



Draft

Environmental Assessment

for Beddown of Additional
Republic of Singapore Air Force (RSAF)
F-15SGs at
Mountain Home Air Force Base, Idaho



December

2017



ABBREVIATIONS AND ACRONYMS

°F	degrees Fahrenheit	mm	millimeter(s)
ACM	asbestos-containing material	MOA	military operations area
AFB	Air Force Base	MSL	mean sea level
AFI	Air Force Instruction	NAAQS	National Ambient Air Quality Standards
AFMAN	Air Force Manual	NEPA	National Environmental Policy Act
AGE	Aerospace Ground Equipment	NHPA	National Historic Preservation Act
AGL	above ground level	NO ₂	nitrogen dioxide
APE	area of potential effect	NPDES	National Pollutant Discharge Elimination System
BASH	bird/wildlife aircraft strike hazard	NRHP	National Register Of Historic Places
BLM	Bureau of Land Management	NSA	noise sensitive area
BMP	best management practice	O ₃	ozone
CAA	Clean Air Act	OSHA	Occupational Safety And Health Administration
CEQ	Council on Environmental Quality	PAA	Primary Aerospace Vehicle Authorized
CFR	Code of Federal Regulations	PCB	polychlorinated biphenyl
CO	carbon monoxide	pCi/L	picocuries per Liter
CWA	Clean Water Act	PM _{2.5}	particulate matter less than or equal to 2.5 microns in diameter
dB	decibel	PM ₁₀	particulate matter less than or equal to 10 microns in diameter
dba	A-weighted decibel	ppb	parts per billion
dBp	peak noise level	PPE	personal protective equipment
<i>de minimis</i>	of minimal importance	ppm	parts per million
DNL	day-night sound level	QD	quantity-distance
DoD	Department of Defense	RCRA	Resource Conservation and Recovery Act
EA	Environmental Assessment	RSAF	Republic of Singapore Air Force
EIAP	Environmental Impact Analysis Process	ROI	region of influence
EISA	Energy Independence and Security Act	SCR	Saylor Creek Range
EO	Executive Order	SIP	State Implementation Plan
ESA	Endangered Species Act	SEL	sound exposure level
ESCP	Erosion and Sediment Control Plan	SHPO	State Historic Preservation Office
FS	Flying Squadron	SO ₂	sulfur dioxide
FW	Fighter Wing	SWMUs	solid waste management units
FY	Fiscal Year	SWPPP	stormwater pollution prevention plan
GHG	greenhouse gas	tpy	tons per year
IDEQ	Idaho Department of Environmental Quality	USACE	U.S. Army Corps of Engineers
IDFG	Idaho Department of Fish and Game	USAF	U.S. Air Force
IAPA	Idaho Administrative Procedures Act	USC	United States Code
JBR	Juniper Butte Range	USEPA	U.S. Environmental Protection Agency
LBP	lead-based paint	USFWS	U.S. Fish and Wildlife Service
L _{dnmr}	onset rate-adjusted monthly day-night average sound level		
L _{eq}	equivalent sound level		
L _{max}	maximum sound level		
MBTA	Migratory Bird Treaty Act		
MTR	military training route		
MHRC	Mountain Home Range Complex		

1 **Cover Sheet**

2 **Draft**

3 **Environmental Assessment**

4 **Beddown of Additional Republic of Singapore Air Force (RSAF) F-15SGs**
5 **at Mountain Home Air Force Base, Idaho**

6 **Responsible Agencies:** U.S. Air Force; Air Combat Command; 366th Fighter Wing.

7 **Affected Location:** Mountain Home Air Force Base, Idaho.

8 **Report Designation:** Draft Environmental Assessment (EA).

9 **Abstract:** This Draft EA was prepared in compliance with the U.S. Air Force's *Environmental*
10 *Impact Analysis Process* for the proposed beddown of additional Republic of Singapore Air
11 Force F-15SG aircraft under the 366th Fighter Wing at Mountain Home Air Force Base. The
12 beddown would include an increase the number of F-15SGs stationed at the installation from
13 14 to 20 aircraft; construction of support facilities and infrastructure; and increases in personnel,
14 aircraft operations, and munitions use. Written comments and inquiries regarding this document
15 should be directed by email to Ms. Noelle Shaver at noelle.shaver@us.af.mil, or by postal mail
16 at:

17 Ms. Noelle Shaver
18 RE: RSAF Beddown EA
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22 **Privacy Notice**

23 Comments on this document are requested. Letters or other written comments provided may be
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27 those requesting copies of the EA. However, only the names of the individuals making
28 comments and specific comments will be disclosed; personal home addresses and telephone
29 numbers will not be published in the EA.

DRAFT

ENVIRONMENTAL ASSESSMENT

FOR

BEDDOWN OF ADDITIONAL

REPUBLIC OF SINGAPORE AIR FORCE (RSAF) F-15SGs

AT

MOUNTAIN HOME AIR FORCE BASE, IDAHO



AIR COMBAT COMMAND

DECEMBER 2017

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1. Purpose of and Need for the Proposed Action

1.1 Introduction

This Environmental Assessment (EA) was prepared in compliance with the U.S. Air Force's (USAF's) *Environmental Impact Analysis Process* (EIAP) for the proposed beddown of additional Republic of Singapore Air Force (RSAF) F-15SG aircraft, under the 366th Fighter Wing (FW), at Mountain Home Air Force Base (AFB). This EA analyzes the potential for significant environmental impacts associated with the Proposed Action and alternatives, including the No Action Alternative. The environmental documentation process associated with preparing this EA is carried out in compliance with the National Environmental Policy Act (NEPA); the regulations implementing NEPA (Title 40 Code of Federal Regulations [CFR] §§ 1500–1508); and the USAF implementing regulation for NEPA, the EIAP, Air Force Instruction (AFI) 32-7061, which adopts 32 CFR § 989, as amended, as the controlling document for the EIAP.

1.2 Organization of this Document

This EA is organized into six sections plus appendices. **Section 1** provides history and background information, the project location, and the purpose of and need for the Proposed Action. **Section 2** contains a description of the Proposed Action and alternatives, including the No Action Alternative. **Section 3** provides existing conditions and analyses of potential impacts from the Proposed Action and alternatives. **Section 4** provides analysis of potential cumulative impacts. **Section 5** lists the preparers of this document. **Section 6** lists the references used in the preparation of this document. **Appendix A** includes the public and stakeholder coordination list. **Appendix B** includes government-to-government coordination materials.

1.3 Background

The mission at Mountain Home AFB is to ensure combat readiness for short-notice worldwide Air Expeditionary Force deployments and contingency operations (MHAFB 2017c). Mountain Home AFB has expanded, constricted, closed, and re-opened several times. Mountain Home AFB has a 74-year history of adapting to the effects of changing USAF missions, from the World War II long-range, heavy bombers (B-24s, B-29s, and B-47s), to Cold War-era modern fighters (F-16s and F-15Cs) and bombers (B-1Bs), to air refueling squadrons (KC-135s), to the current F-15E/F-15SG squadrons. The F-15E is a variant of the F-15 Eagle operated by USAF, and the F-15SG is a variant of the F-15 Eagle operated by RSAF. Since 1990, the number of aircraft based at Mountain Home AFB has varied from a high of 76 to its present level of 56.

The 428th Flying Squadron (FS) is the U.S. flagged FS of the Peace Carvin V program, a long-term partnership with the Republic of Singapore (Singapore). The squadron is dedicated to the training of Singaporean aircrew in the F-15SG, the country's newest fighter platform. The combined efforts of this program help ensure a strong U.S. relationship with Singapore, a critical partner in the Pacific region, while helping Singapore project airpower into the next generation (MHAFB 2017c). RSAF has signed a Letter of Offer and Acceptance with the U.S. government to establish a 20-plus year Continental United States presence to train on and operate their F-15SG aircraft.

1 At present, Mountain Home AFB has three fighter squadrons—two F-15E squadrons from
 2 366 FW and the RSAF squadron of F-15SGs under operational control of the 366 FW
 3 (see **Table 1-1**).

4 **Table 1-1. Composition of 366 FW in 2017**

Aircraft Type ¹	Aircraft Count	Squadron
F-15E	18	389th Fighter Squadron
F-15E	24	391st Fighter Squadron
RSAF F-15SG	14	428th Fighter Squadron
Total	56	

¹Includes Primary Aerospace Vehicle Authorized (PAA) only

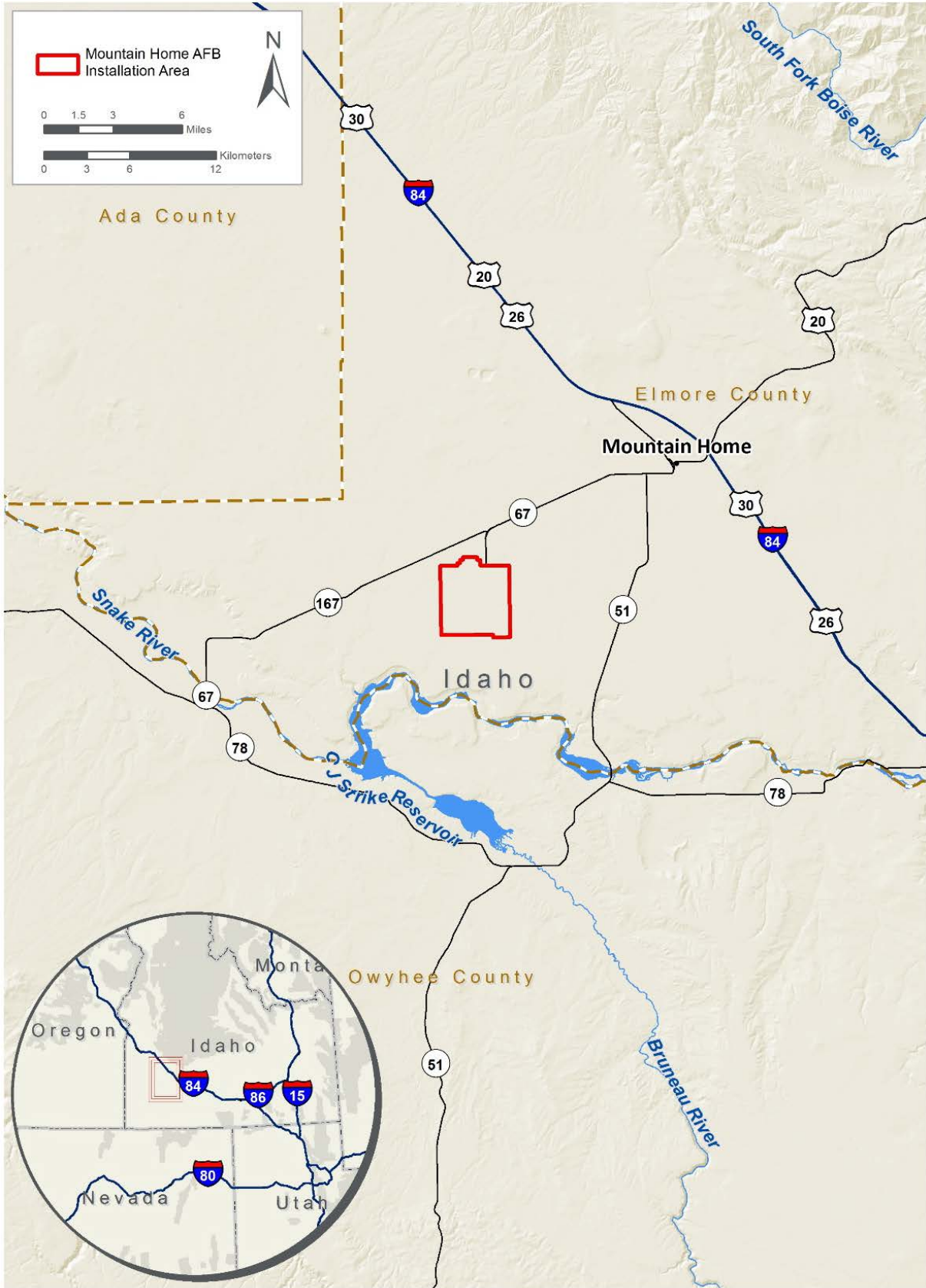
5 Each squadron within the 366 FW consists of Primary Aerospace Vehicle Authorized (PAA)
 6 aircraft and Backup Aerospace Vehicle Authorized. PAA is defined as those aircraft authorized
 7 for performance of the unit’s mission. Backup aircraft, as the designation implies, represent
 8 those authorized over and above the PAA to allow for scheduled and unscheduled depot level
 9 maintenance, modifications, inspections and repairs, and certain other mitigating circumstances
 10 without reduction of aircraft available for the assigned mission. For the purposes of this
 11 analysis, this EA focuses on PAA aircraft (see **Table 1-1**) because only those aircraft have the
 12 potential to affect the environment through flight operations and associated activities.

13 **1.4 Project Location Description**

14 Mountain Home AFB, located in southwestern Idaho approximately 40 miles southeast of Boise
 15 and 8 miles southwest of Mountain Home (see **Figure 1-1**), supports the 366 FW. The
 16 installation occupies 6,844 acres of land and includes the Small Arms Range, Rattlesnake
 17 Radar Station, Middle Marker and C.J. Strike Dam Recreation Annex, and the Mountain Home
 18 Range Complex (MHRC). The MHRC supports air-to-air training, air-to-ground bombing and
 19 gunnery training, and Electronic Combat training activities. The MHRC is managed by the
 20 366 FW and comprises over 9,026 square nautical miles of airspace and multiple ground-based
 21 training ranges, all of which are critical to the readiness of combat aircrews from Mountain
 22 Home AFB. Aircraft based at Mountain Home AFB conduct over 90 percent of their flight
 23 training in the MHRC. Additionally, other aircraft from Air Combat Command, Air National
 24 Guard, sister services, and foreign allies regularly train in the MHRC. The MHRC includes two
 25 air-to-ground gunnery ranges— Saylor Creek Range (SCR) (R-3202) and Juniper Butte Range
 26 (JBR) (R-3204). The MHRC airspace is composed of the Owyhee, Jarbidge, and Paradise
 27 (East and West) Military Operations Areas (MOAs), and associated Air Traffic Control Assigned
 28 Airspace.

29 **1.5 Purpose of and Need for the Proposed Action**

30 **Background.** Following World War II, the U.S. government established a policy of providing
 31 training to military personnel from countries allied and partnered with the United States and
 32 such training continues today. Changes in international requirements and reductions in U.S.
 33 military budgets have established a need for the military forces of many nations to work together
 34 to meet specific threats. This combined military capability permits substantial reductions in each



1 Data Sources: USGS, State of Idaho, MHAFB

2 Figure 1-1. Mountain Home AFB and Surrounding Area

1 nation's military force while also creating the larger force necessary to respond to international
2 requirements. This philosophy establishes a need for military personnel of different nations to
3 achieve a common high standard of training and proficiency and to forge the strongest possible
4 team.

5 **Purpose.** The purpose of the Proposed Action is to expand the RSAF training mission at
6 Mountain Home AFB to maintain maximum readiness for RSAF forces. Mountain Home AFB
7 provides a location for the RSAF to train with the F-15SG purchased from USAF as part of the
8 foreign military sales program (identified as the Peace Carvin V program), under the 366 FW, in
9 accordance with the Letter of Offer and Acceptance between the United States and Singapore.
10 Joint training shows continued U.S. commitment to support foreign allies' and partners' training
11 requirements in a combined operational environment.

12 **Need.** The Proposed Action is needed because Singapore has limited airspace and availability
13 to train, and to continue building USAF relationship and interoperability with the Singapore
14 armed forces. The Proposed Action would provide training for effective combat readiness of an
15 important partner nation, fulfilling the need to train as a team to perform in a multinational force
16 structure.

17 **1.6 NEPA and Other Compliance Requirements**

18 NEPA is a federal statute requiring the identification and analysis of potential environmental
19 impacts associated with proposed federal actions before those actions are taken. NEPA helps
20 decision makers make well-informed decisions based on an understanding of the potential
21 environmental consequences. NEPA established the Council on Environmental Quality (CEQ),
22 which is charged with the development of implementing regulations and ensuring federal
23 agency compliance with NEPA. The process for implementing NEPA is outlined in
24 40 CFR §§ 1500–1508, *Regulations for Implementing the Procedural Provisions of the National*
25 *Environmental Policy Act*.

26 CEQ regulations specify that an EA be prepared to provide evidence and analysis for
27 determining whether to prepare a Finding of No Significant Impact or an Environmental Impact
28 Statement. The EA aids in an agency's compliance with NEPA when an EIS is unnecessary
29 and facilitates preparation of an EIS when one is required.

30 Air Force Policy Directive 32-70, *Environmental Quality*, states that USAF will comply with
31 applicable federal, state and local environmental laws and regulations, including NEPA. USAF's
32 implementing regulation for NEPA is the EIAP, AFI 32-7061, which adopts 32 CFR § 989, as
33 amended, as the controlling document for the EIAP.

34 In compliance with NEPA, USAF will decide if preparation of an EA is the appropriate level of
35 the EIAP for the Proposed Action described in **Section 2.1**. The EA would identify whether the
36 Proposed Action would result in significant impacts. If significant impacts were predicted, then
37 USAF would decide whether to provide mitigation to reduce impacts below the level of
38 significance, undertake the preparation of an EIS, or abandon the Proposed Action. The EA
39 would also be used to guide USAF in implementing the Proposed Action in a manner consistent

1 with USAF standards for environmental stewardship should the Proposed Action be approved
2 for implementation.

3 USAF is required to manage floodplains and wetlands in accordance with AFI 32-7064,
4 *Integrated Natural Resources Management*, which includes the USAF guidance for compliance
5 with Executive Order (EO) 11988, *Floodplain Management*, and with EO 11990, *Protection of*
6 *Wetlands*. USAF has not identified any floodplains or wetlands that have the potential to be
7 disturbed by the Proposed Action described in **Section 2.1**.

8 **1.7 Intergovernmental and Stakeholder Coordination**

9 NEPA requirements help ensure that environmental information is made available to the public
10 during the decision-making process and prior to actions being taken. CEQ NEPA regulations
11 state, "There shall be an early and open process for determining the scope of issues to be
12 addressed and for identifying the significant issues related to a Proposed Action. This process
13 shall be termed scoping." EO 12372, *Intergovernmental Review of Federal Programs*, as
14 amended by EO 12416, *Intergovernmental Review of Federal Programs*, requires federal
15 agencies to provide opportunities for input from elected officials of state and local governments
16 that would be directly affected by a federal proposal.

17 In compliance with NEPA, USAF notifies relevant agencies, stakeholders, and federally
18 recognized tribes about the Proposed Action and alternatives (see **Appendix A** for stakeholder
19 and public involvement materials). The notification process provides these relevant agencies
20 and groups the opportunity to comment on the Proposed Action and potential impacts that could
21 occur. Once a Draft EA is completed, a Notice of Availability will be published in the *Mountain*
22 *Home News*. Copies of the Draft EA will also be sent to local libraries. Public and agency
23 comments on the Draft EA will be considered prior to a decision being made on whether or not
24 to sign a Finding of No Significant Impact.

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2. Description of the Proposed Action and Alternatives

This section describes the Proposed Action and alternatives considered, including the No Action Alternative. As discussed in **Section 1.6**, the NEPA process evaluates potential environmental consequences associated with a Proposed Action and considers alternative courses of action. Reasonable alternatives must satisfy the purpose of and need for a Proposed Action, as defined in **Section 1.5**. USAF NEPA regulations also specify the inclusion of a No Action Alternative against which potential effects can be compared. While the No Action Alternative would not satisfy the purpose of or need for the Proposed Action, it is analyzed in accordance with CEQ and USAF NEPA regulations.

2.1 Proposed Action

USAF proposes to increase the number of permanently assigned RSAF F-15SG aircraft at Mountain Home AFB from 14 to 20, in response to a Letter of Request submitted by the Singapore Ministry of Defense and the RSAF. The RSAF training squadron would continue to operate as a separate fighter squadron under the operational control of the 366 FW and there would be no change in the mission for the installation. This section presents a description of the activities and implementing actions associated with the Proposed Action. The Proposed Action includes the following activities:

- an increase in aircraft at Mountain AFB
- an increase in support personnel
- an increase in aircraft operations
- an increase in inert munitions use
- construction and renovation of supporting facilities.

Construction and renovation to support the beddown would occur from 2018 through 2020. The increase in aircraft, personnel, aircraft operations, and inert munitions use would begin in 2019.

2.1.1 Aircraft

The Proposed Action would place six additional F-15SGs at Mountain Home AFB by the second quarter of 2019, for a total of 62 aircraft on the installation. **Table 2-1** provides a breakdown of the proposed inventory changes associated with the Proposed Action.

Table 2-1. Aircraft Inventory Changes Associated with the Proposed Action

Aircraft ^a	Baseline	Proposed Action Change	Proposed Action
F-15E	42	0	42
F-15SG	14	+6	20
Total	56	+6	62

^a Includes PAA only

1 **2.1.2 Personnel**

2 The Proposed Action would require basing an additional 207 operations and support personnel
3 to sufficiently operate and maintain the additional aircraft and to provide necessary support
4 services. This would include active-duty, U.S. and RSAF personnel (officer, enlisted, and
5 civilian) and contractor support. Overall, installation personnel would increase 5 percent (see
6 **Table 2-2**) under the Proposed Action. It is assumed that the additional personnel would also
7 be accompanied by dependents. Family members and dependents are estimated at 2.5 times
8 65 percent of military and civilian personnel. Based on this estimate, the total personnel and
9 dependent population would increase by approximately 6 percent. The transition of additional
10 personnel is expected to take place in 2019 concurrent with the basing of aircraft. Because of
11 limited on-installation housing availability, it is assumed that all personnel would reside in
12 off-installation housing, either in nearby communities or in Boise, Idaho.

13 **Table 2-2. Proposed Personnel Changes**

Personnel	Baseline on Installation ^a	Proposed Action Change	Total Under Proposed Action
Military	3,364	+177	3,541
Civilian	910	+30	940
Total Installation Personnel	4,274	+207	4,481
Military Dependents and Family Members	4,303	+336	4,639
Total Installation Personnel and Dependents	8,577	+543	9,120

^a Source: MHAFB 2015

14 **2.1.3 Aircraft Operations**

15 Throughout this EA, three phrases are used to describe aircraft operations: sortie, airfield
16 operation, and sortie-operation. A sortie consists of a single military aircraft flight from takeoff
17 through landing. An airfield operation represents the single movement or individual portion of a
18 flight in the installation airfield airspace environment, such as a departure, an arrival, or a closed
19 pattern. A sortie-operation is defined as the use of one airspace unit, such as a training route,
20 by one aircraft. Sortie-operations apply to flight activities outside the airfield airspace environs.
21 Each time a single aircraft flies in a different airspace unit, one sortie-operation is counted for
22 that unit. As an example, on a typical training mission at Mountain Home AFB, an aircraft
23 makes an initial takeoff at the airfield and flies to a MOA (one sortie-operation at the MOA) to
24 practice flight maneuvers, proceeds to another MOA to practice a different type of flight
25 maneuver (one sortie-operation at the range), and then returns to the airfield. This generates
26 two sortie-operations.

27 **2.1.3.1 AIRFIELD FLIGHT OPERATIONS**

28 The beddown of six additional F-15SGs at Mountain Home AFB would include an increase in
29 total airfield operations and sorties. As shown in **Table 2-3**, annual sorties at the airfield would
30 increase by approximately 12 percent and annual operations would increase by approximately
31 14 percent. It is assumed that approximately 10 percent of total airfield operations and sorties
32 would be conducted during the environmental night, from 10 p.m. until 7 a.m.

33

1 **Table 2-3. Current and Proposed Annual Airfield Sorties and Operations**

Aircraft	Departures ^b	Arrivals ^b	Closed Patterns	Total
F-15E (389 FS/391 FS)	6,577	6,577	22,688	35,842
F-15SG (RSAF 428 FS)	2,782	2,782	15,459	21,023
Transient	1,847	1,847	0	3,694
Total Baseline Operations ^a	11,206	11,206	38,147	60,559
Proposed Action Increase F-15SG (RSAF 428 FS)	1,520	1,520	6,625	9,665
Total Baseline and Proposed Action	12,726	12,726	44,772	70,224
Percent Change	12%	12%	15%	14%

^a Source: USAF 2017

^b The number of sorties is equal to the number of arrivals or the number of departures.

