project is not likely to have any significant adverse or beneficial impacts on the socioeconomics of the region, and would not have environmental justice impacts. There may be some

minor temporary beneficial impacts if local companies are contracted for the construction work. Once construction was completed, there would be no significant adverse effects on socioeconomics or environmental justice as a result of operations.

4.12 AESTHETICS

4.12.1 SIGNIFICANCE CRITERIA

A significant adverse effect may be considered to occur if aesthetic conditions were changed in the following ways:

- Introduction of facilities incompatible with established architectural and design guidelines and constraints, or
- Creation of visually poor areas within the installation that may impact onsite personnel or surrounding communities, and which are unnecessary for mission fulfillment.

4.12.2 ALTERNATIVES IMPACTS

Alternative A. No changes are anticipated to the existing aesthetic quality of WB under the No Action Alternative. Visual resources would continue to be guided and safeguarded via USAF and Federal policy.

Alternatives B. Minor impacts to aesthetic appeal of the site would occur during demolition under this alternative. However, these impacts would be temporary and would be fully resolved following completion of building removal. Beneficial impacts would result from removal of outdated buildings, and landscaping of the area after buildings are removed.

Minor impacts to aesthetics would occur during the construction phase, primarily through clearing of the site or removal of vegetation, as necessary, and the presence of heavy machinery. However, these impacts would occur only during construction and would be fully resolved following completion of the new facilities. Overall, long-term beneficial impacts will be realized at new building sites, which will be constructed of uniform aesthetic modes and have finished landscaping. Reconfiguration of the main gate and demolition efforts would result in temporary, less than significant impacts to aesthetics.

Alternative C. The types and causes of impairment to aesthetics would be comparable to those described for Alternative B. However, the placement of HQ in Area 2 would reduce the visibility of the construction phase, since Area 2 is separated spatially and topographically from the rest of the facility. Reconfiguration of the main gate and demolition efforts would result in temporary, less than significant impacts to aesthetics.

Alternative D. The types and causes of impairment or benefit to aesthetics resulting from locating the HQ in Area 3 would be comparable to those described for Alternative B.

Alternative E. The types and causes of impairment or benefit to aesthetics resulting from locating the HQ in Area 4 would be comparable to those described for Alternative B.

4.13 SUMMARY OF IMPACTS AND PREFERRED ALTERNATIVE

The evaluation of the alternatives above results in a conclusion that there would be no significant impacts as a result of implementing any of the alternatives. This is primarily due to the homogeneity of the site, the lack of accessible sensitive habitat or species, the small area occupied by the installation, and the

overall disturbance that has already occurred. It is also a result of the required implementation of reasonable and prudent measures that would reduce impacts during construction and demolition, or that apply to the operation and maintenance of the building into the future.

As a result, the preferred alternative will be the alternative that best fulfills the objectives of the project, considering the best utilization of land, the most feasible and economic construction option, and the location that best meets current and emerging mission requirements. The alternative that best fulfills the objectives has been identified as Alternative B; construction of a new HQ in Area 1 demolition of Buildings 1, 2, and part of 3, and reconfiguration of the main gate in its existing location.

The plan considers adjacencies of related facilities, AT/FP standards, operational efficiency, and constraints imposed by natural features. The proposed location at Area 1 offers optimized proximity to Buildings 12, 20 and 24, which is an important mission requirement.

5.0 CUMULATIVE EFFECTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

5.1 CUMULATIVE EFFECTS

Cumulative effects analysis in this EA considers the potential environmental effects resulting from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions (CEQ, 40 CFR 1508.7). The scope of the cumulative effects analysis involves time and geographic extent of potential actions, within which effects could be expected to occur, and a description of what resources could be cumulatively affected. For the purposes of this analysis, the temporal span for implementation of these actions is 5 years (i.e., 2013 to 2017) and the area of consideration is the land held for use by WB, though a larger area is considered for some resources.

5.1.1 PAST, PRESENT, AND POSSIBLE FUTURE ACTIONS

5.1.1.1 PAST AND PRESENT ACTIONS

WB was initially built in 1954 and operated as Army Nike Missile Control Site until 1963. It was then converted to a USAF satellite operations center operated by USAF Space Command. In 1997, the site was transferred to AMC, which allowed JPRA to utilize the area.

In 1992, and again in 1997, at the time the site was transferred from Space Command to AMC, environmental baseline surveys were prepared. Hazardous materials, petroleum products, and solid waste generation surveys were conducted in both years. Diesel fuel, heating oils, hydraulic fluids, and lubricating oils were found onsite. These areas have been fully remediated.

In 1999, an EA was completed in conjunction with review of plans for construction of two new buildings at WB. The summary of environmental impacts in the 1999 EA states that there did not appear to be any significant impacts to the environment. A FONSI was signed in September of 2000.