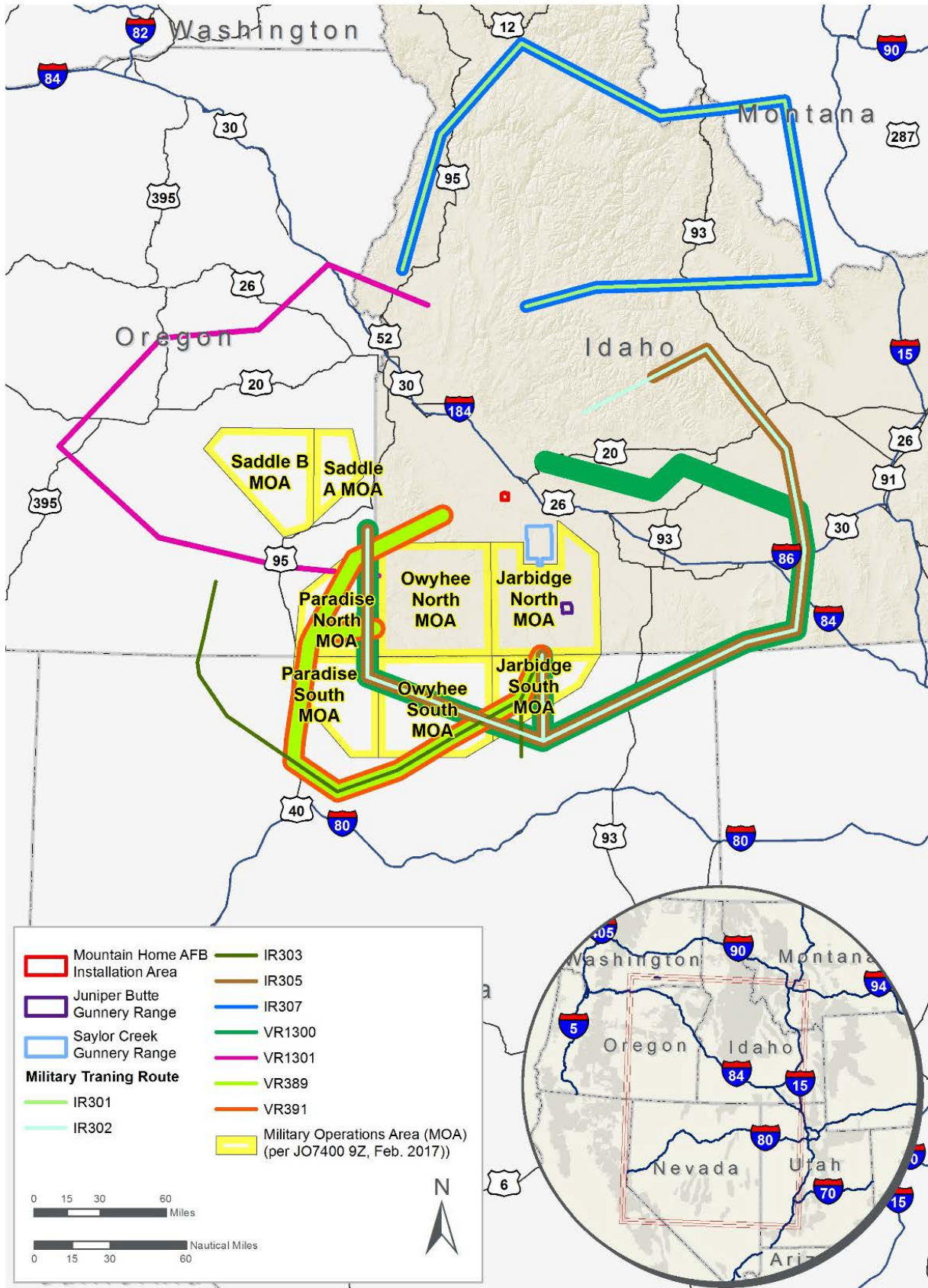
2 **2.1.3.2 TRAINING FLIGHT OPERATIONS**

3 Aircraft from Mountain Home AFB currently conduct training operations in MOAs and overlying
4 Air Traffic Control Assigned Airspaces, restricted areas, and Military Training Routes (MTRs).
5 No aspect of the Proposed Action would alter the structure or overall nature or use of the local
6 or remote airspace units. Rather, changes to the aircraft inventory at Mountain Home AFB
7 would only result in minor modifications to the amount of activity in the airspace.

8 Mountain Home AFB uses five MOAs within the region: Jarbidge, Owyhee, Paradise East,
9 Paradise West, and Saddle (see **Figure 2-1**). While F-15Es and F-15SGs have dual air-to-air
10 and air-to-ground roles as reflected in their flight profiles, the air-to-ground function is primary.
11 Primary air-to-ground training occurs in the Jarbidge MOA, whereas use of the other MOAs
12 tends to emphasize higher altitude air-to-air training. However, low-altitude training does occur
13 in the Owyhee MOA. The higher floors (base altitudes) of the Paradise East, Paradise West,
14 and Saddle MOAs preclude low-altitude flight.

15 **Table 2-4** presents the projected changes in annual sortie-operations for the MOAs associated
16 with Mountain Home AFB. As this table indicates, sortie-operations would increase 17 percent
17 overall under the Proposed Action. Of this increase, there would be a 17 percent increase in
18 day sortie-operations for all MOAs and a 21 percent increase in night sortie-operations for all
19 MOAs. **Table 2-5** provides the flight profiles for each MOA and the day/night sortie-operations.
20 The additional F-15SGs would also employ supersonic flight within the Owyhee and Jarbidge
21 MOAs where such activity is already authorized. Approximately 4 percent of all operations
22 within the Owyhee and Jarbidge MOAs would include supersonic flight between 10,000 feet
23 above ground level (AGL) and 30,000 feet above mean sea level (MSL).

24 Existing MTRs are flown by the RSAF and provide opportunities for low-altitude training within a
25 defined corridor (see **Figure 2-1**). The addition of six F-15SG aircraft to the RSAF squadron
26 would increase MTR utilization. There would be an increase of 62 day/night annual
27 sortie-operations in the MTRs, as shown in **Table 2-6**. It is assumed that approximately
28 13 percent of total sortie-operations in the MTRs would be conducted during the environmental
29 night, from 10 p.m. until 7 a.m.



1 Data Sources: USGS, State of Idaho, MHAFA, FAA

1 Figure 2-1. Mountain Home AFB Training Airspace

2

1 **Table 2-4. Current and Proposed MOA F-15E/F-15SG Day/Night Training Annual Sortie-**
2 **Operations**

Operation Type		MOA				
		Jarbidge N/S	Owyhee N/S	Paradise N/S	Saddle A/B	All MOAs
Day Sortie-Operations	Baseline	10,135	9,030	7,912	2,692	29,769
	Proposed Increase	+2,031	+1,818	+1,586	+542	+5,977
	Total Under Proposed Action	12,166	10,848	9,498	3,234	35,746
	Percent Increase	+17%	+17%	+17%	+17%	+17%
Night Sortie-Operations	Baseline	1,125	1,003	878	299	3,305
	Proposed Increase	+304	+272	+237	+81	+894
	Total Under Proposed Action	1,429	1,275	1,115	380	4,199
	Percent Increase	+21%	+21%	+21%	+21%	+21%
Total Day/Night Sortie-Operations	Baseline	11,260	10,033	8,790	2,991	33,074
	Proposed Increase	+2,335	+2,090	+1,823	+623	+6,871
	Total Under Proposed Action	13,595	12,123	10,613	3,614	39,945
	Percent Increase	+17%	+17%	+17%	+17%	+17%

3 **Table 2-5. F-15E/F-15SG Flight Profiles**

MOA	Average Duration in MOA (minutes)	Percent Time at Altitude (feet)		
		500–2,000	2,000–10,000	>10,000
Jarbidge N/S	38	19%	37%	44%
Owyhee N/S	20	13%	17%	70%
Paradise N/S	40	N/A	N/A	100%
Saddle A/B	60	N/A	N/A	100%

4 **Table 2-6. Current and Proposed MTR F-15E/F-15SG Day/Night Training Annual Sortie-Operations**

Operation Type		MTR									
		IR-301	IR-302	IR-303	IR-305	IR-307	VR-1300	VR-1301	VR-389	VR-391	All MTRs
Total Day/ Night Sortie-Operations	Baseline	73	209	82	62	22	10	140	111	51	583
	Proposed Increase	+6	+8	+12	+26	+1	+1	+2	+3	+3	+62
	Total Under Proposed Action	79	217	94	88	23	11	142	114	54	822
	Percent Increase	8%	4%	13%	30%	4%	9%	1%	3%	6%	8%

5

1 **2.1.4 Munitions Use**

2 For the F-15E and F-15SG, training involves use of defensive countermeasures (chaff and
 3 flares), strafing (20-millimeter [mm]), and ordnance (inert and live, including both guided and
 4 unguided munitions) to ensure bombing proficiency and to simulate combat-loaded aircraft. The
 5 beddown would include an increase in the expenditures of certain munitions, although only a
 6 portion of these munitions would be expended at the MHRC under the purview and
 7 authorization of the 366 FW. Live ordnance use does not occur at MHRC and the 366 FW
 8 completes this training at other existing training ranges with authorization from the managing
 9 unit. Proposed increases in flare and inert ordnance use at the MHRC are within the
 10 authorizations previously analyzed in the *2007 Final Environmental Assessment for Republic of*
 11 *Singapore Air Force Beddown, Mountain Home AFB*; the *2010 Final Environmental Assessment*
 12 *for Proposed Airspace Changes for Paradise East and Paradise West Military Operations Areas*
 13 *at Mountain Home Air Force Base Idaho*; and the *2017 Final Environmental Assessment for*
 14 *Operational Changes and Range Improvements in the Mountain Home Range Complex* and are
 15 not be included for analysis in this EA.

16 All proposed increases in munitions would be inert/training practice rounds, and no increases in
 17 live munitions at the MHRC are anticipated. **Table 2-7** includes the proposed annual increases
 18 and associated range use for munitions.

19 **Table 2-7. Proposed Annual Munitions Use Increases at MHRC**

Munitions	Baseline at MHRC	Proposed Increase	Total	Percent Increase	Range Use
20-mm Training Practice (inert)	197,160	+18,000	215,160	+8%	SCR
Chaff	66,686	+15,200	81,886	+19%	MHRC

20 **2.1.5 Facilities and Infrastructure**

21 USAF would address space limitations in existing RSAF facilities to provide sufficient room for
 22 additional personnel and supplies. Proposed facility construction and modifications to support
 23 the beddown are listed in **Table 2-8**. The proposed redevelopment would take place within the
 24 existing developed areas on Mountain Home AFB, as shown in **Figure 2-2**. Repairs and
 25 refurbishment of existing munitions storage facilities would be needed to support the Proposed
 26 Action; however, these repairs are also needed to support existing operations at Mountain
 27 Home AFB and have been addressed in previous EIAP documentation. Therefore, the
 28 refurbishment of the existing munitions storage facilities will not be discussed in this EA.

29 Eight facility projects directly related to the beddown would be implemented in 2018 through
 30 2020. Upgrades or additions to the utilities infrastructure are not proposed. The construction
 31 and modifications would disturb approximately 2.6 acres and increase impervious surface on
 32 the installation by approximately 2.0 acres. Prior to and during construction, temporary trailers
 33 would be installed on the ground surface to provide additional office space for personnel. It is
 34 assumed that if personnel needed to be temporarily relocated during construction, they would
 35 be accommodated either in existing facilities or these temporary trailers. Trailers would not
 36 require use of generators and would be removed once construction was complete.

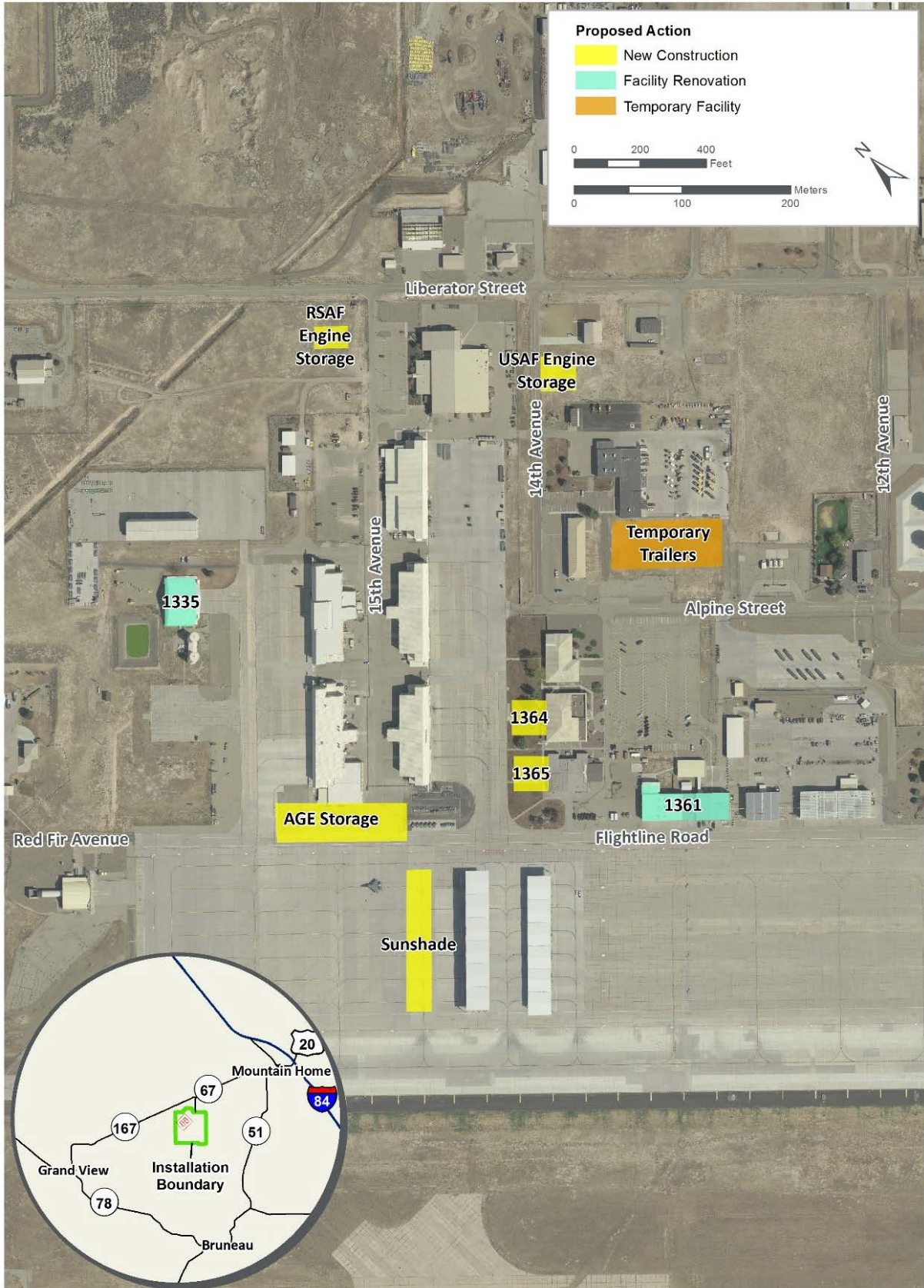
1 **Table 2-8. Proposed Facility Construction and Modifications**

Project	Description	Size (square feet)	Ground Disturbance?	Impervious Surface?
New Construction and Facility Additions				
Squadron Operations facility, Building 1364	Construct an addition. Also includes renovations.	10,000	Yes	Yes
Aircraft Maintenance Unit, Building 1365	Construct an addition. Also includes renovations.	14,000	Yes	Yes
RSAF Engine Storage	Construct new engine storage facility for RSAF.	6,000	Yes	Yes
USAF Engine Storage	Construct new engine storage facility for USAF.	10,000	Yes	Yes
Sunshades	Construct new sunshades on Row 3 of RSAF ramp.	29,400	Yes	No
Aerospace Ground Equipment (AGE) and Fuel Tanks Storage Yard	Construct addition to the existing AGE pad and storage area.	45,000	Yes	Yes
Facility Renovations				
Building 1361	Renovate for use as a supply facility.	N/A	No	No
Hangar, Building 1335	Renovate facility floors and fire suppression system. Repair hangar door.	N/A	No	No
Temporary Facilities				
Temporary Trailers	Install seven temporary trailers for use as office space.	9,840	No	No

2 **2.2 Selection of Alternatives**

3 Considering alternatives helps to avoid unnecessary impacts and allows for an analysis of
 4 reasonable ways to achieve the stated purpose. To warrant detailed evaluation, an alternative
 5 must be reasonable.

6 To be considered reasonable, an alternative must be suitable for decision making, capable of
 7 implementation, and sufficiently satisfactory with respect to meeting the purpose of and need for
 8 the action. During development of the Proposed Action, USAF considered alternatives to the
 9 beddown of additional F-15SGs that limited the increase in the number of support personnel
 10 and munitions expenditures. However, these alternatives would not meet the purpose and need
 11 (**Section 1.5**) to allow the RSAF to train to and maintain maximum readiness. For this reason,
 12 these potential alternatives were considered and dismissed from further analysis.



1 Data Sources: USGS, State of Idaho

2 Figure 2-2. Facility Construction and Modifications - Proposed Action

1 To be carried forward for analysis, alternatives to the Proposed Action must meet the following
2 selection standards:

- 3 • Co-locate with existing F-15E and F-15SG aircraft. Co-location with existing F-15E and
4 RSAF F-15SG aircraft ensures organizational synergies between units and maximizes
5 use of support facilities and equipment.
- 6 • Provide adequate and available training airspace. Local training airspace allows
7 aircrews to perform effective training without wasting finite flying hours on transit that
8 provides little to no training value.
- 9 • Provide space and facilities for additional aircraft and personnel with minimal
10 improvements.

11 **2.2.1 Evaluation of Alternatives**

12 USAF identified two possible alternatives to the Proposed Action, Seymour Johnson AFB and a
13 Mountain Home AFB Construction Alternative, that both meet the purpose and need as
14 described in **Section 1.5**.

15 **Seymour Johnson AFB.** USAF identified Seymour Johnson AFB as a potential alternative to
16 the Proposed Action because it currently supports a combat-coded operational F-15E squadron.
17 Training with this squadron would allow the RSAF to train to maximum readiness on the
18 F-15SG. However, Seymour Johnson AFB does not currently host F-15SG aircraft and,
19 therefore, would not provide the operational synergies currently available at Mountain AFB.
20 Additionally, Seymour Johnson AFB has limited ramp space and limited airspace capacity to
21 expand training opportunities to accommodate RSAF aircraft.

22 **Mountain Home AFB Construction Alternative.** USAF identified an alternative to the
23 Proposed Action that provides additional capacity to accommodate the RSAF support
24 capabilities. While the Proposed Action adequately accommodates the increase in RSAF
25 operations, this alternative would provide additional munitions and equipment storage for the
26 increase in aircraft.

27 **Table 2-9** provides a comparison of possible alternatives and the Proposed Action to the
28 selection standards described in **Section 2.2**. One of the potential alternatives identified, in
29 addition to the Proposed Action, meets the selection standards described in **Section 2.2**.
30 Additional details regarding the Mountain Home AFB Construction Alternative are provided in
31 **Section 2.2.2**.

32 **Table 2-9. Evaluation of Potential Alternatives**

Potential Alternative	Selection Standards		
	Co-location	Airspace	Support Facilities
Seymour Johnson AFB	X	X	X
Mountain Home AFB Construction Alternative	✓	✓	✓
Proposed Action	✓	✓	✓

1 **2.2.2 Alternative 1 – Construction Alternative**

2 Under Alternative 1, USAF would conduct all activities described under the Proposed Action
 3 except for two facility modifications projects (see **Table 2-10**). Under Alternative 1, USAF would
 4 also construct four munitions storage igloos and would construct an addition to Building 1315
 5 rather than renovating Building 1361 (see **Figure 2-3**). In total, the construction and
 6 modifications under Alternative 1 would disturb 3.3 acres and increase impervious surface on
 7 the installation by approximately 2.7 acres.

8 **Table 2-10. Additional Proposed Facility Construction and Modifications under Alternative 1**

Project	Description	Size (square feet)	Ground Disturbance?	Impervious Surface?
New Construction and Facility Additions				
PBL Supply (Boeing), Building 1315	Construct addition to existing PBL supply facility.	4,500	Yes	Yes
Munitions storage igloos	Construct four new 6,300- square foot munitions igloos.	25,200	Yes	Yes

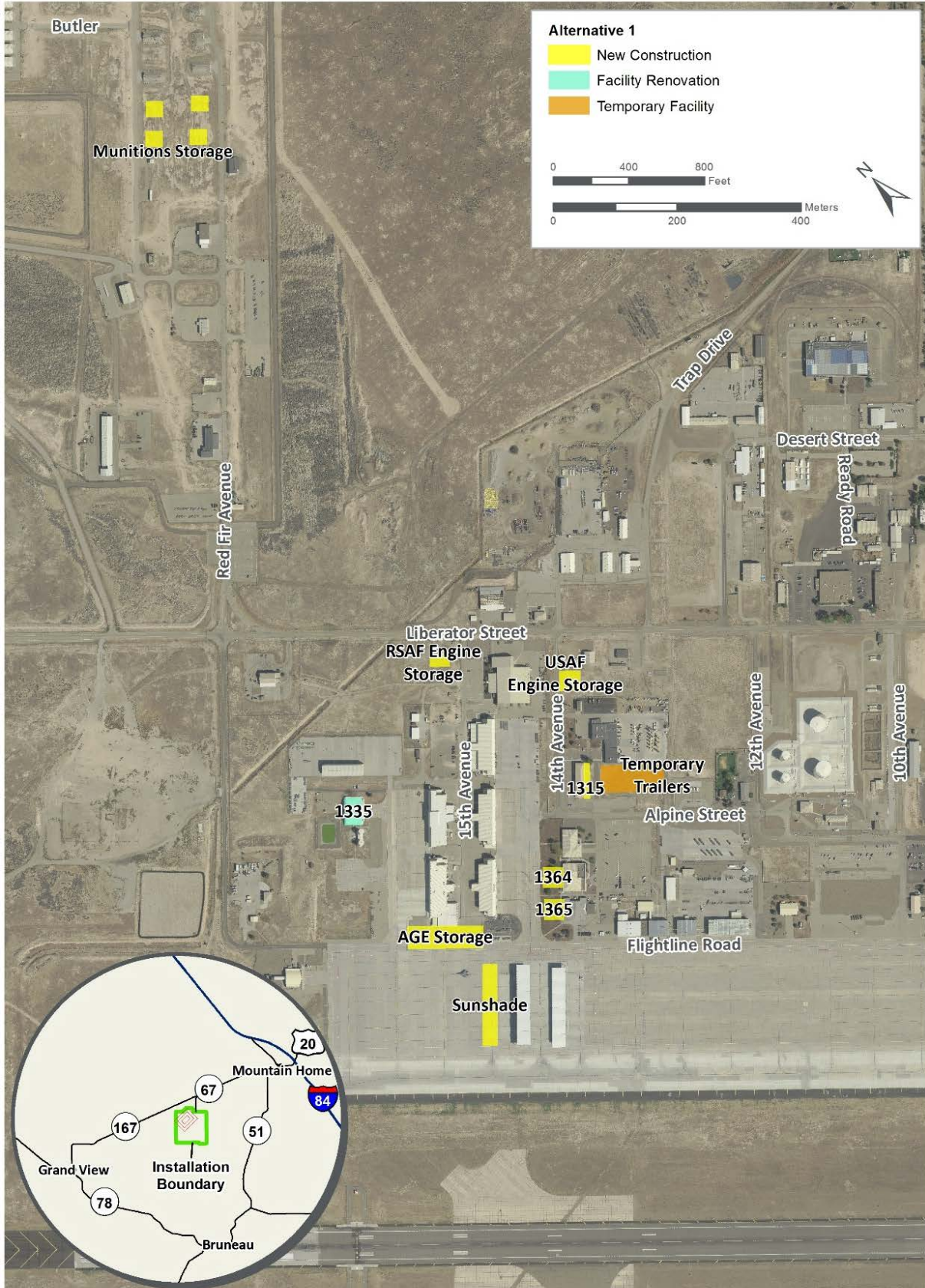
9 **2.3 No Action Alternative**

10 USAF NEPA regulations require consideration of the No Action Alternative. The No Action
 11 Alternative serves as a baseline against which the impacts of the Proposed Action and other
 12 potential action alternatives can be evaluated. Under the No Action Alternative, USAF would
 13 not beddown additional RSAF F-15SGs at Mountain Home AFB. The No Action Alternative
 14 would not meet the purpose of and need for the Proposed Action, as described in **Section 1.5**.

15 **2.4 Identification of the Preferred Alternative**

16 The Preferred Alternative is to implement the Proposed Action, as described in **Section 2.1** of
 17 this EA.

Draft EA for RSAF F-15SG Beddown, Mountain Home AFB
 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES



Data Sources: USGS, State of Idaho

1 Figure 2-3. Facility Construction and Modifications - Alternative 1

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3. Affected Environment and Environmental Consequences

All potentially relevant resources were initially considered for analysis in this EA. In compliance with NEPA, CEQ, and EIAP 32 CFR § 989 guidelines, **Section 3** of this document focuses only on the resources considered potentially subject to impacts from the Proposed Action and alternatives, or No Action Alternative. **Sections 3.1** through **3.9** present the potential environmental impacts for the following resource categories: noise, air quality, soils, cultural resources, water resources, socioeconomics, health and safety, biological resources, and hazardous materials and wastes. Impacts identified in **Section 3.1** through **Section 3.9** would be considered adverse, unless noted otherwise. Throughout the analysis in **Sections 3.1** through **3.9**, as applicable, the proposed area that could be physically disturbed from the Proposed Action and Alternative 1 is referred to as the “project area.” The term “project area” encompasses the locations proposed for construction or renovation identified in **Section 2**.

The Proposed Action includes components affecting Mountain Home AFB, and MHRC and associated airspace, or both. Some components, such as proposed construction projects, only affect the installation because of their limited geographic scope. Similarly, the effects of inert munitions use are exclusive to MHRC, and increases in MOA and MTR use are exclusive to the airspace and areas below the airspace. **Table 3-1** highlights the affected areas analyzed for each resource.

Table 3-1. Resources Analyzed in this EA

Resource Category	Mountain Home AFB	MHRC and Airspace
Noise	Yes	Yes
Air Quality	Yes	Yes
Soils	Yes	No
Cultural Resources	Yes	Yes
Water	Yes	No
Socioeconomics	Yes	No
Health/Safety	Yes	Yes
Biological Resources	Yes	No
Hazardous Materials And Wastes	Yes	Yes
Airspace	No	No
Land Use	No	No
Utilities and Infrastructure	No	No
Geology	No	No
Transportation	No	No
Environmental Justice	No	No

1 Resource Categories Eliminated from Detailed Analysis

2 Based on the components of the Proposed Action, USAF focused on specific resource
3 categories to define the environment potentially affected by the beddown of additional F-15SGs
4 at Mountain Home AFB. Some resources would not be affected by the Proposed Action,
5 Alternative 1, or No Action Alternative. Resource categories that have been eliminated from
6 further detailed study in this document and the rationale for eliminating them are presented
7 below:

8 **Airspace.** The Proposed Action and alternatives do not include any proposals for new airspace,
9 nor do they include changes to the manner in which the existing airspace is used. Under the
10 Proposed Action, all F-15SGs would conduct operations within existing airspace and training
11 areas currently authorized for and utilized by F-15Es and F-15SGs operating from Mountain
12 Home AFB. Therefore, impacts on airspace are not expected.

13 **Land Use.** The Proposed Action and alternatives do not include any proposed changes to
14 existing land use at Mountain Home AFB or within the confines of MHRC and associated
15 airspace. All proposed activities, including aircraft operations and munitions use, would take
16 place within areas currently authorized and utilized for the same activities. All proposed
17 construction and facility modifications would take place on Mountain Home AFB within the
18 existing developed cantonment and airfield areas. Impacts on land use from aircraft operations
19 are not expected as noise from operations within the MTRs and MOAs would be
20 indistinguishable from current conditions and would be completely compatible with all land uses,
21 as described in **Section 3.1**. Therefore, impacts on land use are not expected.

22 **Utilities and Infrastructure.** The Proposed Action and alternatives would not require upgrades
23 or additions to the utilities infrastructure to accommodate the proposed facility additions and
24 renovations. The total number of installation personnel under the Proposed Action and
25 alternatives would be consistent with the historical population of the installation. Therefore,
26 perceptible increases or changes to use of on or off-installation utilities and infrastructure are
27 not anticipated. The Proposed Action and alternatives also do not include any changes to
28 infrastructure or utilities use at MHRC. Therefore, impacts on utilities and infrastructure are not
29 expected.

30 **Geology.** The Proposed Action and alternatives would include construction only in developed
31 and maintained areas of Mountain Home AFB, and no construction would take place at MHRC.
32 Any excavation to support construction of new facilities would occur within developed areas and
33 the surface soils and would not require disturbance of the bedrock. All proposed construction
34 would incorporate use of erosion and sediment control best management practices (BMPs) in
35 accordance with USAF guidance, an Erosion and Sediment Control Plan (ESCP), and would
36 adhere to the requirements of the installation's Stormwater Pollution Prevention Plan (SWPPP).
37 The Proposed Action and alternatives would not temporarily or permanently disturb the geology
38 beneath the surface soils. The lithology (i.e., the character of a rock formation); stratigraphy
39 (i.e., the layering of sedimentary rocks); topography (i.e., the general shape and arrangement of
40 a land surface); and geological structures that control groundwater quality, distribution of
41 aquifers and confining beds, and groundwater availability would not be disturbed by any
42 component of the Proposed Action or alternatives. Therefore, impacts on geological resources
43 are not expected.

1 **Transportation.** The Proposed Action and alternatives would not include construction or
2 modification of any roads or transportation networks. The total number of installation personnel
3 under the Proposed Action and alternatives would be less than the historic population of the
4 installation and the existing transportation network is capable of supporting this population size,
5 as noted in the *2007 Final Environmental Assessment for Republic of Singapore Air Force*
6 *F-15SG Beddown, Mountain Home AFB*. Therefore, the Proposed Action and alternatives
7 identified in this EA would not have the potential to adversely impact traffic patterns within and
8 access to Mountain Home AFB. Therefore, impacts on transportation networks on installation or
9 within the community are not expected (MHAFB 2007).

10 **Environmental Justice.** Under the Proposed Action and alternatives, changes in noise levels
11 represent the only possible factor relevant to potential environmental justice impacts. As the
12 analysis demonstrates in **Section 3.1**, noise levels of 65 day-night sound level (DNL) or greater
13 would not affect any populations around the installation or under the training airspace.
14 Additionally, noise levels around the installation and under the training airspace would be
15 indistinguishable from current conditions. Because changes to the level of noise and land use
16 are not anticipated from the Proposed Action or alternatives, neither minority nor low-income
17 groups would be disproportionately adversely affected. Therefore, environmental justice was
18 eliminated from further analysis.

19 *Resource Categories Eliminated from Detailed Analysis for MHRC*

20 Several additional resource categories do not warrant analysis for the MHRC and areas under
21 the airspace and were analyzed only for Mountain Home AFB. The Proposed Action and
22 alternatives would not include construction at MHRC, personnel changes to the ranges or other
23 facilities in the MHRC, or alter MHRC lands. Increases in aircraft operations in the existing
24 airspace would not result in ground disturbance or distinguishable changes to the noise
25 environment below the airspace, as described in **Section 3.1**. The following resource categories
26 were eliminated from additional analysis for MHRC and the areas under the airspace, as
27 changes to any of these resources from baseline conditions would not occur.

28 **Soils.** The Proposed Action and alternatives would not include an increase in the use of live
29 munitions or flares and therefore would not include the potential to disturb or displace soils from
30 explosions on MHRC. All proposed increases in inert munitions would take place within existing
31 training areas and there would be no construction of roads, targets, or facilities. Additionally,
32 aircraft operations within the existing airspace would not result in any ground disturbance.
33 Therefore, impacts on soils are not expected at MHRC or under the airspace.

34 **Water Resources.** Under the Proposed Action and alternatives, all proposed increases in inert
35 munitions would take place within existing training areas and there would be no construction of
36 roads, targets, or facilities. Additionally, aircraft operations within the existing airspace would
37 not result in any ground disturbance. Therefore, impacts on water resources are not expected at
38 MHRC or under the airspace.

39 **Biological Resources.** The Proposed Action and alternatives would not include an increase in
40 the use of live munitions or flares and therefore would not include the potential to increase risk
41 of fires on MHRC. All proposed increases in chaff and inert munitions would take place within
42 existing training areas and there would be no construction of roads, targets, or facilities.

1 Additionally, aircraft operations within the existing airspace would not result in any ground
 2 disturbance and noise levels under the training airspace would be indistinguishable from current
 3 conditions, as described in **Section 3.1**. Therefore, impacts on biological resources are not
 4 expected at MHRC or under the airspace.

5 **Socioeconomics.** The Proposed Action and alternatives at MHRC and under the airspace
 6 would occur entirely within the confines of MHRC and existing airspace and would not include
 7 any construction at MHRC. Therefore, impacts on the local economy from the increases in
 8 MHRC construction-related payroll taxes, sales receipts, and the indirect purchase of goods and
 9 services would not occur. Therefore, impacts on socioeconomics at MHRC or under the
 10 airspace would not be expected.

11 **3.1 Noise**

12 **3.1.1 Definition of the Resource**

13 Sound is a physical phenomenon consisting of vibrations that travel through a medium, such as
 14 air, and are sensed by the human ear. Noise is defined as any sound that is undesirable
 15 because it interferes with communication, is intense enough to damage hearing, or is otherwise
 16 intrusive. Human response to noise varies depending on the type and characteristics of the
 17 noise, distance between the noise source and the receptor, receptor sensitivity, and time of day.
 18 Noise is often generated by activities essential to a community’s quality of life, such as aircraft
 19 operations, construction, or vehicular traffic.

20 Sound varies by both intensity and frequency. Sound pressure level, described in decibels (dB),
 21 is used to quantify sound intensity. The dB is a logarithmic unit that expresses the ratio of a
 22 sound pressure level to a standard reference level. Hertz is used to quantify sound frequency.
 23 The human ear responds differently to different frequencies. “A-weighting”, measured in
 24 A-weighted decibels (dBA), approximates a frequency response expressing the perception of
 25 sound by humans. Sounds encountered in daily life and their sound levels are provided in
 26 **Table 3-2**.

27 **Table 3-2. Common Sounds and Their Levels**

Outdoor	Sound Level (dBA)	Indoor
Jet flyover at 1,000 feet	100	Rock band
Gas lawnmower at 3 feet	90	Food blender at 3 feet
Downtown (large city)	80	Garbage disposal
Heavy traffic at 150 feet	70	Vacuum cleaner at 10 feet
Normal conversation	60	Normal speech at 3 feet
Quiet urban daytime	50	Dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room

Source: USEPA 1971

28 The sound pressure level noise metric describes steady noise levels, although very few noises
 29 are, in fact, constant; therefore, additional noise metrics have been developed to describe noise
 30 including:

- 1 • Maximum Sound Level (L_{max}) – L_{max} is the maximum sound level in dB.
- 2 • Equivalent Sound Level (L_{eq}) – L_{eq} is the average sound level in dB of a given event or
- 3 period of time.
- 4 • Sound Exposure Level (SEL) – SEL is a measure of the total energy of an acoustic
- 5 event. It represents the level of a 1-second long constant sound that would generate the
- 6 same energy as the actual time-varying noise event such as an aircraft overflight. SEL
- 7 provides a measure of the net effect of a single acoustic event, but it does not directly
- 8 represent the sound level at any given time.
- 9 • DNL – DNL is the average sound energy in a 24-hour period with a penalty added to the
- 10 nighttime levels. Because of the potential to be particularly intrusive, noise events
- 11 occurring between 10 p.m. and 7 a.m. are assessed a 10-dB penalty when calculating
- 12 DNL. DNL is a useful descriptor for aircraft noise because: (1) it averages ongoing yet
- 13 intermittent noise, and (2) it measures total sound energy over a 24-hour period. DNL
- 14 provides a measure of the overall acoustical environment, but, as with SEL, it does not
- 15 directly represent the sound level at any given time. For well-distributed sound, L_{eq} is
- 16 approximately 6.4 dBA lower than DNL.
- 17 • Onset Rate Adjusted Day-night Sound Level (L_{dnmr}) – L_{dnmr} is the average sound energy
- 18 in a 24-hour period with penalties added to the nighttime levels and to account for the
- 19 abrupt onset of noise from aircraft when flying low and fast. L_{dnmr} provides a measure of
- 20 the overall acoustical environment and is normally used to assess subsonic aircraft
- 21 noise in military airspaces. As with DNL, it does not directly represent the sound level
- 22 at any given time.

23 **Regulatory Review and Land Use Planning.** The Noise Control Act of 1972 (Public Law
 24 92-574) directs federal agencies to comply with applicable federal, state, and local noise control
 25 regulations. However, the Noise Control Act does specifically exempt military training activities
 26 and noise from aircraft overflights from all state and local noise regulations. In 1974, the United
 27 States Environmental Protection Agency (USEPA) provided information suggesting continuous
 28 and long-term noise levels in excess of 65 dBA DNL are normally unacceptable for
 29 noise-sensitive land uses such as residences, schools, churches, and hospitals. USAF's land
 30 use guidelines for noise exposure are outlined in AFI 32-7063, *Air Installations Compatible Use*
 31 *Zone Program*. **Table 3-3** provides a general overview of recommended noise limits from
 32 aircraft operations for land use planning purposes.

33 **Table 3-3. Recommended Noise Limits for Land Use Planning**

General Level of Noise	Percent Highly Annoyed	Aircraft Noise (DNL)	General Recommended Uses
Low	<15%	< 65 dBA	Noise-sensitive land uses acceptable
Moderate	15%-39%	65–75 dBA	Noise-sensitive land uses normally not recommended
High	>39%	> 75 dBA	Noise-sensitive land uses not recommended

Source: USAF 2015a

1 **3.1.2 Existing Conditions**

2 Neither the State of Idaho nor Elmore County maintain a noise ordinance, but the Elmore
3 County zoning guidelines address zoning for all airports within Elmore County, including
4 Mountain Home AFB. This zoning ordinance is consistent with the recommendations contained
5 in the Mountain Home AFB Air Installation Compatible Use Zone plan. The ordinance
6 establishes an Airport Hazard Zone for Mountain Home AFB that protects the installation from
7 encroachment (Elmore County Zoning and Development Ordinance § 6-36). The City of
8 Mountain Home does maintain a nuisance noise ordinance that exempts construction activities
9 between 8 a.m. and 10 p.m. (City of Mountain Home Code §7 Noise).

10 Mountain Home AFB

11 Existing sources of noise on and adjacent to the installation include military and civilian aircraft
12 overflights, road traffic, and other noises such as lawn maintenance equipment, construction,
13 and bird and animal vocalizations. This section outlines background noise and existing aircraft
14 noise at Mountain Home AFB.

15 **Background Noise.** Background noise levels without aircraft operations (L_{eq} and DNL) were
16 estimated for the surrounding areas using the techniques specified in the *American National*
17 *Standard Institute - Quantities and Procedures for Description and Measurement of*
18 *Environmental Sound Part 3: Short-term measurements with an observer present.* The areas
19 surrounding Mountain Home AFB are primarily rural and agricultural with estimated background
20 noise levels of 38 dBA in the daytime, 32 dBA at night, with a DNL of 40 dBA (ANSI 2013).

21 **Aircraft Noise.** The existing mission and aircraft operations at Mountain Home AFB are
22 described in **Section 2.3.1**. F-15s conduct most operations at Mountain Home AFB, and
23 dominate the overall noise environment at and around the installation. For reference purposes,
24 **Table 3-4** outlines the SEL and L_{max} for individual F-15Es and F-15SGs at 1,000 feet AGL under
25 different operational conditions.

26 **Table 3-4. Sound Levels for Individual F-15E/SG Overflights at 1,000 feet AGL**

Condition	SEL (dBA)	L_{max} (dBA)	Power	Speed (knots)
Afterburner Assisted Take-off	120.4	115.6	91%	350
Takeoff	113.5	105.8	90%	300
Approach	90.4	83.1	75%	170
Cruise	90.2	83.2	74%	280

Source: USAF 2007

27 USAF adopted the NOISEMAP computer program to describe noise effects from aircraft
28 operations. NOISEMAP is a suite of computer programs and components developed by USAF
29 to predict noise exposure near an airfield due to aircraft flight, maintenance, and ground run-up
30 operations. NOISEMAP Version 7.3 was used to calculate the existing DNL noise contours at
31 Mountain Home AFB. NOISEMAP accounts for all aircraft activities, including landings,
32 take-offs, in-flight operations, maintenance activities, and engine run-ups.

1 **Figure 3-1** shows the existing DNL noise contours plotted in 5-dBA increments, ranging from 65
 2 to 85 dBA DNL. The noise contours, as shown, depict 2016 operational conditions. There have
 3 been no substantial changes in operations or mission at the installation since the noise contours
 4 were developed. Therefore, the 2016 operational noise contours have been carried forward as a
 5 baseline. The 65 dBA DNL noise contour extends approximately 3 to 4 miles beyond the
 6 installation boundary. The 65 dBA DNL is the noise level below which generally all land uses
 7 are compatible with noise from aircraft operations.

8 It should be emphasized that these noise levels, which are often shown graphically as contours
 9 on maps, are not discrete lines that sharply divide louder areas from land largely unaffected by
 10 noise. Instead, they are part of a planning tool that depicts the general noise environment
 11 around the installation based on typical aviation activities. Areas beyond 65 dBA DNL can also
 12 experience levels of appreciable noise depending upon training intensity or weather conditions.
 13 In addition, DNL noise contours may vary by year because of fluctuations in operational tempo
 14 due to unit deployments, funding levels, and other factors.

15 **Table 3-5** presents the existing land acreage exposed to noise levels 65 dBA DNL or greater.
 16 Areas exposed to sound levels greater than 65 dBA DNL are predominantly within the
 17 installation boundary. A total of 9,661 acres off the installation and 5,114 acres on the
 18 installation are within the 65 dBA DNL contour under the existing conditions. No residences,
 19 schools, churches, hospitals, or other noise sensitive areas (NSAs) occur within the existing
 20 65 dBA DNL contour off the installation.

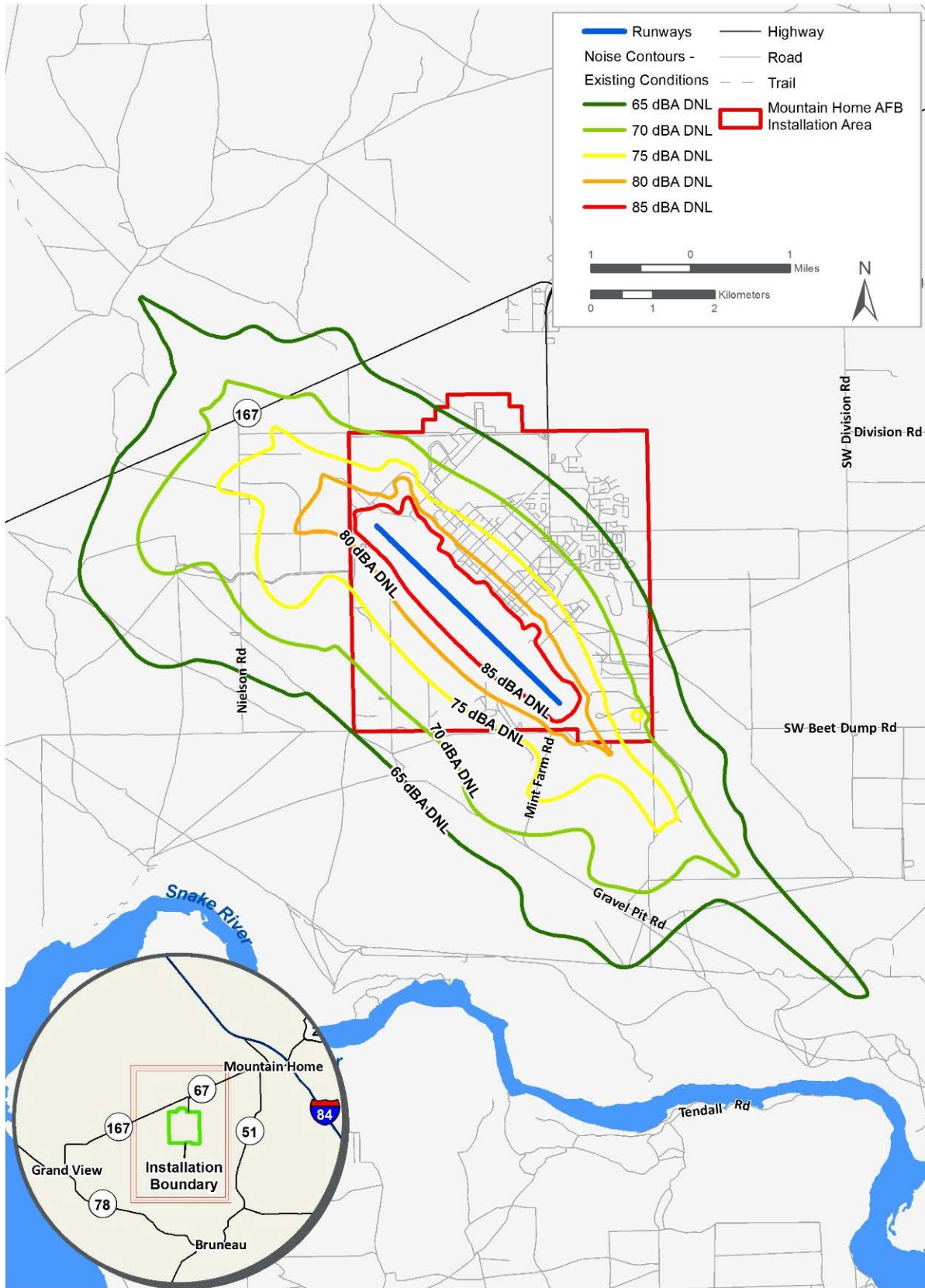
21 **Table 3-5. Area within Noise Contours at Mountain Home AFB – Existing Conditions**

Noise Contour (dBA DNL)	Area Under Contours (Acres)		
	Existing Conditions		
	On-Base	Off-Base	Total
65-70	1,161	5,348	6,509
70-75	1,330	2,938	4,268
75-80	1,012	1,209	2,221
80-85	644	167	811
>85	967	0	967
Total	5,114	9,661	14,775

Sources: USAF 2013

22 **MHRC**

23 Aircraft operations at the MHRC produce a noise environment that is somewhat different from
 24 that around airfields. Rather than regularly occurring operations like at airfields, activity in the
 25 MHRC is highly sporadic. Military aircraft within the MOAs at MHRC generate two types of
 26 sound (1) sound generated by the aircraft's engines and by air flowing over the airframe, and
 27 (2) sonic booms, impulsive sounds generated during supersonic flight.



Data Sources: USGS, State of Idaho

1
 2
 3

Figure 3-1. Noise Contours for Mountain Home AFB – Existing Conditions

1

2 **Engine and Airframe Noise.** Noise from an aircraft’s engines and airframe is a time-varying
 3 sound increasing as the aircraft approaches and diminishing as it departs. The noise depends
 4 on the altitude, speed, and power setting of the aircraft. Noise from flight operations typically
 5 occurs beneath the main approach and departure corridors around the airfield, and under MOAs
 6 and MTRs with low altitude air operations. Individual military overflight events also differ from
 7 typical community noise events at airfields in that noise from a low-altitude, high-air-speed
 8 flyover can have a rather sudden onset, with rates of up to 150 dB per second. The cumulative
 9 daily noise metric devised to account for the “surprise” effect of the sudden onset of aircraft
 10 noise events on humans and the sporadic nature of airspace activity is L_{dnmr} . **Table 3-6** presents
 11 the existing sound levels within the MHRC MOAs (USAF 2013). The assessment included the
 12 total annual average aircraft operations within the MOAs, including aircraft operating out of
 13 Mountain Home AFB, the Idaho National Guard, and other transient users. The existing sound
 14 levels are less than 65 dBA, and compatible with all land uses.