In 2007, USAF acquired 35 acres of land adjacent to WB to the west. An environmental baseline survey of this land was completed in 2007, which concluded that there were no hazardous materials onsite or other environmental concerns that would disqualify the USAF from proceeding with adding this land to WB.

Since inception, the installation has constructed numerous buildings, roadways, gates, and other facilities and infrastructure within its entire 92-acre footprint. Development of the surrounding area for agricultural uses and subsequent construction of onsite facilities have resulted in changes to native habitat, including vegetation communities and their associated wildlife, has increased ambient noise levels, introduced hazardous materials into the area, affected air quality, placed a demand on water quantity, increased the density of land use from the surrounding agricultural land uses, changed the soils composition, introduced health and safety hazards into the area and changed the overall aesthetic condition. All of these effects would be expected to occur during development of any such installation.

5.1.1.2 POSSIBLE FUTURE ACTIONS

This section identifies a broad range of additional independent demolition, construction, and infrastructure development actions that could conceivably be contemplated for proposal at some point in the future based on unlikely, but not unimaginable, emerging mission requirements. The planning horizon used to generate Table 5-1 (below) was 5 to 7 years.

Table 5-1 Possible Future Projects

Project	SF	Water	Power	Sewer	Generator	Population Added
Remove Tennis Court	-3,000	NA	NA	NA	NA	0
Guard Shacks at East and West Auxiliary Gates	500 (x2)	Yes	Yes	Yes	Yes	0
AAFES Dining and Retail Facility on Satellite Foundations	3,000	Yes	Yes	Yes	Yes	0
Two Story Work Shop and Office Space	10,000	Yes	Yes	Yes	Yes	35
Office and Administration Building With Test and Laboratory Facility	26,000	Yes	Yes	Yes	Yes	65
Training Building	18,000	Yes	Yes	Yes	Yes	0
Equipment Storage Shed	4,000	Yes	Yes	No	No	0
Garage	4,000	Yes	Yes	Yes	Yes	0
Indoor Firing Range	24,000	Yes	Yes	Yes	Yes	0
Relocate Four Trailers	6,000	Yes	Yes	Yes	Yes	0
Perimeter Track (15ft width)	160,000	No	No	No	No	0
Helicopter Landing Pad	1,600	No	No	No	No	0
Antenna(s)	50	No	Yes	No	No	0
Water Well and Plumbing	400	NA	NA	NA	NA	0
Septic System and Drain Field	as needed	NA	NA	NA	NA	0
Electric and Communications Conduits	as needed	NA	NA	NA	NA	0
Water Supply	as needed	NA	NA	NA	NA	0
Storm Water	as needed	NA	NA	NA	NA	0
Heating and Cooling	as needed	NA	NA	NA	NA	0

5.1.2 ANALYSIS OF CUMULATIVE EFFECTS

Although no significant impacts to the environmental resources of the project area were identified through the analysis within this EA, it is possible that impacts may be greater when considered *in combination* with all other potential actions.

However, in the event that any, or all, of the possible future projects listed in Table 5-1 actually become proposed actions, it is still not likely that significant cumulative effects will result. Primarily, this is due to the already disturbed nature of the overall facility, the lack of known sensitive natural or cultural resources within the site, and the relatively small area of the site. Even if there were an expansion of the WB work force, the density of the area would remain low compared to surrounding urban centers (such as Airway Heights or the city of Spokane) and demand for water, power, and communications would not significantly increase.

5.2 REASONABLE AND PRUDENT MEASURES AND BEST MANAGEMENT PRACTICES

The proposed projects would not result in significant adverse effects on the land or the surrounding area, due to the implementation of BMPs. These are steps that can be taken during demolition, construction, operation, and maintenance of the project that will reduce the temporary or permanent impacts to the environment. These have been provided where appropriate in the environmental consequences section above, and are summarized here:

- Clearing and grubbing would be timed with construction to minimize the exposure of cleared surfaces. Such activities would not be conducted during periods of wet weather. Construction activities would be staged to allow for the stabilization of disturbed soils. These BMPs would minimize adverse effects associated with soil and water resources.
- Fugitive dust-control techniques such as watering and stockpiling would be used to minimize adverse effects. All such techniques would comply with applicable regulations. These BMPs would minimize adverse effects associated with air quality, soil, and water resources.
- Soil erosion-control measures, such as soil erosion-control mats, silt fences, straw bales, diversion ditches, riprap channels, water bars, water spreaders, vegetative buffer strips, and hardened stream crossings, would be used as appropriate. These BMPs would minimize adverse effects associated with soil and water resources.