15 **Table 3-6. Noise Levels and Number of Sonic Booms at MHRC**

	Jarbidge		Owyhee		Paradise		Saddle
	North	South	North	South	North	South	A/B
L_{dnmr}	62	55	59	53	48	49	40
CDNL ^a	54	-	53	-	47	-	-
Booms/day	2.8	-	2.5	-	2.2	-	-
Booms/month	56	-	50	-	44	-	-

Source: USAF 2016

^a The DNL of “blast” noise is expressed as CDNL

16 **Sonic Booms.** Aircraft in supersonic flight (i.e., exceeding the speed of sound) cause sonic
 17 booms. A sonic boom is characterized by a rapid increase in pressure, a decrease in pressure,
 18 and then a return to normal atmospheric levels. This change occurs very quickly, usually within
 19 a few tenths of a second, and is often perceived as a “bang-bang” sound. The amplitude of a
 20 sonic boom is measured by its peak overpressure in pounds per square foot and can be
 21 converted to dB as needed. The sound levels depend on the aircraft’s size, weight, geometry,
 22 speed, and altitude. Sonic booms can be annoying and cause startle reaction in humans and
 23 animals. On occasion, very loud sonic booms can cause physical damage to structures such as
 24 window breaking and plaster cracking.

25 Supersonic operations are permitted in Owyhee North, Jarbidge North, and Paradise North
 26 MOAs at altitudes above 10,000 feet MSL, except over the Duck Valley Indian Reservation
 27 where it is prohibited. Supersonic flight is also permitted above 30,000 feet MSL in the Air
 28 Traffic Control Assigned Airspace above all the other MOA airspace; however, sonic booms
 29 generated at these high altitudes rarely reach the ground. BoomMap3 is a suite of computer
 30 modeling programs that predict noise exposure from sonic booms under the flight path of
 31 supersonic aircraft operations. **Table 3-6** outlines the number of sonic booms within the MHRC
 32 MOAs (USAF 2013). The information includes the total annual average aircraft operations within
 33 the MOAs, including aircraft operating out of Mountain Home AFB, the Idaho National Guard,

1 and other transient users. There are seven to eight sonic booms each day distributed
2 throughout the three MHRC MOAs where booms are permitted.

3 **Military Training Routes.** The SEL of F-15 aircraft operating at 500 feet AGL is 95.2 dBA. If
4 there is only one flight per day, the DNL is 49.4 dB, which is calculated by subtracting a
5 constant representing 10 times the logarithm of the 86,400 seconds in a 24-hour day. For a
6 single F-15 flyover at 500 feet (96.2 dB SEL), the DNL would be 45.8 dBA DNL, and it would
7 take 67 F-15 flights occurring over one location every day to achieve 65 dBA DNL. With the
8 highest operational tempo and route utilization, the overall sound levels for F-15 overflights is
9 43.4 dBA DNL on IR-302, the MTR used most frequently (4.1 overflights per week), and
10 31.0 dBA DNL on VR-1300, the MTR used least frequently (one overflight per month). Based
11 upon the limited number of aircraft overflights, the existing overall sound levels do not exceed
12 65 dBA DNL on any MTR associated with the Proposed Action. These existing levels of noise
13 are compatible with all land use categories.

14 Although operational noise levels are too low to result in incompatibility with existing land uses,
15 noise from individual F-15 overflights generate distinct acoustical events, and have the potential
16 from time-to-time to annoy individuals directly under their flight path. A good predictor of
17 annoyance near areas with less than 200 overflights per day is the maximum sound level
18 (USAF 2014a and USAF 2014b). The maximum sound levels for the F-15 and percent of
19 individuals annoyed are listed in **Table 3-7**. In general, one F-15 overflight each day at 500 feet
20 AGL could annoy less than 2 percent of individuals directly under its flight path. During
21 overflights, these individuals likely pause briefly during conversation or may awaken, if asleep.

22 **Table 3-7. Sound Levels for F-15 Overflights within MTRs**

Altitude/Distance (feet AGL)	Maximum Sound Level (dBA)	Sound Exposure Level (dBA)	Percent Annoyed from Individual Overflights
500	90.1	95.2	Less than 2%
1,000	83.2	90.2	Less than 1%
1,500	75.8	84.6	Less than 1%

Source: FICUN 1980 and USAF 2015a

23 **Munitions Noise.** Only heavy munitions that do not make noise upon impact (i.e., do not
24 explode) such as inert bombs, rockets, and gunnery munitions are authorized on SCR;
25 however, small arms are also used on the range. The peak noise metric is often used to assess
26 effects from small arms firing because noise from munitions can be impulsive (i.e., loud and
27 short), and a time averaging noise metric (e.g., DNL) does not capture the effect of munition
28 noise. Noise sensitive land uses are not normally recommended in areas where noise from
29 small arms ranges exceeds 87 peak noise level (dBP). Peak sound levels from the loudest
30 small arms weapon used on the ground under existing conditions, the 0.50 caliber machine gun,
31 decreases to 87 dBP in approximately 1.5 miles. Existing small arms training is audible, but
32 distant, at the range boundary, which is greater than 4 miles from the SCR firing points. Noise
33 modeling estimates are not available for munitions firing on SCR from aircraft; however, while
34 the impulsive noise from munitions firing from an aircraft is audible, it would be dominated in the
35 noise environment by the noise from the aircraft engine.

1 **3.1.3 Environmental Consequences**

2 This section discusses the effects of the Proposed Action and alternatives on the noise
 3 environment. Changes in noise would be assessed for significance based on context and
 4 intensity. Noise impacts are analyzed in consideration of federal, state, and local noise
 5 ordinance, and increases of areas of incompatible land use outside the installation.

6 **3.1.3.1 PROPOSED ACTION**

7 The Proposed Action would have adverse effects on the noise environment because of noise
 8 generated by heavy equipment during construction and incremental increases in aircraft noise
 9 surrounding Mountain Home AFB. The Proposed Action would not lead to a violation of any
 10 federal, state, or local noise ordinance and would not substantially increase areas of
 11 incompatible land use on and adjacent to Mountain Home AFB.

12 Mountain Home AFB

13 **Facility Construction and Modification.** The construction activities would require use of heavy
 14 equipment that would generate short-term increases in noise near the project sites. **Table 3-8**
 15 presents typical noise levels (dBA at 50 feet) for the main phases of outdoor construction.
 16 Individual pieces of heavy equipment typically generate noise levels of 80 to 90 dBA at a
 17 distance of 50 feet. With multiple items of equipment operating concurrently, noise levels can be
 18 high within 400 to 800 feet of active construction sites.

19 **Table 3-8. Noise Levels Associated with Outdoor Construction**

Construction Phase	L _{eq} (dBA)
Ground clearing	84
Excavation, grading	89
Foundations	78
Structural	85
Finishing	89

Source: USEPA 1971 and FHWA 2006

20 All construction activities in support of the Proposed Action would be within the installation's
 21 property boundary and would be conducted in the context of an active AFB where aircraft and
 22 other types of noise is typical. There are no residences within 800 feet of the proposed
 23 construction. Given the temporary nature of proposed construction activities and the existing
 24 noise environment, these effects would be minor and significant impacts are not expected.

25 Although construction-related noise effects would be minor, the following BMPs would be
 26 performed to reduce further any realized noise effects:

- 27 • Heavy equipment use would primarily occur during normal weekday business hours
- 28 • Heavy equipment mufflers would be properly maintained and in good working order
- 29 • Personnel, particularly equipment operators, would don adequate personal hearing
 30 protection to limit exposure and ensure compliance with federal health and safety
 31 regulations.

1 **Aircraft Noise.** Noise levels on and adjacent to Mountain Home AFB under the Proposed
 2 Action were calculated using NOISEMAP 7.3, which accounts for all aircraft activities, including
 3 landings, take-offs, in-flight operations, maintenance activities, and engine run-ups. **Figure 3-2**
 4 shows the installation-wide DNL noise contours with and without the proposed F-15SG
 5 operations. The addition of the six proposed F-15SGs and associated air operations would
 6 produce a small increase in noise levels surrounding Mountain Home AFB. Changes to the
 7 overall noise environment at and surrounding the installation would be minor and
 8 indistinguishable from existing conditions. **Table 3-9** presents the land acreage exposed to
 9 noise levels greater than 65 dBA DNL with and without the Proposed Action. Areas exposed to
 10 sound levels greater than 65 dBA DNL are predominantly within the installation boundary.
 11 Under the Proposed Action, acreage within the 65 dBA DNL contour would increase by 9
 12 percent off installation and 3 percent on-installation. Noise levels at NSAs would remain
 13 consistent with current conditions and there would be no additional schools, churches, hospitals,
 14 or other NSAs exposed to the 65 dBA DNL contour under the Proposed Action. Additional on-
 15 installation homes would fall within the 65 dBA DNL contour under the Proposed Action.
 16 However, noise levels at those homes would be almost indistinguishable from current conditions
 17 because they border the 65 dBA DNL contour under existing conditions. Although noise levels
 18 are shown graphically as contours in **Figure 3-2**, they are not discrete lines that sharply divide
 19 louder areas from land largely unaffected by noise. Therefore, these effects would be minor,
 20 and significant impacts are not expected.

21 **Table 3-9. Area within Noise Contours at Mountain Home AFB – Proposed Action**

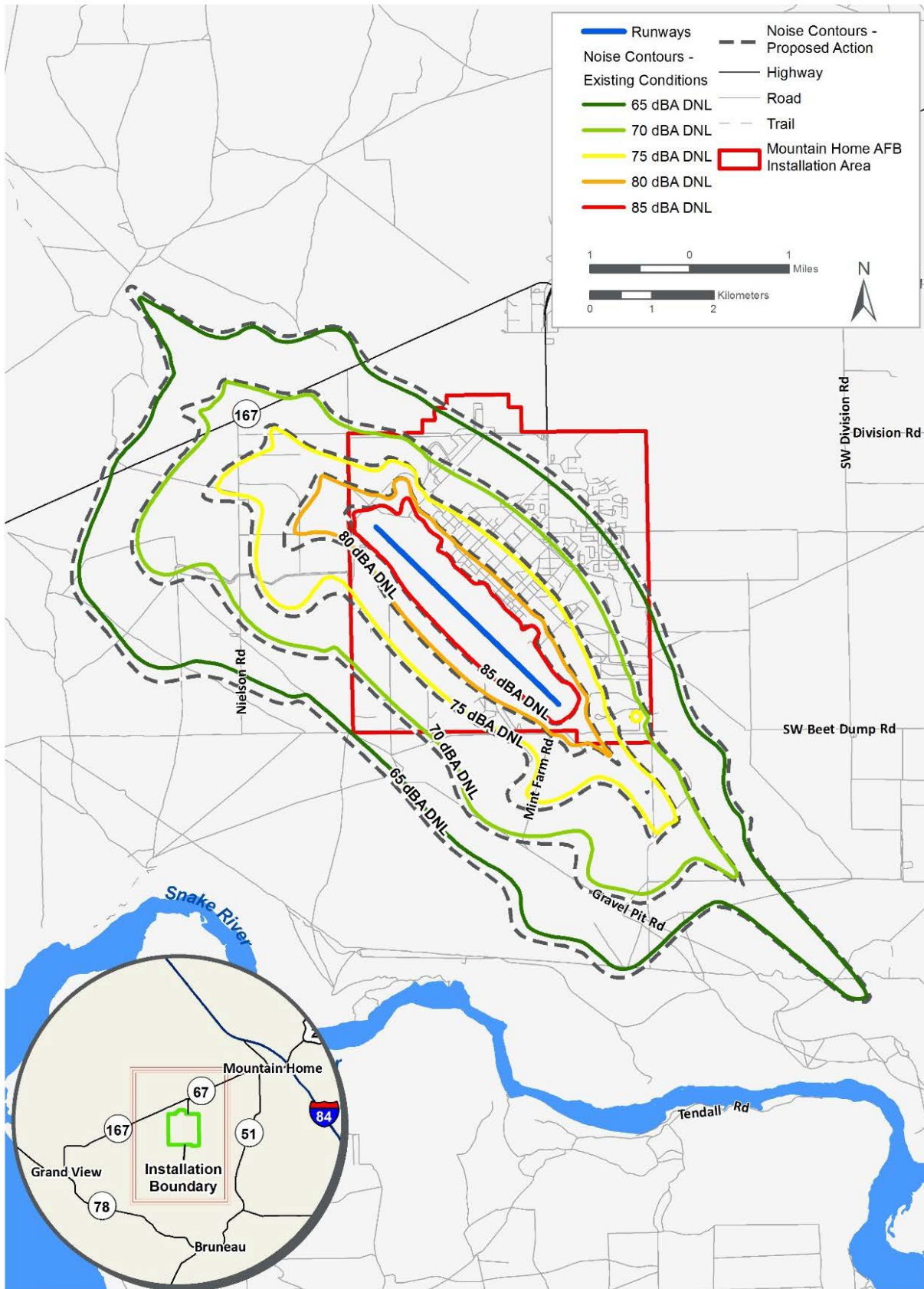
Noise Contour (dBA DNL)	Area Under Contours (Acres)					
	Existing Conditions			Proposed Action		
	On-Base	Off-Base	Total	On-Base	Off-Base	Total
65-70	1,161	5,348	6,509	1,119	5,687	6,806
70-75	1,330	2,938	4,268	1,337	3,139	4,476
75-80	1,012	1,209	2,221	1,073	1,458	2,531
80-85	644	167	811	691	264	955
>85	967	0	967	1,033	2	1,035
Total	5,114	9,661	14,775	5,253	10,550	15,803

Sources: USAF 2013

22 **MHRC**

23 **MOAs.** The Proposed Action would have minute effects on the noise environment at the MHRC
 24 because of an increase in the overall operation tempo, and subsequent increases in the overall
 25 noise environment and number of sonic booms under the MHRC MOAs. However, these
 26 changes would be indistinguishable from existing conditions. There would be no change in the
 27 airspace or the types of operations conducted at MHRC. The nature of and the levels of noise
 28 from individual subsonic and supersonic overflights would be identical to existing conditions.

29 With the addition of six F-15SGs, there would be a 17 percent increase in air operations or an
 30 additional 19 training operations per day distributed throughout the eight MOAs at MHRC.



1 Data Sources: USGS, State of Idaho

2 Figure 3-2. Noise Contours for Mountain Home AFB – Proposed Action

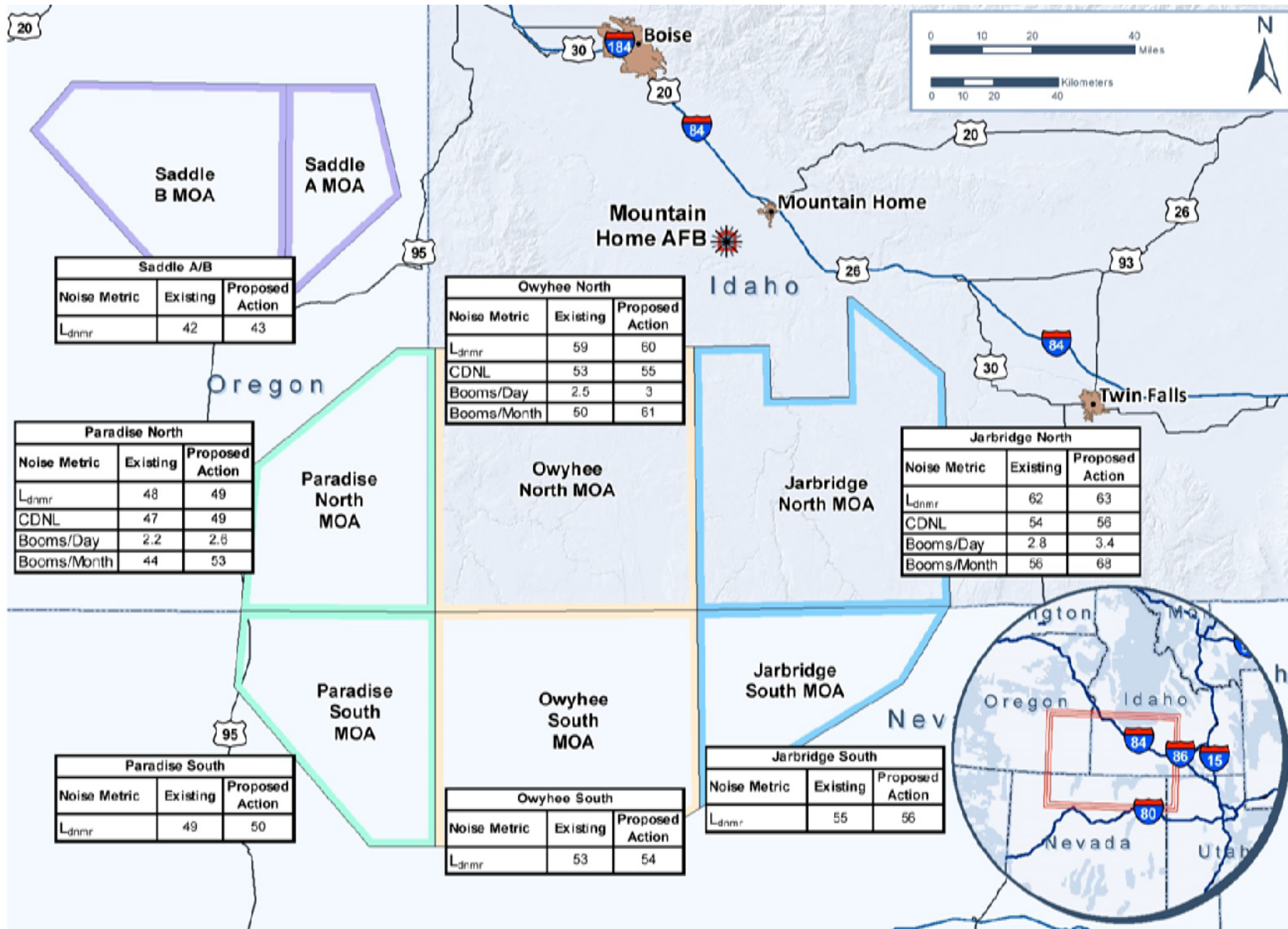
1 **Figure 3-3** presents the L_{dnmr} , C-weighted DNL, and number of sonic booms for each of the
2 MHRC MOAs both with and without the Proposed Action, including aircraft operating out of
3 Mountain Home AFB, the Idaho National Guard, and other transient users. The overall sound
4 levels would continue to be less than 65 dBA DNL, and compatible with all land uses. As with
5 existing conditions and for similar reasons, individual overflights would interfere with
6 communication, disrupt sleep, and intermittently annoy individuals under the MOAs. In addition,
7 there would be a comparable increase in sonic booms with eight to nine each day distributed
8 throughout the eight MHRC MOAs. These effects would be minor and significant impacts are
9 not expected.

10 **Military Training Routes.** The Proposed Action would have minute effects on the noise
11 environment under the MTRs because of an increase in the overall operation tempo and
12 subsequent increase in the overall noise environment under the MTRs. The overall sound levels
13 for F-15 overflights would be 43.6 dBA DNL on IR-302, the busiest MTR. All other MTRs would
14 have lower operational tempos and subsequently lower overall noise levels. Therefore, based
15 upon the limited number of aircraft overflights within the MTRs, the overall sound levels would
16 not exceed 65 dBA DNL. These levels of noise would continue to be compatible with all land
17 use categories. These activities would be indistinguishable from existing conditions, and their
18 effects would be negligible; significant impacts are not expected. As with existing conditions and
19 for similar reasons, noise from individual F-15 overflights would generate distinct acoustical
20 events, continuing to have the potential to annoy individuals from time-to-time. In general, an
21 F-15 overflight cruising at 500 feet AGL would highly annoy less than 2 percent of individuals
22 directly under its flight path (see **Table 3-7**).

23 **Munitions Use.** The Proposed Action would have negligible effects on the noise environment
24 from an increase in the use of 20-mm training practice rounds at SCR. Although the overall
25 amount of 20-mm training practice rounds used would increase, the types of weapons used at
26 SCR would not change. As noted in **Section 3.1.2**, noise from small arms firing, such as the
27 20-mm training practice rounds, is assessed using the peak noise metric. The peak sound
28 levels from the loudest weapon used at SCR, the 0.50 caliber machine gun, would not change
29 under the Proposed Action and would continue to decrease to 87 dBP in approximately
30 1.5 miles. Effects on the noise environment are not anticipated from the increase in use of chaff
31 across MHRC as expenditures of chaff from the aircraft are inaudible compared to the noise
32 from aircraft flight. Additionally, once expended, chaff consists of metal foils or filings that scatter
33 and are inaudible when reaching the ground. Increased use of 20-mm practice rounds and
34 chaff at MHRC would be indistinguishable from existing conditions. These effects would be
35 negligible and are not expected to be significant.

36 3.1.3.2 ALTERNATIVE 1

37 Effects would be anticipated from noise generated by heavy equipment during construction and
38 increases in air operations and munitions use, as described in **Section 3.1.3.1**. Although the
39 infrastructure improvements would vary when compared to the Proposed Action, the nature and
40 overall level of noise from construction activities would be similar. These activities would be
41 conducted in the context of an active AFB where aircraft and other types of noise are typical,
42 and there are no residences within 800 feet of the proposed construction. The nature and
43 overall level of these effects would be identical to those outlined in the Proposed Action.



Data Sources: USGS, State of Idaho, MHAFA, FAA

1
 2 Figure 3-3. Noise Levels and Number of Sonic Booms at MHRC – Proposed Action

1 Alternative 1 would not lead to a violation of any federal, state, or local noise ordinance, and
2 would not substantially increase areas of incompatible land use. As with the Proposed Action,
3 and for similar reasons, these effects would be minor.

4 3.1.3.3 NO ACTION ALTERNATIVE

5 Impacts on the noise environment would not be expected under the No Action Alternative. The
6 noise environment would remain unchanged when compared with existing conditions.

7 3.2 Air Quality

8 3.2.1 Definition of the Resource

9 Air pollution is the presence in the atmosphere of one or more contaminants (e.g., dust, fumes,
10 gas, mist, odor, smoke, vapor) such as to be injurious to human, plant, or animal life. Air quality
11 as a resource incorporates several components that describe the levels of overall air pollution
12 within a region, sources of air emissions, and regulations governing air emissions. The following
13 sections include a discussion of the existing conditions, a regulatory overview, and a summary
14 of climate and greenhouse gases (GHGs).

15 3.2.2 Existing Conditions

16 USEPA Region 10 and Idaho Department of Environmental Quality (IDEQ) regulate air quality in
17 Idaho. The Clean Air Act (CAA) (42 United States Code [USC] § 7401-7671q), as amended,
18 assigns USEPA responsibility to establish the primary and secondary National Ambient Air
19 Quality Standards (NAAQS) (40 CFR § 50) that specify acceptable concentration levels of six
20 criteria pollutants: particulate matter (measured as both particulate matter less than or equal to
21 10 microns in diameter [PM₁₀] and particulate matter less than or equal to 2.5 microns in
22 diameter [PM_{2.5}]), sulfur dioxide (SO₂), carbon monoxide (CO), nitrogen dioxide (NO₂), ozone
23 (O₃), and lead. Short-term NAAQS (1-, 8-, and 24-hour periods) have been established for
24 pollutants contributing to acute health effects, while long-term NAAQS (annual averages) have
25 been established for pollutants contributing to chronic health effects. Each state has the
26 authority to adopt standards stricter than those established under the federal program. The
27 State of Idaho has accepted the federal standards.

28 Federal regulations designate areas in violation of the NAAQS as nonattainment areas. Federal
29 regulations designate areas with levels below the NAAQS or not evaluated for compliance with
30 NAAQS as attainment areas. USEPA has designated all areas associated with the Proposed
31 Action as in attainment for all criteria pollutants (USEPA 2017a). Mountain Home AFB is
32 located in Elmore County. Elmore County has not been evaluated for NAAQS; therefore Elmore
33 County and Mountain Home AFB are considered an attainment area. USEPA monitors levels of
34 criteria pollutants at representative sites in each region throughout Idaho. For reference
35 purposes, **Table 3-10** shows the monitored concentrations of criteria pollutants at the monitoring
36 location closest to Mountain Home AFB. Notably, the closest monitoring station is in Boise, a
37 highly urbanized area, and concentration of pollutants are likely lower in the Mountain Home
38 AFB area. Although the 2016 8-hour O₃ and 2014 PM_{2.5} concentrations exceed the NAAQS,
39 they must be exceeded over a 3-year period to violate the NAAQS, hence the attainment status.

1 **Table 3-10. Air Quality Standards and Monitored Data**

Pollutant	Air Quality Standard		Monitored Concentrations		
	Level	Averaging Period	2014	2015	2016
CO					
1-hour (ppm)	35	Not to be exceeded more than once per year	4.4	5.7	6.0
8-hour (ppm)	9		2.1	2.5	2.5
NO₂					
1-year (ppb)	53	Annual mean	11.5	11.7	9.8
1-hour (ppb)	100	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years	43	47	41
O₃					
8-hour (ppm)	0.070	3-year average of the fourth highest daily maximum	0.065	0.064	0.072
SO₂					
1-hour (ppm)	75	98th percentile, averaged over 3 years	5	3	4
3-hour (ppb)	0.5	Not to be exceeded more than once per year	No Data	No Data	No Data
PM_{2.5}					
24-hour (µg/m ³)	35	98th percentile, averaged over 3 years	No Data	36	21
Annual mean (µg/m ³)	12	Averaged over 3 years	No Data	9.5	8.4
Lead					
Rolling 3-month average (µg/m ³)	0.15	Not to be exceeded	0.00	0.07	0.00
PM₁₀					
24-hour (µg/m ³)	150	Not to be exceeded more than once per year over 3 years	61	91	72

Source: 40 CFR § 50.1-50.12, USEPA 2017b
ppm = parts per million; ppb = parts per billion; µg/m³ = micrograms per cubic meter

2 **Permitting.** Mountain Home AFB holds a Title V, Tier I Operating Permit, Permit No. T1-2012-
3 0062 issued August 19, 2016. The permit requirements include annual periodic inventory of all
4 significant stationary sources of air emissions for each of the criteria pollutants of concern and
5 monitoring and recordkeeping requirements. Primary stationary sources of air emissions
6 include paint booths, fuel storage areas, aircraft engine test stands, and electric generators.
7 **Table 3-11** lists Mountain Home AFB's 2015 facility-wide air emissions from all significant
8 stationary sources. Notably, Idaho does not require permitting of mobile source emissions
9 (e.g., aircraft and vehicle operations).

10 **Climate and GHGs.** Historically, Mountain Home, Idaho's, average high temperature is
11 91.7 degrees Fahrenheit (°F) in the hottest month of July, and the average low temperature is
12 20.3°F in the coldest month of December. Mountain Home has average annual precipitation of
13 10.6 inches per year. The wettest month of the year is December with an average rainfall of
14 1.4 inches (Idcide 2017). EO 13693, *Planning for Federal Sustainability in the Next Decade*,
15 outlines policies intended to ensure that federal agencies evaluate climate-change risks and

1 **Table 3-11. Annual Emissions for Significant Stationary Sources at Mountain Home AFB**

Pollutant	Emissions (tons per year [tpy])
CO	16.1
Oxides of nitrogen	14.6
Volatile organic compounds (VOCs)	7.8
PM ₁₀	2.1
PM _{2.5}	2.0
SO ₂	0.6

2 vulnerabilities and manage the effects of climate change on their operations and mission. The
 3 EO specifically requires agencies within DoD to measure, report, and reduce their GHG
 4 emissions from both their direct and indirect activities. DoD has committed to reduce GHG
 5 emissions from non-combat activities 34 percent by 2020 (DoD 2016).

6 **3.2.3 Environmental Consequences**

7 Because the area within and around Mountain Home AFB is in attainment for the NAAQS, the
 8 General Conformity Rule is not applicable. Nevertheless, the General Conformity Rule *de*
 9 *minimis* (of minimal importance) thresholds have been utilized as a surrogate to determine the
 10 level of impacts under NEPA. Effects on air quality would be considered significant if the total
 11 emissions would exceed the General Conformity Rule *de minimis* threshold values, or the
 12 Proposed Action and its alternatives would contribute to a violation of any federal, state, or local
 13 air regulation.

14 **3.2.3.1 PROPOSED ACTION**

15 Minor effects on air quality would be expected from generation of fugitive dust and the use of
 16 heavy equipment during construction and renovation. Additional minor effects would be
 17 expected from a small increase in heated area; the addition of personnel; and additional aircraft
 18 operations at the installation, at MHRC, and within the MTRs. Emissions would not exceed the
 19 General Conformity Rule *de minimis* threshold values, and the Proposed Action would not
 20 contribute to a violation of any federal, state, or local air regulation. Therefore, effects on air
 21 quality would not be significant.

22 USAF's Air Conformity Applicability Model (ACAM) was used to estimate the total direct and
 23 indirect emission from the Proposed Action, which have been compared to the *de minimis*
 24 thresholds to determine the level of effects under NEPA (USAF 2015b). **Table 3-12** lists total
 25 direct and indirect emissions resulting from the Proposed Action. Construction and renovation
 26 emissions were estimated for fugitive dust, on- and off-road diesel equipment and vehicles,
 27 worker trips, architectural coatings, and paving off-gasses. Operational emissions were
 28 estimated for changes in personnel and aircraft operations before and after the beddown,
 29 including those at Mountain Home AFB, MHRC, and the MTRs. Incremental changes in
 30 emissions from additional 20-mm training practice rounds at SCR were considered negligible.
 31 Emissions would be below the *de minimis* threshold of 100 tpy of each pollutant in all areas;
 32 therefore, the level of effects would be minor.

1 **Table 3-12. Annual Proposed Action Air Emissions Compared to *De Minimis* Thresholds**

	CO	Oxides of Nitrogen	VOC	SO _x	PM ₁₀	PM _{2.5}	<i>De minimis</i> Threshold [tpy]	Exceeds <i>De Minimis</i> Thresholds? [Yes/No]
Construction and Renovation	5.6	6.4	3.9	<0.1	8.2	0.3	100	No
Operations								
Mountain Home AFB	44.4	71.1	21.8	5.0	10.1	9.1		
MHRC	3.0	76.5	10.0	3.7	7.1	6.4		
MTRs	0.6	15.9	2.0	0.8	1.5	1.3		

Source: USAF 2015b

2 The Proposed Action does not include any new major stationary sources of air emissions, and
 3 there would not be an appreciable net increase of air emissions from stationary sources such as
 4 building heaters, paint booths, engine test stands, and fuel storage and dispensing. Any new
 5 minor stationary sources of air emissions could be subject to federal and state air permitting
 6 regulations. They would be reviewed on a case-by-case basis, and added to the installation's air
 7 operating permit as necessary. Both a new source construction permit and a modification to the
 8 existing operating permit could be required. If any older boilers and back-up generators were
 9 removed during reconfiguring of existing buildings, each would be decommissioned and
 10 removed from the installation's air operating permit.

11 In addition, the Idaho Administrative Procedures Act (IAPA) outlines other non-permitting
 12 requirements, such as controlling fugitive dust and open burning during construction. All
 13 persons responsible for any operation, process, handling, transportation, or storage facility that
 14 could result in fugitive dust would take reasonable precautions to prevent such dust from
 15 becoming airborne. Reasonable precautions might include using water to control dust from road
 16 grading or land clearing. The Proposed Action would proceed in full compliance with current
 17 IAPA requirements with compliant practices and products. These requirements include the
 18 following:

- 19 • Rules for control of fugitive dust (IAPA 58.01.650)
- 20 • Rules for control of visible emissions (IAPA 58.01.625)
- 21 • Rules for fuel burning equipment (IAPA 58.01.675)
- 22 • Rules for categories of allowable burning (IAPA 58.01.606).

23 This listing is not all-inclusive; the USAF and any contractors would comply with all applicable
 24 air pollution control regulations.

25 **GHGs and Climate Change.** This EA examines GHGs as a category of air emissions. It also
 26 looks at issues of temperature and precipitation trends to determine whether the affected
 27 environment or Proposed Action would be affected by climate change. This EA does not attempt
 28 to measure the actual incremental impacts of GHG emissions from the Proposed Action and
 29 there are no established criteria identifying monetized values that are to be considered
 30 significant for NEPA purposes.

1 Changes in GHG emissions from the operations at Mountain Home AFB, MHRC, and the MTRs
2 would primarily come from the fuel used during aircraft operations, but also includes emissions
3 associated with the increase in personnel at Mountain Home AFB. **Table 3-13** compares the
4 estimated GHG emissions from the Proposed Action to the global, nationwide, and statewide
5 GHG emissions. The estimated GHG emissions from the Proposed Action would be small;
6 therefore, these effects would be minor.

7 **Table 3-13. Global, Countrywide, Statewide, and Proposed Action GHG Emissions**

Scale	CO ₂ e Emissions (MMT)	Change from Proposed Action
Global	43,125	0.0000006%
United States	6,870	0.000004%
Idaho	16.6	0.0016%
Proposed Action	0.0265	-

Sources: USEIA 2014, USAF 2015b

Note: MMT = million metric tons; CO₂e = carbon dioxide equivalent.

8 **Table 3-14** outlines potential climate stressors and their effects on the Proposed Action. The
9 proposed beddown and associated training activities at Mountain Home AFB in and of
10 themselves are only indirectly dependent on any of the elements associated with future climate
11 scenarios (e.g., meteorological changes). At this time, no future climate scenario or potential
12 climate stressor would have appreciable effects on any element of the Proposed Action.

13 **Table 3-14. Effects of Potential Climate Stressors on the Proposed Action**

Potential Climate Stressor	Effects on the Proposed Action
More frequent and intense heat waves	negligible
Longer fire seasons and more severe wildfires	negligible
Changes in precipitation patterns	negligible
Increased drought	negligible
Harm to water resources, agriculture, wildlife, ecosystems	negligible

14 **3.2.3.2 ALTERNATIVE 1**

15 Under Alternative 1, minor effects on air quality would be expected from emissions generated by
16 heavy equipment use during construction and incremental increases in aircraft operations and
17 munitions use. The nature and overall level of these effects would be similar to those expected
18 from the Proposed Action, as described in **Section 3.2.3.1**. Emissions would not exceed the
19 General Conformity Rule *de minimis* threshold values, and activities under Alternative 1 would
20 not contribute to a violation of any federal, state, or local air regulation. Therefore, significant
21 impacts are not expected.

22 **3.2.3.3 NO ACTION ALTERNATIVE**

23 Impacts on air quality would not be expected under the No Action Alternative. Air quality would
24 remain unchanged when compared with existing conditions.

1 **3.3 Soils**

2 For the purposes of this analysis, soils information pertains to all areas where proposed F-15SG
3 construction projects would occur on the main installation of Mountain Home AFB. As described
4 in **Section 3.0**, impacts to soils in the MHRC and areas below the airspace are not expected
5 and are not discussed further.

6 **3.3.1 Definition of the Resource**

7 Soils are unconsolidated materials overlying bedrock or other parent material. Soils typically are
8 described in terms of their complex type, slope, and physical characteristics. Differences among
9 soil types in terms of their structure, elasticity, strength, shrink-swell potential, and erosion
10 potential affect their abilities to support certain applications or uses. Soils play a critical role in
11 the natural and human environment, affecting vegetation and habitat, water and air quality, and
12 the success of the construction and stability of roads, buildings, and shallow excavations.
13 Section 438 of the Energy Independence and Security Act (EISA) requires federal agencies to
14 reduce stormwater runoff from federal development and redevelopment projects to protect water
15 resources. Guidance for this Act aims to reduce erosion and water runoff.

16 **Prime Farmland.** Prime farmland is protected under the Farmland Protection Policy Act of
17 1981. Prime farmland is defined as land that has the best combination of physical and chemical
18 characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for
19 these uses. The land could be cropland, pasture, rangeland, or other land, but not urban built-up
20 land or water. The intent of the Farmland Protection Policy Act is to minimize the extent that
21 federal programs contribute to the unnecessary conversion of farmland to nonagricultural uses.

22 **3.3.2 Existing Conditions**

23 There are seven different soils found within Mountain Home AFB. These soils and their
24 acreages on the installation are shown in **Table 3-15**. Soils at Mountain Home AFB are loamy,
25 which are typical of semi-arid regions. These soils are generally poorly drained with slopes
26 ranging from 0 to 8 percent, and have a moderate erosion potential through precipitation and
27 riverine and eolian processes (NRCS 2017a).

28 **Table 3-15. Soils within Mountain Home AFB**

Soil Type	Acres	Percent
Bahem silt loam, 0 to 4 percent slopes	4543.3	75.4
Garbutt silt loam, 0 to 4 percent slopes	13.9	0.2
Garbutt silt loam, 4 to 8 percent slopes	32.0	0.5
Minidoka-Minveno silt loams, 0 to 4 percent slopes	1045.2	17.3
Minveno silt loam, 0 to 4 percent slopes	163.0	2.7
Minveno-Minidoka silt loams, 0 to 8 percent slopes, stony	136.3	2.3
Royal fine sandy loam, 0 to 4 percent slopes	93.7	1.6
Total	6,027.4	100.0

Source: NRCS 2017a

1 The Proposed Action and Alternative 1 construction footprints are in Bahem silt loam, 0 to
2 4 percent slopes. Soil limitations to construction were determined based on data available in
3 the Natural Resources Conservation Service web soil survey (NRCS 2017a). Soil limitations
4 were rated for building construction and dwellings. The Bahem silt loam is not limited for
5 development activities.

6 **Prime Farmland.** The Natural Resources Conservation Service has identified two soils within
7 Mountain Home AFB considered prime farmland if irrigated. Bahem silt loam, 0 to 4 percent
8 slopes, and Garbutt silt loam, 0 to 4 percent slopes, are both listed as prime farmland if
9 irrigated. The Bahem silt loam is located within the project area. However, this land is not
10 available for agriculture because it is within an urban development, or “urbanized area,” as
11 identified by the U.S. Census Bureau (USCB 2010). Therefore, the areas where prime farmland
12 soils are mapped at the site of the Proposed Action are not considered prime farmland.

13 **3.3.3 Environmental Consequences**

14 Minimization of soil erosion is considered when evaluating potential effects of a proposed action
15 on soils. Generally, adverse effects can be avoided or minimized if proper construction
16 techniques, erosion-control measures, and structural engineering design are incorporated into
17 project development. Effects on soils would be significant if they would substantially change the
18 soil composition, structure, or function within the environment.

19 **3.3.3.1 PROPOSED ACTION**

20 Minor impacts on soils would be expected from 2.6 acres of ground disturbance and an increase
21 of 2.0 acres of impervious surfaces. These impacts would occur in soils mapped as Bahem silt
22 loam, 0 to 4 percent slopes. Significant impacts are not expected.

23 The primary short-term effects would occur during construction activities when vegetation is
24 cleared and the soil is exposed. Soils in the project area have previously been disturbed during
25 initial construction of buildings on the installation, so effects would be expected to be minor. An
26 ESCP would be followed and BMPs would be implemented during construction to minimize
27 effects from exposed soil, and approved SWPPPs would be followed to reduce effects of
28 increased impervious surfaces. Erosion and sediment control techniques could include soil
29 erosion-control mats, silt fences, straw bales, diversion ditches, riprap channels, water bars,
30 water spreaders, and sediment basins, and would be used as appropriate during construction.
31 Section 438 of the EISA would be adhered to so that pre- and post-development hydrology
32 would be maintained.

33 **3.3.3.2 ALTERNATIVE 1**

34 Minor impacts would be expected on soils under Alternative 1 and would be similar to those
35 expected under the Proposed Action, as described in **Section 3.3.3.1**. The construction and
36 modifications under Alternative 1 would disturb a total of 3.3 acres and increase impervious
37 surface on the installation by 2.7 acres. All of these impacts would occur in soils mapped as
38 Bahem silt loam, 0 to 4 percent slopes. While ground disturbance and increases in impervious
39 surfaces would be greater under Alternative 1, the types of temporary impacts on soils during
40 construction and additional impacts during operation would be similar to the Proposed Action.
41 BMPs similar to those described under the Proposed Action would be incorporated to minimize
42 or avoid adverse effects. Therefore, significant impacts are not expected.

1 **3.3.3.3 NO ACTION ALTERNATIVE**

2 Impacts on soils would not be expected under the No Action Alternative. Soil conditions would
3 remain unchanged when compared with existing conditions.

4 **3.4 Cultural Resources**

5 **3.4.1 Definition of the Resource**

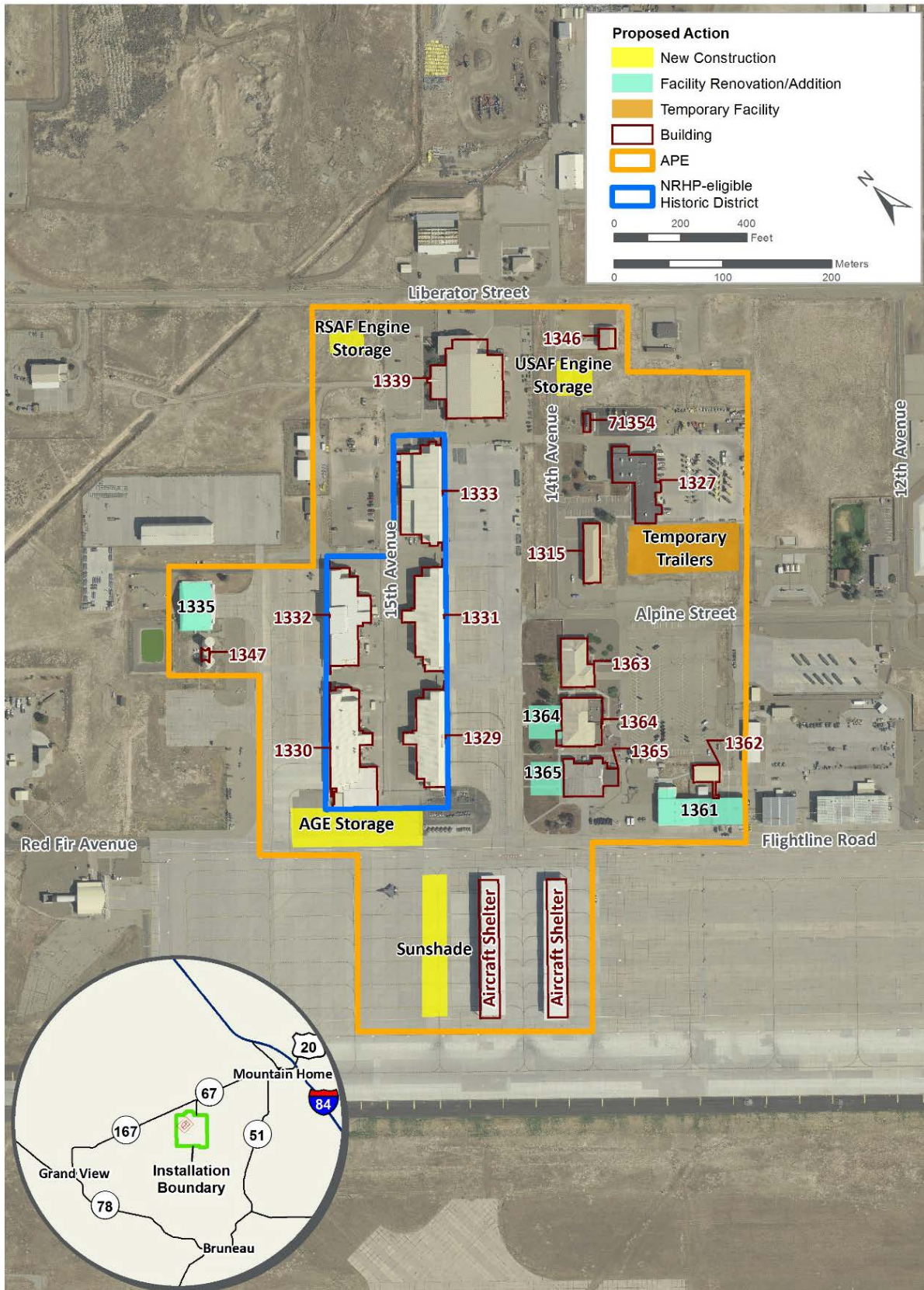
6 Cultural resources is an umbrella term for buildings, structures, objects, archaeological sites,
7 and traditional cultural properties listed in, or determined eligible for listing in, the National
8 Register of Historic Places (NRHP). Historic properties are cultural resources that are generally
9 50 years of age or older and determined eligible for listing in the NRHP based on their
10 a.) significance in history, b.) association with an important person in history, c.) engineering or
11 architectural merit, or d.) data potential.

12 While multiple laws address the protection of cultural resources, the primary regulatory driver for
13 a proposed action (undertaking) is Section 106 of the National Historic Preservation Act (NHPA)
14 and its implementing regulations at 36 CFR § 800. Section 106 requires federal agencies to
15 take into account the effects of their undertakings on historic properties.

16 Although Mountain Home AFB has a Programmatic Agreement (PA) with the State Historic
17 Preservation Officer (SHPO) for the management of historic properties on Mountain Home AFB
18 landholdings, the action also includes Mountain Home AFB airspace, which extends outside the
19 physical boundaries of the base and ranges. However, because much of the landscape under
20 the airspace is not managed by Mountain Home AFB, Section 106 consultation with SHPO,
21 stakeholders, and federally recognized Indian tribes is being conducted in accordance with 36
22 CFR 800 for the identification of historic properties that could be adversely affected by the
23 action. Results of the Section 106 consultations will be included in the Final EA.

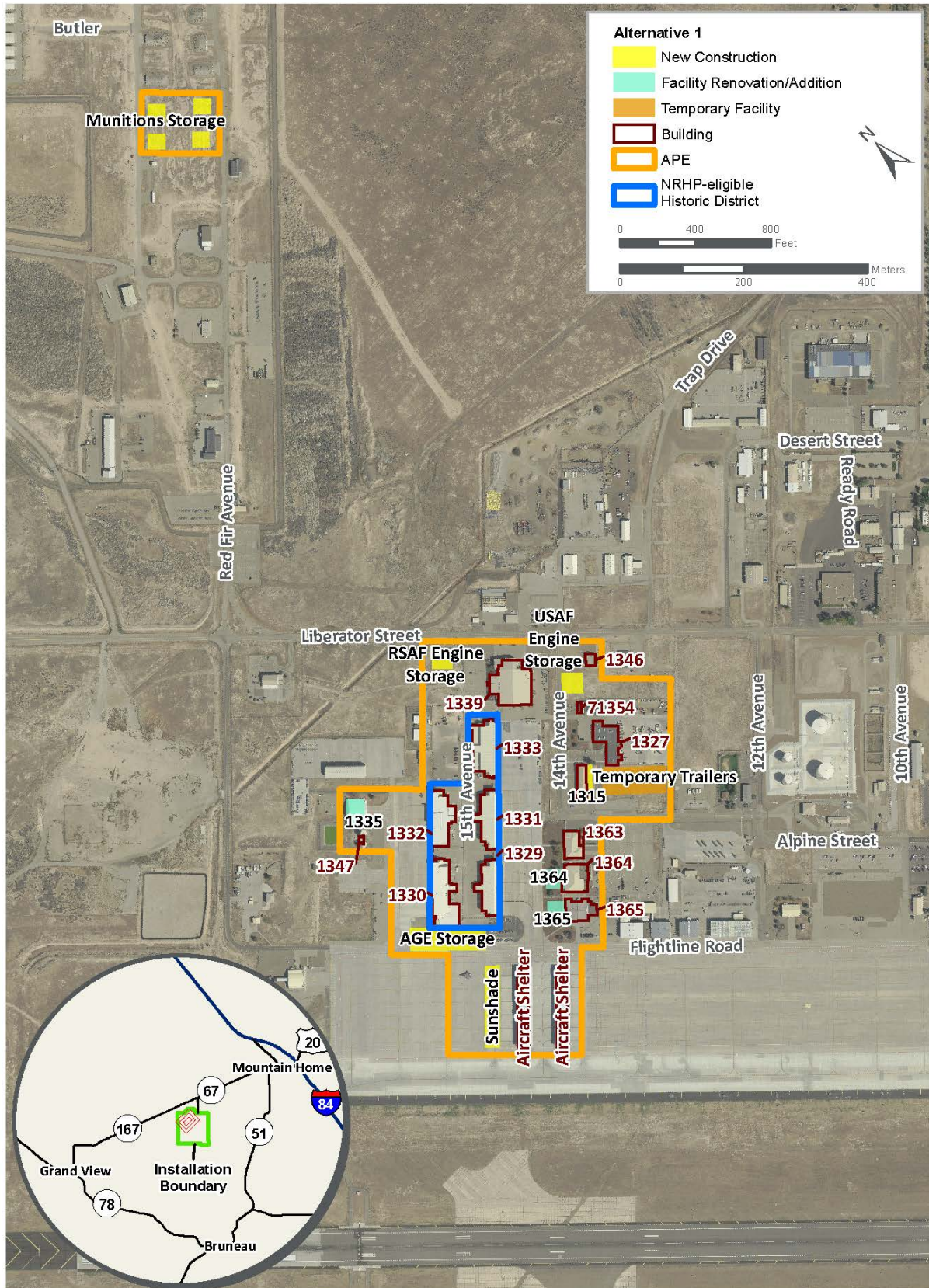
24 The Mountain Home AFB has defined the current Undertaking as the Proposed Action and
25 Alternative 1 Action, and has defined two areas of potential effect (APEs); the Mountain Home
26 AFB APE, and the MHRC and Airspace APE. The Mountain Home AFB APE includes the
27 Proposed Action area within the physical boundaries of the main base, which includes potential
28 direct effects from construction and renovation activities and potential indirect effects from visual
29 intrusions and other impacts (see **Figures 3-4** and **3-5**). The MHRC and Airspace APE
30 encompasses the entirety of the MHRC and the airspace utilized by the F-15SG, which includes
31 potential direct and indirect effects from noise or visual intrusions from aircraft and munitions
32 use. The MHRC and Airspace APE is depicted by the ranges, MOAs, IRs and VRs shown in
33 **Figure 3-6**.