Storm water management would be used as appropriate during construction to minimize offsite runoff. Following construction, storm water management systems would ensure that predevelopment site hydrology is maintained or restored to the maximum extent technically feasible with respect to temperature, rate, volume, and duration of flow. These BMPs would minimize adverse effects associated with water resources:

- Minimize the disturbance of environmental resources and topography by integrating existing vegetation, trees, and topography into site design. These BMPs would minimize adverse effects associated with soil and biological resources.
- If sensitive nesting birds are found in proposed construction areas, buffer areas should be established around nests. Construction should be deferred in such buffer areas until birds have left the nest. Confirmation that all young have fledged should be made by a qualified biologist.
- Where feasible, minimize areas of impervious surface through shared parking, decked or structured parking, increased building height, or other measures as appropriate. These BMPs would minimize adverse effects associated with soil and water resources.

- Provisions would be taken to prevent pollutants from reaching the soil, groundwater, or surface water. During project activities, contractors would be required to perform daily inspections of equipment, maintain appropriate spill-containment materials on site, and store all fuels and other materials in appropriate containers. Equipment maintenance activities would not be conducted on construction sites. These BMPs would minimize adverse effects associated with soil, water resources, and hazardous materials and waste.
- Physical barriers and no trespassing signs would be placed around the demolition and construction sites to deter children and unauthorized personnel. All construction vehicles and equipment would be locked or otherwise secured when not in use. These BMPs would minimize adverse effects associated with health and safety.
- Construction equipment would be used only as necessary during the daylight hours and would be maintained to the manufacturer's specifications to minimize noise impacts. These BMPs would minimize adverse effects associated with health and safety.

5.3 UNAVOIDABLE ADVERSE IMPACTS

Unavoidable adverse effects would result from implementation of the proposed projects. As discussed in detail in Chapter 4, the proposed projects would result in short-term, adverse effects associated with construction and demolition activities, including increased noise, increased air emissions, minor interruptions to traffic flow, use and generation of small amounts of hazardous materials and wastes, and generation of construction and demolition waste. However, none of these effects would be significant in comparison to the threshold criteria established, and as a result of the BMPs noted in Section 5.2.

5.4 COMPATIBILITY OF THE PROPOSED ACTION AND ALTERNATIVES WITH THE OBJECTIVES OF FEDERAL, REGIONAL, STATE, AND LOCAL LAND USE PLANS, POLICIES, AND CONTROLS

Effects on the ground surface as a result of the proposed projects would occur within the boundaries of WB. All proposed installation development activities would not result in any significant or incompatible land use changes on or off the installation. Other proposed projects will be sited according to existing land use zones. Consequently, other construction activities would not be in conflict with installation land use policies or objectives.

The surrounding area is zoned Rural Traditional and Rural Conservation, and has minimum lot sizes of 10 acres (Spokane County 2012). Although some commercial activities may occur in these zones, they would be limited to resource extraction such as gravel mining, or agricultural operations. No permits for projects in the ROI of WB are pending (Spokane County 2012). Therefore, the proposed project and those proposed for the future would not have a cumulative effect in combination with other projects in the vicinity.

5.5 RELATIONSHIP BETWEEN SHORT-TERM USE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Short-term uses of the biophysical components of human environment include direct construction-related disturbances and direct effects associated with an increase in activity that occurs over a period of less than5 years. Long-term uses of human environment are those effects occurring over a period of more than 5 years, including permanent resource loss.

Short-term impacts resulting from construction of the proposed alternative would be offset by the long-term benefits from improvements to the area. Specifically, improvements to buildings, collocation efforts,

demolition of outdated buildings and improved infrastructure will provide long-term benefits to DOD activities undertaken at WB.

5.6 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The irreversible environmental changes that would result from implementation of the proposed projects involve the consumption of material resources, energy resources, and human resources that affect the sustainability of resource use in future generations. The use of these resources is considered to be permanent because the use or destruction of the resource cannot be replaced within a reasonable timeframe.

Though the proposed action would result in the use of materials, energy, and human resources, the level of use is not considered significant. Materials used for construction would be irretrievably lost; however these materials are not in short supply and would not limit other unrelated construction activities. Vegetation that would be altered would be irretrievably lost. However, vegetation in the area is already disturbed and does not provide significant biological habitat that cannot be found in immediate surroundings. Energy resources used would include fuels and electricity, which would continue to be used during operation of new facilities. Consumption of energy at WB would not place a significant demand on energy in the region. Use of human resources during construction represents employment opportunities, and is considered beneficial.

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7.0 COORDINATION AND CONSULTATION

The Draft EA and FONSI will be made available to all agencies and tribes listed below for review. A copy of the Interagency and Intergovernmental Coordination for Environmental Planning IICEP letter, a summary of comments received, and a summary of FAFB responses to comments received will be included in the Final EA following the close of the review period.

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