34 Mountain Home AFB also coordinates with federally recognized Indian tribes in a government-
35 to-government context in accordance with the 2008 Memorandum of Understanding between
36 Mountain Home AFB and the Shoshone Paiute of the Duck Valley Reservation and in
37 accordance with the following: EO 13175, *Consultation and Coordination with Indian Tribal*
38 *Governments*; DoD Instruction 4710.02, *DoD Interactions with Federally-Recognized Tribes*;
39 and AFI 90-2002, *Air Force Interactions with Federally-Recognized Tribes*. Government-to-
40 government coordination with the tribes was initiated on October 27, 2017 and is ongoing. See
41 **Appendix B** for documentation related to government-to-government coordination.



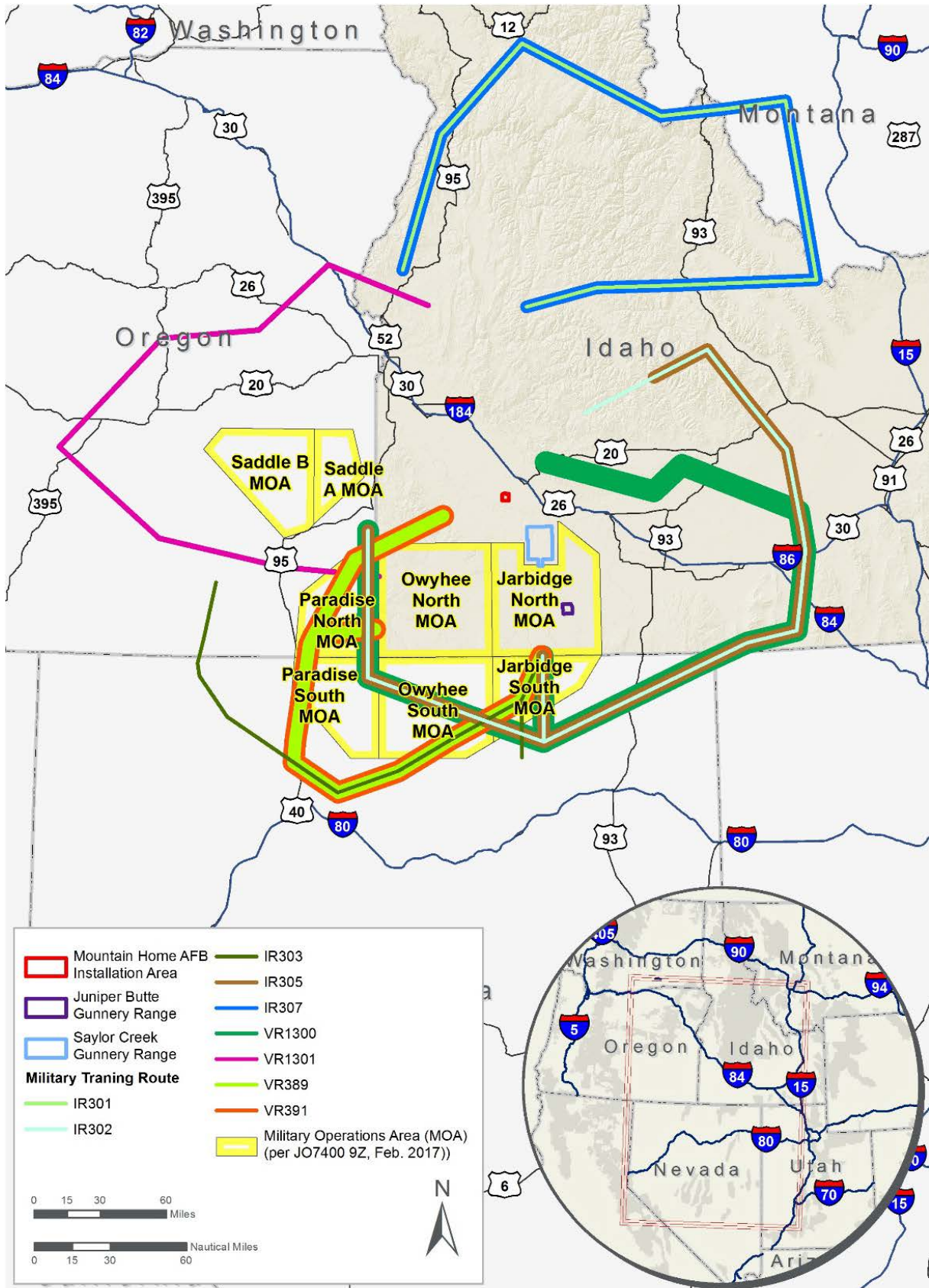
Data Sources: USGS, State of Idaho, HDR 2017

1
 2 **Figure 3-4. Mountain Home AFB APE – Proposed Action**



1 Data Sources: USGS, State of Idaho, HDR 2017

2 Figure 3-5. Mountain Home AFB APE – Alternative 1



1
 2 **Figure 3-6. MHRC and Airspace APE**
 3

1 **3.4.2 Existing Conditions**

2 Mountain Home AFB

3 **Architectural Resources.** The majority of buildings and structures constructed from the
4 establishment of Mountain Home Army Air Base in 1942 through the end of the Cold War (1990)
5 have been evaluated for NRHP eligibility. Of the 24 NRHP-eligible architectural resources
6 identified on Mountain Home AFB, the Strategic Air Command Nose Dock Hangars Historic
7 District has been identified within the Undertaking APE. The district is comprised of five Cold
8 War 'nose dock' type hangers (Buildings 1329, 1330, 1331, 1332, 1333) determined eligible for
9 listing on the NRHP. SHPO concurred with Mountain Home AFB's determination of eligibility.

10 **Archaeological Resources.** All of Mountain Home AFB has been surveyed for archaeological
11 resources. Five historic archaeological sites were recorded, none of which were determined
12 eligible for listing in the NRHP. Twelve isolated artifacts (ten historic and two prehistoric) were
13 also located during archaeological surveys. Isolates are not eligible for listing in the NRHP.
14 None of these resources are within the APE for the Proposed Action or Alternative 1
15 (ACC 2013).

16 **Resources of Traditional, Cultural, or Religious Significance.** No traditional, cultural, or
17 religious resources are known on Mountain Home AFB. Given the extensive development on
18 the installation, the potential for undisturbed traditional cultural resources is extremely low.

19 MHRC and Airspace

20 File searches have previously been conducted for land that falls beneath the airspace utilized
21 by, but outside the jurisdiction of, Mountain Home AFB; and cultural surveys have been
22 completed on MHRC. Numerous prehistoric and historic sites have been noted on lands
23 beneath the airspace, particularly in Nevada, Oregon and Idaho. NRHP-eligible sites have also
24 been identified beneath the airspace in Idaho, Nevada, and within the MRHC. Although there
25 are historic properties located within the MHRC and Airspace APE, based on prior studies and
26 consultations conducted during establishment of airspace, adverse effects to historic properties
27 are not anticipated. No construction or ground disturbance would take place and noise levels
28 within the APE would be a continuation of existing operations and indistinguishable from current
29 conditions, as described in **Section 3.1**. Actions within the MHRC and Airspace APE are not
30 anticipated to result in any direct (i.e., physical disturbance) or indirect effect, such as in a
31 change in setting (either visual or auditory), to any archaeological, architectural, or traditional
32 resource. However, Mountain Home AFB is consulting with stakeholders to determine if
33 previously unidentified historic properties are located within this APE.

34 **3.4.3 Environmental Consequences**

35 Analysis of adverse effects to cultural resources considers both direct and indirect impacts.
36 Direct impacts may be the result of physically altering, damaging, or destroying all or part of a
37 resource. Indirect impacts can occur from alterations to characteristics of the surrounding
38 environment that contribute to the importance of the resource, introducing visual, atmospheric,
39 or audible elements that are out of character with the property or that alter its setting or feeling.

1 3.4.3.1 PROPOSED ACTION

2 **Architectural Resources.** Actions associated with the proposed increase of six RSAF F-15SG
3 aircraft at Mountain Home AFB would include a 10,000-square foot addition to the west
4 elevation of Building 1364, a 14,000-square foot addition to the west elevation of Building 1365,
5 a 45,000-square foot addition to the Aerospace Ground Equipment (AGE) storage yard,
6 renovations to Building 1335 and 1361, and construction of new facilities for engine storage and
7 an aviation sunshade. Seven temporary trailers would be installed for use as office space during
8 the Proposed Action, shown in **Figure 3-4**, and would be removed following completion. Repairs
9 and refurbishment of existing munitions storage facilities approximately 0.5 mile north of the
10 flight line are also included. All of the buildings subject to additions or renovations have been
11 surveyed and evaluated for NRHP eligibility and none were determined eligible. As a result, no
12 direct adverse effects on historic resources are anticipated and no significant impacts are
13 expected.

14 Buildings 1329, 1330, 1331, and 1333 are part of an NRHP-eligible Cold War-era nose dock
15 hangar historic district and are within view of the additions proposed to Buildings 1364 and
16 1365, the AGE storage yard, and new construction of engine storage buildings. The nose dock
17 hangars and the historic district would not be affected by the construction of the additions, new
18 buildings, or expansion of the storage yard because the construction would occur in the context
19 of an active AFB where infrastructure changes and these types of resources are common. The
20 AGE addition could include an extension of fencing and installation of removable metal
21 canopies. The building additions would be one story and designed in keeping with existing
22 facilities. The engine storage buildings would be constructed consistent with existing facilities. In
23 addition, the character-defining features of the historic buildings within the district—the
24 engineering design elements— would not be impacted by the new construction. There would be
25 no impact on the district's intact grouping of mission critical Cold War-era hangars as the
26 additions and renovations would be in keeping with existing facilities.

27 **Archaeological Resources.** All of Mountain Home AFB within the APE has been surveyed for
28 archaeological resources and none have been found. All ground disturbing activities would
29 occur on previously disturbed grounds. It is unlikely that any previously undocumented
30 archaeological resources would be encountered during facility construction or renovation. In
31 case of an unanticipated or inadvertent discovery of archaeological resources, the USAF would
32 comply with Section 106 of the NHPA and follow the standard operating procedures outlined in
33 the installation's Integrated Cultural Resources Management Plan (MHAFB 2011b). Therefore,
34 no significant impacts on archaeological resources are anticipated.

35 **Resources of Traditional, Cultural, or Religious Significance.** As no traditional, cultural, or
36 religious resources are known on Mountain Home AFB, impacts on these resources are not
37 expected. USAF is conducting government-to-government coordination in accordance with
38 EO 13175, *Consultation and Coordination with Indian Tribal Governments*. On October 25,
39 2017, USAF initiated government-to-government coordination with Shoshone-Paiute Tribes of
40 Duck Valley Indian Reservation, Shoshone Bannock Tribes, Paiute-Shoshone Tribes of Fort
41 McDermitt, Burns Paiute Tribe, and Northwestern Band of the Shoshone Nation. Coordination
42 is on-going. See **Appendix B** for government-to-government coordination materials. USAF will

1 continue government-to-government coordination by providing all tribes a copy of the Draft EA
2 for review and comment.

3 MHRC and Airspace

4 As discussed in **Section 3.4.2**, Mountain Home AFB anticipates there is no potential for adverse
5 effect on historic properties within the MHRC and Airspace APE. However, Mountain Home
6 AFB is consulting with stakeholders to determine if previously unidentified historic properties are
7 located within this APE.

8 **3.4.3.2 ALTERNATIVE 1**

9 Under Alternative 1, USAF would conduct all activities described under the Proposed Action,
10 including those proposed within the MHRC and Airspace APE, except that a 4,500-square foot
11 addition to the west elevation of Building 1315 would be constructed rather than renovating of
12 Building 1361. Alternative 1 would also include construction of four munitions storage facilities
13 approximately 0.5 mile north of the flight line (see **Figure 3-5**). The effects under Alternative 1
14 would be the same as that under the Proposed Action, as described in **Section 3.4.3.1**, and no
15 significant impacts are expected.

16 **3.4.3.3 NO ACTION ALTERNATIVE**

17 Impacts on cultural resources would not be expected under the No Action Alternative. Cultural
18 resource conditions would remain unchanged when compared with existing conditions.

19 **3.5 Water Resources**

20 For the purposes of this analysis, water resources include all surface and groundwater
21 underlying the main installation of Mountain Home AFB and the watersheds potentially impacted
22 by runoff from the installation. The MHRC does not use groundwater or surface water resources
23 and, as described in **Section 3.0**, impacts to water resources in the MHRC and areas below the
24 airspace are not expected and are not discussed further.

25 **3.5.1 Definition of the Resource**

26 Water resources are natural and man-made sources of water that are available for use by and
27 for the benefit of humans and the environment. Water resources relevant to Mountain Home
28 AFB include groundwater, surface water, and wetlands. No floodplains are present on the
29 installation.

30 **Groundwater.** Groundwater is water that exists in the saturated zone beneath the earth's
31 surface, and includes underground streams and aquifers. It is an essential resource that
32 functions to recharge surface water and is used for drinking, irrigation, and industrial processes.
33 Groundwater typically can be described in terms of depth from the surface, aquifer or well
34 capacity, water quality, recharge rate, and surrounding geologic formations.

35 **Surface Water.** Surface water resources generally consist of rivers, streams, springs, wetlands
36 (discussed separately here), natural and artificial impoundments (e.g., ponds, lakes), and
37 constructed drainage canals and ditches. Surface water is important for its contribution to the
38 economic, ecological, recreational, and human health of a community or locale.

1 Stormwater is an important component of surface water systems because of its potential to
2 introduce sediments and other contaminants that could degrade surface water quality. Proper
3 management of stormwater flows, which can be intensified by high proportions of impervious
4 surfaces associated with buildings, roads, and parking lots, is important to the management of
5 surface water quality and natural flow characteristics.

6 The Clean Water Act (CWA) (33 USC § 1251 *et seq.*, as amended) establishes federal limits,
7 through the National Pollutant Discharge Elimination System (NPDES), on the amounts of
8 specific pollutants that are discharged to surface waters to restore and maintain the chemical,
9 physical, and biological integrity of the water. Section 401 of the CWA requires state
10 certification for an NPDES permit would be required for any change in the quality or quantity of
11 wastewater discharge or stormwater runoff from construction sites where 1 or more acres would
12 be disturbed. This requirement allows each state to have input into federally approved projects
13 that may affect its waters (rivers, streams, lakes, and wetlands) and to ensure the projects will
14 comply with state water quality standards and any other water quality requirements of state law.
15 Construction actions that would disturb 1 or more acre of land require a NPDES permit. Idaho is
16 one of only four states that defers administration of the NPDES program to USEPA; thus,
17 USEPA is responsible for issuing and enforcing all NPDES permits in the state. The state's role
18 is to certify that NPDES-permitted projects comply with state water quality standards. Per
19 NPDES requirements, a project-specific SWPPP would be developed and implemented during
20 construction to avoid discharges affecting stormwater.

21 The EISA Section 438 (42 USC § 17094) establishes stormwater design requirements for
22 federal construction projects that disturb a footprint greater than 5,000 square feet of land to
23 restore the hydrology of an area to pre-construction conditions (USEPA 2009). The intent of the
24 act is to require federal agencies to develop in a manner that maintains or restores stormwater
25 runoff to the maximum extent technically feasible. Implementation of EISA Section 438 can be
26 achieved through incorporation of green infrastructure design elements and low impact
27 development. The act employs a performance-based approach for compliance to provide site
28 designers maximum flexibility in selecting stormwater control practices that would be
29 appropriate for a project site. Additional guidance is provided in the *USEPA Technical Guidance*
30 *on Implementing the Stormwater Runoff Requirements for Federal Projects under EISA Section*
31 *438*.

32 **Wetlands.** Wetlands are a special category of waters of the United States and are subject to
33 regulatory authority under Section 404 of the CWA and EO 11990, *Protection of Wetlands*.
34 Jurisdictional wetlands are those defined by the U.S. Army Corps of Engineers (USACE) and
35 USEPA as meeting all the criteria defined in USACE's *Wetlands Delineation Manual* (USACE
36 1987) and fall under the jurisdiction of USACE. For regulatory purposes under the CWA,
37 "wetlands" are "those areas that are inundated or saturated by surface or groundwater at a
38 frequency and duration sufficient to support, and that under normal circumstances do support, a
39 prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands
40 generally include swamps, marshes, bogs, and similar areas" (33 CFR § 329).

41 Section 401 of the CWA requires state certification for any permit or license issued by a federal
42 agency for an activity that may result in a discharge into waters of the United States. This
43 requirement allows each state to have input into federally approved projects that may affect its

1 waters (rivers, streams, lakes, and wetlands) and to ensure the projects will comply with state
2 water quality standards and any other water quality requirements of state law. Any Section 401
3 certification in Idaho also ensures that the project will not adversely impact impaired waters
4 (waters that do not meet water quality standards) and that the project complies with applicable
5 water quality improvement plans (total maximum daily loads). The IDEQ issues and enforces
6 CWA Section 401 certification for construction actions requiring an NPDES permit.

7 **3.5.2 Existing Conditions**

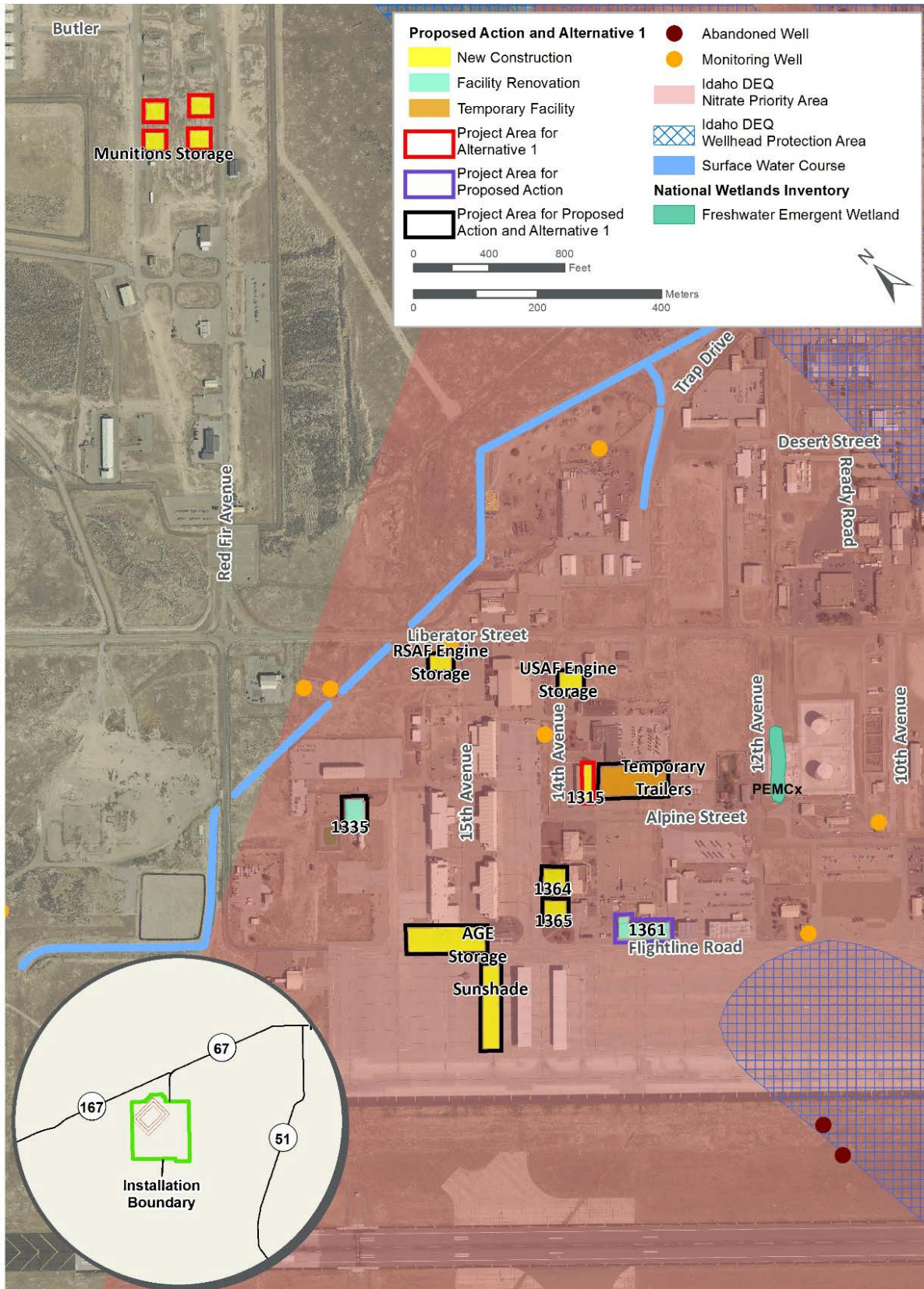
8 **Groundwater.** Mountain Home AFB and the City of Mountain Home are on the Mountain Home
9 Plateau, which comprises approximately 1,200 square miles of the western Snake River Plain
10 (MHAFB 2012). Annual precipitation near the installation averages 10.5 inches (U.S. Climate
11 Data 2017), and no perennial streams cross the Mountain Home Plateau.

12 The principal aquifer near Mountain Home AFB and the City of Mountain Home is the Bruneau
13 Formation, a component of the Idaho Group (MHAFB 2007, MHAFB 2012). Depth to the
14 Bruneau Formation beneath Mountain Home AFB is approximately 400 feet and yields from
15 wells tapping this resource range from 10 to 3,500 gallons per minute. The Bruneau Formation
16 is recharged primarily from subsurface flow. Mountain Home AFB relies on a regional,
17 unconfined aquifer for its water. This aquifer is shared with the City of Mountain Home and other
18 surrounding communities (MHAFB 2012). These aquifers are sedimentary and volcanic aquifers
19 composed of a mixture of loose gravels, sands, silts, and clays that comprise valley fill aquifers,
20 intermixed with areas containing basalt, shale, and sandstone rocks that have a more consistent
21 structure. The Mountain Home groundwater source has been designated a “Groundwater
22 Management Area;” therefore, restrictions on additional groundwater use ensure new users will
23 not adversely impact existing water rights.

24 Groundwater on the installation is contaminated with nitrate. The proposed construction areas
25 for both the Proposed Action and Alternative 1 partially overlap with the IDEQ Nitrate Priority
26 Area (see **Figure 3-7**). The project area is proximal to four IDEQ Nitrate Priority Monitoring
27 Wells and proposed construction would generally occur west and northwest of the IDEQ
28 Wellhead Protection Areas on the installation.

29 **Surface Water.** The installation is in a small (approximately 55-square mile), shallow basin
30 within the C.J. Strike Dam Recreation Annex watershed. No drainages or natural impoundments
31 occur on the installation. During spring snow melt or heavy thunderstorms, surface water flows
32 into two ephemeral streams or four man-made drainage ditches. Generally, surface water on
33 the installation flows from northeast to southwest into Canyon Creek, which ultimately drains
34 into the Snake River. General compliance with stormwater management regulations is
35 maintained through adherence to the *Mountain Home AFB SWPPP* (CH2M Hill 2015).

36 The only open waterbodies on the installation are the rapid infiltration basins and a treated
37 effluent lagoon situated along the western boundary; however, small playas adjacent to the
38 installation serve as low-point collection areas where surface water runoff does not reach
39 Canyon Creek. These playas are small basins that have no outlets and, as a result, any water
40 they collect is lost to evaporation or infiltration. There are also two storage ponds on the golf
41 course that store treated effluent (Class A, non-potable) that is used for irrigation.



1 Data Sources: USGS, State of Idaho

2 Figure 3-7. Water Resources Proximal to the Proposed Action and Alternative 1 Project Area

1 **Wetlands.** One small wetland area (identified as PEMCx) occurs approximately 400 feet east
2 of where the temporary trailers would be located for the Proposed Action (CH2MHill 2007).

3 3.5.3 Environmental Consequences

4 Evaluation criteria for effects on water resources are based on water availability, quality, and
5 use; existence of floodplains; and associated regulations. A proposed action could have
6 significant impacts with respect to water resources if any of the following were to occur:

- 7 • Substantially reduce water availability or supply to existing users
- 8 • Overdraft groundwater basins
- 9 • Exceed safe annual yield of water supply sources
- 10 • Substantially affect water quality
- 11 • Endanger public health or safety by creating or worsening health or flood hazard
12 conditions
- 13 • Threaten or damage unique hydrologic characteristics
- 14 • Violate established laws or regulations adopted to protect water resources.

15 3.5.3.1 PROPOSED ACTION

16 Water resources addressed in this analysis are those that underlie or are immediately proximal
17 to proposed construction sites and operational activities to support the six additional F-15SGs.

18 **Groundwater.** Soil removal and disturbance to support proposed construction would not be
19 anticipated to intersect the local groundwater table and therefore no to negligible impacts are
20 expected. All appropriate BMPs (e.g., storage of materials away from streams or waterways,
21 refueling off-site, and contractor training on spill avoidance) would be implemented to avoid
22 incidental contaminant discharges (e.g., fuel, lubricants) from construction equipment.

23 An increase of 2.0 acres in impervious surfaces would cause a negligible increase in runoff to
24 nearby waterbodies, thereby decreasing groundwater recharge to the aquifer system. However,
25 most areas proposed for impervious surfaces are in previously disturbed locations with minimal
26 vegetation and corresponding soil filtration. Additionally, low impact development techniques
27 would be implemented in accordance with EISA to ensure post-development hydrology is
28 consistent with pre-development hydrology, to the extent practicable. Therefore, significant
29 impacts on groundwater are not expected.

30 **Surface Water.** Negligible impacts could result from construction activities such as clearing,
31 grading, trenching, and excavating, which could displace soils and sediment into nearby
32 waterbodies. However, construction would be conducted in accordance with the NPDES permit
33 for stormwater management and controls. Erosion and sediment controls (e.g., silt fences and
34 sediment traps downslope from construction) and stormwater BMPs (e.g., spill cleanup and
35 appropriate disposal) would be implemented and be consistent with the *Mountain Home AFB*
36 *SWPPP*, the project-specific SWPPPs, and the *Catalog of Stormwater Best Management*
37 *Practices for Idaho Cities and Counties* to minimize the potential for erosion and sedimentation
38 into surface waters.

1 To meet the performance objectives of EISA, technically feasible stormwater control design
2 features and practices that are effective in reducing the volume of stormwater runoff would be
3 incorporated, to the extent practicable. Design strategies, such as use of green infrastructure
4 and low impact development (e.g., use of porous pavements and bioretention areas), would
5 also be considered to facilitate evapotranspiration and capture and use stormwater runoff
6 (USEPA 2009). Therefore, significant impacts on surface water are not expected.

7 **Wetlands.** One wetland is more than 400 feet east of the project area. Because surface water
8 runoff generally flows from a northeast to a southwest direction on the installation, it is unlikely
9 that stormwater from the construction site would runoff towards the wetland. Additionally, BMPs
10 (e.g., maintained construction buffer, sediment traps, silt fences) associated with the
11 project-specific ESCP and the site-specific SWPPP would be implemented to avoid impacts on
12 wetlands and other water resources. Therefore, significant impacts on wetlands are not
13 expected.

14 3.5.3.2 ALTERNATIVE 1

15 Under Alternative 1, proposed construction would disturb 3.3 acres and impervious surfaces
16 would increase by approximately 2.7 acres. These acreages are slightly greater than those
17 under the Proposed Action, and therefore the potential for stormwater runoff, erosion, or spills
18 would be similar to but greater than under the Proposed Action, as described in **Section 3.5.3.1**.

19 As described in **Section 3.5.3.1**, USAF would, under Alternative 1, implement erosion and
20 sediment controls, spill prevention BMPs, and stormwater management practices consistent
21 with the installation and site-specific SWPPPs to minimize the potential for impacts associated
22 with erosion and sedimentation on groundwater, surface waters, and wetlands. Green
23 infrastructure and low impact development strategies would also be incorporated to the extent
24 practicable to offset impacts resulting from the increase in impervious surface area. Therefore,
25 significant impacts on water resources are not expected.

26 3.5.3.3 NO ACTION ALTERNATIVE

27 Impacts on water resources would not be expected under the No Action Alternative. Water
28 quality and availability would remain unchanged when compared with existing conditions.

29 3.6 Socioeconomics

30 For the purposes of this analysis, socioeconomics pertains to all areas where potential impacts
31 could occur on the main installation of Mountain Home AFB and in the surrounding communities
32 because of increases in personnel. As described in **Section 3.0**, impacts to socioeconomics in
33 the MHRC and areas below the airspace are not expected and are not discussed further.

34 3.6.1 Definition of the Resource

35 Socioeconomics is defined as the basic attributes and resources associated with the human
36 environment, particularly characteristics of population and economic activity. Demographics
37 and employment characteristics provide key insights into socioeconomic conditions that might
38 be affected by a proposed action. Changes in demographic and economic conditions are
39 sometimes accompanied by changes in other community components, such as housing and
40 education. The socioeconomics region of influence (ROI) is the area within which potential

1 impacts on the local economy could occur because of the proposed increase in personnel and
2 proposed construction and renovation projects.

3 **3.6.2 Existing Conditions**

4 For the purposes of this analysis, the ROI includes the counties of Ada, Elmore, and Owyhee,
5 whose economies are closely associated with Mountain Home AFB and represent the areas
6 that would be affected by the Proposed Action (MHAFB 2007). Information regarding
7 population, employment, and earnings is compared with conditions for the State of Idaho. Most
8 of the personnel to be based at Mountain Home AFB and their families likely would reside in
9 Elmore County where the installation is located. A negligible number of personnel could choose
10 to live in the Boise, Idaho area; however, because of the size of the Boise metropolitan area,
11 addition of these few personnel to the local population would be indistinguishable from current
12 conditions. Therefore, housing and school data is analyzed only for Elmore County.

13 **Demographics.** U.S. Census Data from the 2000 Census, the 2010 Census, and the 2015
14 American Community Survey were used to analyze the population of the spatial levels
15 presented in **Table 3-16**. The population within Elmore County is estimated to have decreased
16 by approximately 7.2 percent between 2000 and 2010 and 3.2 percent between 2010 and 2015.
17 The population within Owyhee County is estimated to have increased by approximately
18 8.3 percent between 2000 and 2010 and decreased by approximately 1.4 percent between
19 2010 and 2015. The population within Ada County is estimated to have increased by
20 approximately 30.0 percent between 2000 and 2010 and 6.4 percent between 2010 and 2015.
21 The population within the State of Idaho is estimated to have increased by approximately
22 21 percent between 2000 and 2010 and 3.1 percent between 2010 and 2015 (USCB 2001,
23 USCB 2011, USCB 2016a).

24 **Table 3-16. Population Characteristics for 2000–2015**

Population	Ada County	Elmore County	Owyhee County	Idaho
2000 Population	300,904	29,130	10,644	1,293,953
2010 Population	392,365	27,038	11,526	1,567,582
2015 Population *	417,501	26,175	11,364	1,616,547
Percent Change (2000–2010)	+30.0	-7.2	+8.3	+21.0
Percent Change (2010–2015)	+6.4	-3.2	-1.4	+3.1

Source: USCB 2001, USCB 2011, USCB 2016a

Note:*The 2015 population data represents a 5-year estimate from 2011 to 2015.

25 **Employment Characteristics.** Armed Forces personnel made up approximately 0.30 percent
26 of the labor force within Ada County, 15 percent in Elmore County, 0.30 percent in Owyhee
27 County, and 0.40 percent in the State of Idaho (see **Table 3-17**) (USCB 2016b). The number of
28 active-duty personnel at Mountain Home AFB has fluctuated over the past 16 years (USAF
29 2001, MHAFB 2007, MHAFB 2011a, MHAFB 2015). The number of active-duty personnel has
30 ranged from 4,449 in Fiscal Year (FY) 2001 to 3,167 in FY 2015, representing a decrease of
31 approximately 29 percent. However, the number of active-duty personnel increased by
32 approximately 3.7 percent (from 4,024 to 4,173) between FY 2005 and FY 2008 (MHAFB 2007,
33 MHAFB 2011a). The number of civilian employees at Mountain Home AFB has remained
34 relatively constant over the same time frame but has gradually increased by approximately

1 3.6 percent between FY 2001 and FY 2015 (USAF 2001, MHAFB 2007, MHAFB 2011a,
2 MHAFB 2015). In addition to 3,167 active duty personnel, Mountain Home AFB employed
3 167 USAF Reserve/Air National Guard personnel and 910 civilians in FY 2015. These
4 personnel had 4,303 dependents (MHAFB 2015).

5 As of 2015, the civilian employed population made up approximately 93 percent of the labor
6 force in Ada County, 78 percent in Elmore County, 88 percent in Owyhee County, and
7 92 percent in the State of Idaho. The civilian labor force is divided into the major industries
8 shown in **Table 3-17**. The largest industry in Ada and Elmore Counties was the educational,
9 health, and social services industry, which employed approximately 24 and 20 percent of the
10 labor force, respectively. The largest industry in Owyhee County was agriculture, forestry,
11 fishing, and hunting and mining, which employed approximately 29 percent of the labor force.

12 **Table 3-17. Employment Characteristics by Industry for 2011–2015**

Industry	Ada County	Elmore County	Owyhee County	Idaho
Total labor force	214,655	12,874	4,890	774,526
Percent of population employed by the Armed Forces	0.30	15.0	0.30	0.40
Percent of population 16 years old and over employed in the civilian labor force	93.0	78.0	88.0	92.0
Percent of Population by Industry in the Civilian Labor Force				
Agriculture, forestry, fishing, and hunting and mining	1.5	6.3	29.2	5.6
Construction	6.0	5.1	4.8	7.1
Manufacturing	9.3	8.0	14	9.9
Wholesale trade	2.7	1.2	2.6	2.6
Retail trade	12.0	11.0	10.0	12.0
Transportation and warehousing, and utilities	4.2	6.1	6.4	4.8
Information	2.7	1.2	0.6	1.9
Finance, insurance, real estate, and rental and leasing	6.6	4.4	1.7	5.2
Professional, scientific, management, administrative, and waste management services	13.0	4.9	4.1	9.7
Education, health, and social services	24.0	20.0	13.0	23.0
Arts, entertainment and recreation	8.7	8.4	4.7	8.9
Other services (except public administration)	4.1	5.1	4.1	4.4
Public administration	6.2	18.0	4.6	5.2

Source: USCB 2016b

Note: Data in this table are from the 2011–2015 American Community Survey 5-year Estimates.

13 The second and third largest industries in Ada County and the corresponding percentage of the
14 labor force employed within those industries were professional, scientific, management,
15 administrative and waste management services (13 percent) and retail trade (12 percent). The
16 second and third largest industries in Elmore County were public administration (18 percent)
17 and retail trade (11 percent). The second and third largest industries in Owyhee County were
18 manufacturing (14 percent) and education, health, and social services (13 percent). The
19 construction industry represented approximately 6.0 percent, 5.1 percent, and 4.8 percent of the

1 labor force in the Ada, Elmore, and Owyhee Counties, respectively. In the State of Idaho, the
 2 three largest industries were the educational, health, and social services industry (23 percent),
 3 retail trade (12 percent), and manufacturing (9.9 percent). The construction industry
 4 represented approximately 7.1 percent of the state labor force (USCB 2016b).

5 Mountain Home AFB is one of the largest employers in the region. Payroll expenditures
 6 associated with active-duty military and civilian personnel on the installation were approximately
 7 \$202 million in FY 2015. In addition, Mountain Home AFB purchases significant quantities of
 8 goods and services from local regional firms. Construction costs; service contracts; and
 9 materials, supplies, and equipment for the installation totaled over \$42 million in FY 2015.
 10 Further, USAF estimates that the economic stimulus of Mountain Home AFB created
 11 approximately 2,127 secondary jobs in the civilian economy, representing nearly \$98 million to
 12 the local economy in FY 2015 (MHAFB 2015).

13 **Housing and Schools.** Table 3-18 presents specific information on total and available housing
 14 within Elmore County. Of the total housing units in the county, approximately 20 percent (or
 15 approximately 2,410 housing units) were vacant as of 2015 (USCB 2016c).

16 **Table 3-18. Housing Characteristics for 2011–2015**

Housing Characteristics	Elmore County
Total Housing Units	12,195
Total Occupied Housing Units	9,785 (80.0%)
Total Vacant Housing Units	2,410 (20.0%)
Percent Owner-Occupied	59.0
Percent Renter-Occupied	41.0

Source: USCB 2016c

17 There are 15 public schools in Elmore County that serve approximately 4,649 students. The
 18 student to teacher ratio in the county is 19:1 (Public School Review 2017). Mountain Home
 19 School District #193 contains five elementary schools, two middle/junior high schools, and two
 20 high schools (Mountain Home School District 2015).

21 **3.6.3 Environmental Consequences**

22 Socioeconomic impacts would be considered potentially significant if changes associated with
 23 the Proposed Action substantially affected local economy, employment, or economic stability in
 24 the region, or resulted in a substantial change in the population that affected the demand for
 25 housing or education services.

26 **3.6.3.1 PROPOSED ACTION**

27 In FY 2015, active-duty personnel at Mountain Home AFB earned \$49,671 on average while
 28 civilians averaged \$39,500. Based on this average, and assuming RSAF salaries would be
 29 comparable, military personnel associated with the Proposed Action would generate
 30 approximately \$8.8 million in payroll disbursements in the region and civilians would generate
 31 approximately \$1.2 million. This total would represent less than 3 percent of the Mountain
 32 Home AFB FY 2015 payroll (MHAFB 2015). Therefore, it is unlikely that this increase in payroll
 33 would provide quantifiable economic impact within the ROI.

1 The proposed construction and renovation projects would have beneficial impacts on the ROI's
2 economy and employment levels. Construction of new facilities and renovation projects would
3 provide a direct temporary increase in income for construction workers, and indirect increases in
4 retail trade revenues through the purchase of equipment, supplies, and materials. It is
5 anticipated that work would be done by both skilled and unskilled labor force already within the
6 ROI. As of 2015, there were approximately 12,785 construction workers within the ROI (USCB
7 2016b).

8 Under the Proposed Action, 177 military personnel, 30 civilian personnel, and approximately
9 336 dependents would relocate to areas surrounding Mountain View AFB in Elmore County.
10 This total population increase of approximately 543 individuals would result in a total population
11 increase of approximately 2.1 percent in Elmore County. As stated in **Section 2.1.2**, it is
12 assumed that all personnel associated with the Proposed Action would reside in off-installation
13 housing because of limited on-installation housing availability. A conservative way to estimate
14 the increase in housing requirements would be to assume one housing unit is required for each
15 additional personnel position, which would result in an increase in the demand for housing
16 within the ROI by 207 housing units (one housing unit each for 177 military personnel and
17 30 civilian personnel). As of 2015, approximately 20 percent (approximately 2,410 housing
18 units) were vacant in Elmore County (USCB 2016c). Therefore, the housing market would have
19 adequate capacity to accommodate the population change.

20 Using the assumption that 1.5 of the estimated 2.5 dependents per each additional personnel
21 under the Proposed Action are school-age students, there would be an increase of
22 approximately 202 students in Elmore County. This would result in an increase of
23 approximately 4% in the county's school enrollment, which would be readily absorbed into to the
24 local elementary and secondary schools (Public School Review 2017); therefore, creating no
25 additional stress on the school system.

26 Overall, significant impacts on demographics, employment, housing and schools, and the local
27 economy are not expected.

28 **3.6.3.2 ALTERNATIVE 1**

29 Socioeconomic impacts under Alternative 1 would be similar to those described for the
30 Proposed Action in **Section 3.6.3.1**. Additional beneficial impacts on the ROI's economy and
31 employment levels would be expected because of the additional construction projects proposed
32 under Alternative 1. The proposed increase in personnel would be the same as under the
33 Proposed Action; therefore, there would be no difference in impacts associated with the
34 increase in payroll in the ROI or on housing and education in Elmore County.

35 **3.6.3.3 NO ACTION ALTERNATIVE**

36 Impacts on socioeconomics would not be expected under the No Action Alternative.
37 Socioeconomic conditions would remain unchanged when compared with existing conditions.

1 3.7 Health and Safety

2 3.7.1 Definition of the Resource

3 A safe environment is one in which there is no, or an optimally reduced, potential for death,
4 serious bodily injury or illness, or property damage. Human health and safety address the well-
5 being, safety, and health of members of the public, contractors, and USAF personnel during the
6 various aspects of the Proposed Action and alternatives.

7 Safety and accident hazards can often be identified and reduced or eliminated. Necessary
8 elements for an accident-prone situation or environment include the presence of the hazard
9 itself together with the exposed (and possibly susceptible) population. The degree of exposure
10 depends primarily on the proximity of the hazard to the population. The proper operation,
11 maintenance, fueling, and repair of aircraft and equipment also carry important safety
12 implications. Activities that can be hazardous include transportation, maintenance and repair
13 activities, construction, and activities that occur in extremely noisy environments.

14 3.7.2 Existing Conditions

15 Mountain Home AFB is a secure military installation with access limited to military personnel,
16 civilian employees, and military families. Operations and maintenance activities conducted on
17 Mountain Home AFB, MHRC, and other facilities are performed in accordance with applicable
18 USAF safety regulations, published USAF Technical Orders, and standards prescribed by
19 USAF Occupational Safety and Health requirements. Adherence to industrial-type safety
20 procedures and directives ensures safe working conditions. The handling, processing, storage,
21 and disposal of potentially hazardous materials associated with these activities are
22 accomplished in accordance with all federal and state requirements applicable to the substance
23 generated. Mountain Home AFB provides emergency services (e.g., fire and law enforcement),
24 which include emergency response and force protection, for the installation. The 366 FW/SEF
25 (Flight Safety) maintains an aggressive program to minimize bird/wildlife aircraft strike hazard
26 (BASH) potential. For additional discussion regarding BASH, see **Section 3.8**.

27 Mountain Home AFB

28 **Construction Safety.** All contractors performing construction activities are responsible for
29 following federal Occupational Safety and Health Administration (OSHA) regulations and are
30 required to conduct these activities in a manner that does not increase risk to workers or the
31 public. OSHA regulations address the health and safety of people at work and cover potential
32 exposure to a wide range of chemical, physical, and biological hazards, and ergonomic
33 stressors. The regulations are designed to control these hazards by eliminating exposure to the
34 hazards via administrative or engineering controls, substitution, use of personal protective
35 equipment (PPE), and availability of safety data sheets.

36 Occupational health and safety of employees is the responsibility of each employer. Employer
37 responsibilities are to review potentially hazardous workplace conditions; monitor exposure to
38 workplace chemical (e.g., asbestos, lead, hazardous substances), physical (e.g., noise
39 propagation, falls), and biological (e.g., infectious waste, wildlife, poisonous plants) agents, and
40 ergonomic stressors; recommend and evaluate controls (e.g., prevention, administrative,
41 engineering, PPE) to ensure exposure to personnel is eliminated or adequately controlled; and

1 ensure a medical surveillance program is in place to perform occupational health physicals for
2 workers subject to the use of respiratory protection or engaged in hazardous waste, asbestos,
3 lead, or other work requiring medical monitoring.

4 **Operations and Maintenance.** DoD Directive 4715.1E, *Environment, Safety, and*
5 *Occupational Health*, and AFI 91-203, *Air Force Consolidated Occupational Safety Instruction*,
6 provide industrial and general occupational safety guidance for implementation of the OSHA
7 standards in 29 CFR. AFI 91-203 consolidates Air Force Policy Directive 91-2, *Safety*
8 *Programs*, and all Air Force Occupational Safety and Health 91-series standards. AFI 91-202,
9 *The U.S. Air Force Mishap Prevention Program*, outlines and guides mishap prevention
10 associated and program requirements, assigns responsibilities for program elements, and
11 contains program management information. The purpose of these guidance documents is to
12 minimize loss of USAF resources and to protect personnel from occupational deaths, injuries, or
13 illnesses by managing risks.

14 Personnel at Mountain Home AFB control, maintain, and store all ordnance and munitions
15 required for mission performance. This includes training and inert bombs and rockets, live
16 bombs and rockets, chaff, flares, gun ammunition, small arms ammunition, and other explosive
17 and pyrotechnic devices. Munitions are handled and stored in accordance with USAF explosive
18 safety directives outlined in Air Force Manual (AFMAN) 91-201, *Explosives Safety Standards*.
19 AFMAN 91-201 outlines construction and quantity-distance (QD) separation standards required
20 by DoD and the USAF for facilities used for the storage, handling, and maintenance of
21 munitions.

22 **Aircraft Mishaps.** Aircraft mishaps are classified as A, B, C, or D. Class A mishaps are the
23 most severe with total property damage of \$2 million or more or a fatality or permanent total
24 disability. Safety records indicate only one Class A mishap has occurred at Mountain Home
25 AFB since 2000. During an airshow in 2003, an F-16 from the Thunderbirds crashed while
26 performing aerobatics. Aircraft flight operations at Mountain Home AFB are governed by
27 standard flight rules.

28 In emergency situations, all models of the F-15 aircraft can jettison fuel to reduce aircraft gross
29 weight for flight safety. When circumstances require it, fuel jettisoning is permitted above
30 5,000 feet AGL and only over unpopulated areas. AFI 11-2F-15 Volume 3, *F-15 Operations*
31 *Procedures*, addresses approved circumstances and protocols for fuel jettison; local operating
32 policies define specific fuel dumping areas for the installation.

33 MHRC

34 **Aircraft Mishaps.** Aircraft flight operations in MHRC are governed by standard flight rules.
35 Under the Commander 366 FW, the 366 Operations Group is the designated operating agency
36 for the range and is responsible for operational monitoring, administration, and general safety of
37 MHRC. Activities in the MHRC must comply with AFI 13-212 Volume 1, *Range Planning and*
38 *Operations*. Safety records indicate only one Class A mishap occurred within the MHRC since
39 2000.

40 **Fire Management.** Contractors operating on JBR and SCR provide fire management and
41 response for the ranges and associated facilities. The fire management and response staff and

1 equipment meet the requirements of AFI 32-2001, *Fire Emergency Services (FES) Program*.
2 However, under the July 2008 Support Agreement between 366 FW and the Bureau of Land
3 Management (BLM) Lower Snake River District, the BLM provides firefighting support for all
4 lands outside the SCR Exclusive Use Area, JBR, emitter sites, and No-Drop targets. For lands
5 within the SCR Exclusive Use Area and JBR, BLM only supplies assistance when requested.

6 Fire prevention within the impact areas of the JBR and SCR include reduction of ignition
7 sources, management of vegetation and fuels, and maintenance of firebreaks. Fire risk is
8 higher in the impact areas because of ordnance use and around the range facilities resulting
9 from maintenance activities. Therefore, Mountain Home AFB employs a program of annually
10 reducing fire fuels in the impact areas and implements aggressive fire suppression June through
11 August. During dry years, the fire season can extend from May to November. Both JBR and
12 SCR support fire suppression equipment and personnel, ensuring rapid response to any fires
13 that may start. Mountain Home AFB also precludes the use of flares, “hot-spot” training
14 ordnance, and pyrotechnic devices during high, very high, and extreme fire risk conditions.
15 Implementing the fire management and suppression programs has substantially reduced both
16 the number and extent of fires occurring on the ranges (MHAFB 2012).

17 **Munitions.** Expenditure of ordnance (inert only) during training operations is restricted to JBR
18 and SCR. Strafing with 20-mm training rounds during training operations occurs at SCR.
19 Current authorizations allow the release of chaff in the Owyhee and Paradise MOAs, as well as
20 on the ranges and their surrounding airspace. Chaff expenditure is not authorized in the Saddle
21 MOA or over the Duck Valley Reservation.

22 Chaff consists of very small fibers of aluminum-coated mica that reflect radar signals and, when
23 dispensed from an aircraft, form a cloud that temporarily hides the aircraft from radar detection.
24 Although the chaff may be ejected from an aircraft using a pyrotechnic charge, the chaff itself is
25 not explosive. Chaff is composed of silicon dioxide fibers ranging in diameter from 0.7 to 1 mms
26 with an aluminum alloy and a slip coating of stearic acid. Analysis of the materials comprising
27 chaff indicate that they are nontoxic in the quantities used (USAF 1997). Approximately
28 500,000 to 3,000,000 fibers are contained in each chaff bundle. Training chaff is specifically
29 developed so it does not interfere with radar used by the Federal Aviation Administration for air
30 traffic control.

31 **3.7.3 Environmental Consequences**

32 Any increase in safety risks is considered an adverse impact on safety. Significant impacts on
33 safety would occur if the Proposed Action would do either of the following:

- 34 • Substantially increase risks associated with the safety of USAF personnel or the general
35 public
- 36 • Introduce a new safety risk for which USAF is not prepared or does not have adequate
37 management and response plans in place.

1 3.7.3.1 PROPOSED ACTION

2 Mountain Home AFB

3 **Construction Safety.** Negligible impacts on contractor health and safety would be expected
4 from the Proposed Action. Contractors performing renovation and construction work would be
5 exposed to an environment containing slightly greater health and safety risks than a non-
6 construction environment.

7 To minimize health and safety risks, construction contractors would be required to use
8 appropriate PPE and establish and maintain site-specific health and safety programs for their
9 employees. Contractor health and safety programs would follow all applicable federal OSHA
10 regulations and would be reviewed by Mountain Home AFB personnel prior to work beginning to
11 ensure that appropriate measures are taken to reduce the potential exposure of workers and
12 installation personnel to health and safety risks. Safety data sheets for all hazardous materials
13 and chemicals stored at the worksite would be kept on site and be available for immediate
14 review. Therefore, significant impacts on contractor safety are not expected.

15 **Operations and Maintenance.** Negligible impacts are anticipated from increasing annual flight
16 operations at the airfield by approximately 14 percent. Airfield and airspace operations would
17 continue to follow all applicable safety guidelines and regulations and significant impacts are not
18 expected.

19 **Aircraft Mishaps.** No impacts related to aircraft mishaps are anticipated from the Proposed
20 Action. The slight increases in aircraft operations from the Proposed Action would not be
21 expected to result in an increase in Class A mishaps. As presented in **Section 3.7.2**, aircraft
22 mishaps are rare at the installation and the number would not be expected to increase under the
23 Proposed Action. All aircraft flight operations would continue to be conducted in accordance
24 with standard flight rules and local operating procedures and policies.

25 MHRC

26 **Aircraft Mishaps.** No impacts related to aircraft mishaps are anticipated from the Proposed
27 Action. Although the Proposed Action would increase annual flight operations, these slight
28 increases would not be expected to result in an increase in Class A mishaps. As presented in
29 **Section 3.7.2**, aircraft mishaps are rare in the MHRC and the number would not be expected to
30 increase under the Proposed Action. All aircraft flight operations would continue to be
31 conducted in accordance with standard flight rules and local operating procedures and policies.

32 **Fire Management.** No impacts related to fire safety and management are anticipated from the
33 Proposed Action. The Proposed Action would not be expected to result in an increase in fire
34 risks. Current procedures to minimize fire risks associated with flight training would continue.
35 Operations and maintenance activities on the ranges and associated facilities would continue to
36 be conducted using current USAF procedures and policies. All activities would be conducted by
37 technically qualified personnel and in accordance with all applicable USAF requirements and
38 fire management plans.

39 **Munitions.** Negligible impacts would be anticipated from the proposed 8 and 19 percent
40 increases in annual inert 20-mm and chaff expenditures, respectively. All munitions activities
41 and chaff releases would be conducted in areas where these actions already occur, no new

1 ordnance would be released, and all existing safety and fire restrictions would continue to be
2 followed. Additionally, operational constraints pertaining to the use of specific delivery tactics,
3 ordnance type, or aircraft headings have been developed and would be followed to mitigate any
4 potentially unsafe condition and to ensure that ordnance remains within the applicable safety
5 footprint. Therefore, significant impacts are not expected.

6 **3.7.3.2 ALTERNATIVE 1**

7 The impacts on health and safety from Alternative 1 would be similar to those described under
8 the Proposed Action in **Section 3.7.3.1**. Additionally, the proposed munitions storage facilities
9 under Alternative 1 would be constructed and QD arcs would be adjusted, as necessary, in
10 accordance with construction and QD separation standards outlined in AFMAN 91-201.
11 Therefore, significant impacts from the increase in munitions storage capacity are not expected.

12 **3.7.3.3 NO ACTION ALTERNATIVE**

13 Impacts on health and safety would not be expected under the No Action Alternative. Health
14 and safety conditions would remain unchanged when compared with existing conditions.

15 **3.8 Biological Resources**

16 For the purposes of this analysis, biological resources information pertains to all areas where
17 potential impacts could occur on the main installation of Mountain Home AFB. As described in
18 **Section 3.0** and in the 2007 EA addressing beddown of the RSAF aircraft on the installation
19 (MHAFB 2007), munitions releases currently occur in MHRC, and analysis of these activities
20 has determined impacts on biological resources are negligible. Because the munitions releases
21 associated with the Proposed Action would not appreciably affect existing conditions, no further
22 analysis of these activities is warranted.

23 **3.8.1 Definition of the Resource**

24 Biological resources include native or naturalized plants and animals and the habitats
25 (e.g., grasslands, forests, and wetlands) in which they exist. Protected and sensitive biological
26 resources include federally listed species (threatened or endangered) and those species
27 proposed for listing, designated or proposed critical habitat as designated by U.S. Fish and
28 Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS), species of concern
29 managed under conservation agreements, state-listed species, and migratory birds.

30 The Endangered Species Act (ESA) (16 USC § 1536) requires federal agencies, in consultation
31 with the USFWS and NMFS, to ensure that actions they authorize, fund, or carry out are not
32 likely to jeopardize the continued existence of any listed species or result in the destruction or
33 adverse modification of designated critical habitat of such species. Air Force Policy Directive
34 32-70, *Environmental Quality*, directs USAF implementation of the ESA.

35 The Migratory Bird Treaty Act (MBTA) of 1918 is the primary legislation in the United States
36 established to conserve migratory birds. The MBTA prohibits the intentional and unintentional
37 taking, killing, or possessing of migratory birds unless permitted by regulation. EO 13186,
38 *Responsibilities of Federal Agencies to Protect Birds*, provides a specific framework for the
39 federal government's compliance with its MBTA obligations and aids in incorporating national
40 planning for bird conservation into agency programs. A Memorandum of Understanding

1 between DoD and USFWS promotes the conservation of migratory birds in compliance with
2 EO 13186.

3 The Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the
4 Secretary of the Interior, from taking bald and golden eagles, including their parts, nests, or
5 eggs. The Act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap,
6 collect, molest, or disturb.”

7 The USFWS oversees the protection and management of federally protected species. The
8 Idaho Department of Fish and Game (IDFG) oversees the protection and management of
9 state-protected species and species of conservation concern. AFI 32-7064, *Integrated Natural*
10 *Resources Management*, calls for the protection and conservation of state-listed species when
11 not in direct conflict with the military mission. Mountain Home AFB applies for appropriate
12 permits for actions that may affect state-listed species and cooperates with the IDFG to further
13 the goals of the Idaho State Wildlife Action Plan.

14 **3.8.2 Existing Conditions**

15 **Vegetation.** Mountain Home AFB exists within the regional landform and vegetation
16 classification known as the Intermountain Sagebrush Province/Sagebrush Steppe Ecosystem,
17 which is widespread over much of southern Idaho, eastern Oregon, eastern Washington, and
18 portions of northern Nevada, California, and Utah (MHAFB 2012). Historically, this ecosystem
19 contained a large diversity of landforms and vegetation types, ranging from vast expanses of flat
20 sagebrush covered plateaus to rugged mountains blanketed with juniper woodlands and
21 grasslands. However, significant declines in the amount and quality of sagebrush habitat have
22 occurred over the last 15 years. A few remnant patches of sagebrush still exist and most have a
23 weedy understory. These remnant patches have been greatly degraded by off-highway vehicle
24 activity, use during military exercises, and weed invasion.

25 **Wildlife.** Mountain Home AFB actively manages wildlife on the installation and cooperates with
26 IDFG, USFWS, and the BLM. Currently, 60 different species of wildlife have been identified on
27 Mountain Home AFB (MHAFB 2012). During the vegetation surveys of the installation, only
28 small, isolated stands of native habitat were located. Most lands on and surrounding the
29 installation have been converted to non-native species by fires, agriculture, and development.
30 This limited habitat and small patch size cannot support wide-ranging species, such as mule
31 deer (*Odocoileus hemionus*), pronghorn antelope (*Antilocapra americana*), and sage-grouse
32 (*Centrocercus urophasianus*). However, many smaller mammal, reptile, and bird species have
33 adapted to urban areas and human disturbance. Raptors, eagles, and owls commonly occur on
34 the installation. Burrowing owls (*Athene cunicularia*) are known to occur on the installation with
35 burrows located in several areas near operational activities (e.g., adjacent to the flightline in the
36 north, and exercise area MOAB in the southwest). Bats have been observed in the evenings
37 and may roost in buildings and trees and forage around lights. Bats on Mountain Home AFB are
38 generally associated with buildings, the urban forest, and the golf course. The bat species
39 identified on Mountain Home AFB are the silver-haired bat (*Lasionycteris noctivagans*), big
40 brown bat (*Eptesicus fuscus*), long-eared myotis (*Myotis evotis*), and Yuma myotis (*Myotis*
41 *yumanensis*). Wildlife habitat on main base Mountain Home AFB is maintained or removed
42 through vegetation manipulation and ground disturbance, and is largely managed through

1 post-fire rehabilitation. The installation comprises four dominant wildlife habitat types as defined
2 by topography and vegetation:

- 3 • landscaped areas around residential and installation facilities
- 4 • isolated sagebrush flats
- 5 • flat areas dominated by exotic annual weed species
- 6 • rubble piles dominated by exotic annual weed species (MHAFB 2012).

7 Other notable areas are the rapid infiltration basins and the treated effluent storage lagoon that
8 attract waterfowl. The Mountain Home AFB *Bird and Wildlife Strike Hazard Safety Plan* outlines
9 operational protocols for airfield and airspace avoidance of strike hazards (MHAFB 2012).

10 **Protected Species.** According to the USFWS Information for Planning and
11 Consultation-Environmental Conservation Online System, Slickspot peppergrass (*Lepidium*
12 *papilliferum*) is the only federally listed species that could occur on or near Mountain Home AFB
13 (USFWS 2017). No state-listed species have been observed on the installation.

14 Slickspot peppergrass is a small annual or biennial plant species with small white flowers
15 (USFWS 2016). When this species grows as a biennial, it does not produce flowers the first
16 year but remains a small round rosette of green leaves. Habitat is restricted to semi-arid
17 sagebrush-steppe ecosystems. Slickspot peppergrass grows primarily within slickspots, which
18 are unique microenvironments consisting of bare areas that temporarily pool water and contain
19 soils that are significantly higher in sodium and clay content (MHAFB 2012). These slickspot
20 microenvironments typically cover an area of less than 100 square meters and usually occur in
21 proximally located groups of at least three (up to more than 20) individual slickspots. These
22 habitats are often interspersed among other vegetation. Slickspots are generally unvegetated
23 or sparsely vegetated. Disturbed slickspots may have a high- to low-percent cover of weedy
24 species such as clasping leaf peppergrass (*Lepidium perfoliatum*), cheatgrass (*Bromus*
25 *tectorum*), and bur buttercup (*Ceratocephala testiculata*). Slickspot peppergrass is occasionally
26 found outside of slickspots, usually in openings near slickspots. The known range for this
27 species is Idaho's western Snake River Plain and neighboring foothills in Owyhee, Payette,
28 Gem, Canyon, Ada, and Elmore Counties (MHAFB 2012). Mountain Home AFB and BLM
29 extensively surveyed areas of the installation and ground areas underlying the MHRC and
30 determined that slickspot peppergrass occurred in areas of the JBR (MHAFB 2012). Neither the
31 species, nor suitable habitat to support the species, has been observed on the installation. No
32 habitat for any other federally listed threatened or endangered species is present on Mountain
33 Home AFB.

34 Species of concern generally include those federally listed as threatened or endangered, those
35 listed as species of greatest conservation need in Idaho by the IDFG, and BLM Sensitive
36 species. Bald and golden eagles are also a Species of Concern because of their designation
37 under the Bald and Golden Eagle Protection Act and the MBTA (MHAFB 2012). **Table 3-19**
38 lists the Protected Species and Species of Concern Potentially Occurring in the project area.
39 This list includes Birds of Conservation Concern that may be present in or near the project area
40 to be affected by the proposed activities (USFWS 2017). USFWS has determined that these
41 birds are of priority concern because without additional conservation actions they are likely to
42 become candidates for listing under the ESA.

1 **Table 3-19. Protected Species with Potential to Occur in the Project Area**

Common Name	Scientific Name
American white pelican ¹	<i>Pelecanus erythrorhynchos</i>
Bald eagle ¹	<i>Haliaeetus leucocephalus</i>
Brewer's sparrow ^{1,2}	<i>Spizella breweri</i>
California gull ¹	<i>Larus californicus</i>
Calliope hummingbird ²	<i>Stellula calliope</i>
Golden eagle ^{1,2}	<i>Aquila chrysaetos</i>
Green-tailed towhee ²	<i>Pipilo chlorurus</i>
Lesser yellowlegs ²	<i>Tringa flavipes</i>
Lewis's woodpecker ²	<i>Melanerpes lewis</i>
Loggerhead shrike ¹	<i>Lanius ludovicianus</i>
Long-billed curlew ^{1,2}	<i>Numenius americanus</i>
Long-eared myotis ¹	<i>Myotis evotis</i>
Marbled godwit ²	<i>Limosa fedoa</i>
Olive-sided flycatcher ²	<i>Contopus cooperi</i>
Sagebrush sparrow ¹	<i>Artemisiospiza nevadensis</i>
Sage thrasher ^{1,2}	<i>Oreoscoptes montanus</i>
Snowy plover ²	<i>Charadrius nivosus</i>
Western burrowing owl ¹	<i>Athene cunicularia</i>
White headed woodpecker ²	<i>Leuconotopicus albolarvatus</i>
White-faced ibis ¹	<i>Plegadis chihi</i>
Williamson's sapsucker ²	<i>Sphyrapicus thyroideus</i>
Willow flycatcher ¹	<i>Empidonax traillii</i>
Yuma myotis ¹	<i>Myotis yumanensis</i>

Source: ¹ MHA FB 2012; ² USFWS 2017

2 **3.8.3 Environmental Consequences**

3 Potential impacts on biological resources are evaluated based on the following criteria:

- 4 • importance (e.g., legal, commercial, recreational, ecological, scientific) of the resource
- 5 • proportion of the resource that would be affected relative to its occurrence in the region
- 6 • sensitivity of the resource to proposed activities
- 7 • duration of ecological impacts
- 8 • potential for “taking” of federally listed species
- 9 • impact on critical habitat.

10 Impacts on biological resources would be significant if species of concern or their habitats,

11 based on legal status or ecological importance, were adversely affected over large areas.

12 Impacts would also be considered significant if disturbances cause reductions in population size

13 or distribution that would jeopardize the continued existence of a species.

1 A habitat perspective is used to provide a framework for analysis of general classes of effects
2 (i.e., removal of critical habitat, noise, human disturbance). Ground disturbance and noise
3 associated with maintenance and repair activities might directly or indirectly cause potential
4 effects on biological resources. Direct effects from ground disturbance were evaluated by
5 identifying the types and locations of potential ground-disturbing activities in correlation to
6 important biological resources. Mortality of individuals, habitat removal, and damage or
7 degradation of habitats might be effects associated with ground-disturbing activities.

8 Noise associated with a proposed action might be of sufficient magnitude to result in the direct
9 loss of individuals and reduce reproductive output within certain ecological settings. Ultimately,
10 extreme cases of such stresses could have the potential to lead to population declines or local
11 or regional extinction. To evaluate effects, considerations were given to the number of
12 individuals or critical species involved, amount of habitat affected, relationship of the area
13 affected to total available habitat within the region, type of stressors involved, and magnitude of
14 the effects.

15 3.8.3.1 PROPOSED ACTION

16 Negligible impacts on biological resources would be expected from the proposed construction
17 and renovation projects and aircraft operations at the airfield. Construction would occur in
18 previously disturbed areas where there is already low habitat availability and suitability to
19 support wildlife and vegetation and increased presence of aircraft would cause negligible
20 impacts on the noise and operating environment.

21 **Vegetation.** Potential impacts on vegetation would be negligible because the proposed
22 construction and renovation would occur on previously disturbed areas. Further, these areas are
23 already highly disturbed from ongoing routine maintenance and landscaping activities, and are
24 of low ecological value. Therefore, significant impacts on vegetation are not expected.

25 **Wildlife.** Although some birds, small mammals, invertebrates, and other common, small wildlife
26 species may use areas within the proposed project area for shelter and feeding, abundance of
27 these animals is low there because vegetation is regularly disturbed and there are few native
28 plant species. Therefore, impacts on wildlife vegetation removal to accommodate the proposed
29 developments would be negligible. Impacts from construction noise would be localized and
30 short-term, occurring only during daylight hours lasting only the duration of construction.
31 Because wildlife in the area are currently exposed to frequent high-intensity activities, noise
32 from aircraft operations, and other airfield activities, habitat displacement or avoidance impacts
33 on highly mobile species (e.g., birds) from construction noise would be negligible. Additionally,
34 as appropriate, high impacts activities would be conducted outside of breeding seasons to avoid
35 impacts on the burrowing owl.

36 Over the long term, the increased presence of aircraft and associated operational noise on and
37 near the installation would have negligible impacts on wildlife populations because species on
38 the installation are accustomed to the operating environment. All of the proposed flight
39 operations would be consistent with the existing day and night flight activities for the RSAF
40 program and would be conducted in accordance with the installation's *Bird and Wildlife Strike*
41 *Hazard Safety Plan*. Therefore, significant impacts on wildlife are not expected.

1 **Protected Species.** No effects on federally listed species would be expected from Proposed
2 Action because none are known to occur in the project area or around the airfield. Additionally,
3 the entire project area is within semi-developed or developed grounds where the vegetation and
4 landscaping is maintained regularly and contains little native vegetation.

5 Impacts associated with the proposed 14 percent increase in operations would include the
6 increased potential for bird and wildlife-aircraft strikes. However, the overall potential for bird
7 and wildlife-aircraft strikes is not expected to be significantly greater than current levels because
8 all safety actions in place for existing RSAF F-15SG operations would continue to be in place for
9 the addition of six F-15SGs. Also, the proposed F-15SG flight operations would be consistent
10 with those currently conducted by the RSAF at Mountain Home AFB. The RSAF F-15SG flight
11 program would continue to follow the Mountain Home AFB *Bird and Wildlife Strike Hazard*
12 *Safety Plan*, and would incorporate use of existing bird avoidance technologies and practices to
13 minimize potential for bird and wildlife-aircraft strikes.

14 3.8.3.2 ALTERNATIVE 1

15 **Vegetation.** Potential impacts on vegetation under Alternative 1 would be similar to, but greater
16 than, those described for the Proposed Action in **Section 3.8.3.1** because of increases in
17 ground disturbance and impervious surfaces. However, impacts on vegetation would be
18 negligible because the project area is comprised of previously disturbed and landscaped lands,
19 not native vegetation; therefore, significant impacts are not expected.

20 **Wildlife.** Impacts from the proposed construction and renovation would be the same as
21 described for the Proposed Action in **Section 3.8.3.1** and significant impacts are not expected.
22 Although the project area for Alternative 1 is larger than the Proposed Action project area, it also
23 is already disturbed and routinely maintained and provides minimal wildlife habitat of very low
24 ecological quality. Additionally, wildlife in the area are currently exposed to frequent
25 high-intensity activities, noise from aircraft operations, and other airfield activities, and negligible
26 impacts from habitat displacement or avoidance impacts on highly mobile species (e.g., birds)
27 would be expected.

28 **Protected Species.** No effects on federally listed species would be expected from Alternative 1
29 because none are known to occur in the project area or around the airfield. Additionally, the
30 entire project area is within semi-developed or developed grounds where the vegetation and
31 landscaping is maintained regularly and contains little native vegetation. As noted for the
32 Proposed Action in **Section 3.8.3.1**, bird and wildlife avoidance protocols would be followed for
33 all flight operations to avoid any potential for increased strike hazard associated with the
34 increase in operations.

35 3.8.3.3 NO ACTION ALTERNATIVE

36 Impacts on biological resources would not be expected under the No Action Alternative.
37 Biological resources would remain unchanged when compared with existing conditions.

1 3.9 Hazardous Material and Wastes

2 3.9.1 Definition of the Resource

3 **Hazardous Materials, Hazardous Wastes, and Petroleum Products.** Hazardous materials
4 are defined by 49 CFR § 171.8 as hazardous substances, hazardous wastes, marine pollutants,
5 elevated temperature materials, materials designated as hazardous in the Hazardous Materials
6 Table (49 CFR § 172.101), and materials that meet the defining criteria for hazard classes and
7 divisions in 49 CFR § 173. Hazardous wastes are defined by the Resource Conservation and
8 Recovery Act (RCRA) at 42 USC § 6903(5), as amended by the Hazardous and Solid Waste
9 Amendments, as “a solid waste, or combination of solid wastes, which because of its quantity,
10 concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly
11 contribute to an increase in mortality or an increase in serious irreversible, or incapacitating
12 reversible, illness; or (B) pose a substantial present or potential hazard to human health or the
13 environment when improperly treated, stored, transported, or disposed of, or otherwise
14 managed.” USAF installations manage hazardous materials through AFI 32-7086, *Hazardous*
15 *Materials Management*, and hazardous wastes through AFI 32-7042, *Waste Management*.

16 Petroleum products include crude oil or any derivative thereof, such as gasoline, diesel, or
17 propane. They are considered hazardous materials because they present health hazards to
18 users in the event of incidental releases or extended exposure to their vapors.

19 Evaluation of hazardous materials and wastes focuses on the storage, transportation, handling,
20 and use of hazardous materials, as well as the generation, storage, transportation, handling,
21 and disposal of hazardous wastes. In addition to being a threat to humans, the improper
22 release or storage of hazardous materials, hazardous wastes, and petroleum products can
23 threaten the health and well-being of wildlife species, habitats, soil systems, and water
24 resources.

25 **Munitions-Related Wastes.** Expending munitions generates munitions-related waste referred
26 to as range residue. The accumulation of range residue on a range can result in the
27 contamination of soil, surface water, and groundwater if left in place. USAF has established
28 instructions for managing range residue in AFI 13-212, *Range Planning and Operations*.

29 **Special Hazards.** Special hazards are substances that might pose a risk to human health and
30 are addressed separately from hazardous materials and hazardous wastes. Special hazards
31 include asbestos-containing materials (ACMs), lead-based paint (LBP), and polychlorinated
32 biphenyls (PCBs), all of which are typically found in buildings and utilities infrastructure.

33 Asbestos is regulated by USEPA under the CAA; Toxic Substances Control Act; and
34 Comprehensive Environmental Response, Compensation, and Liability Act. USEPA has
35 established that any material containing more than one percent asbestos by weight is
36 considered an ACM. ACMs are generally found in building materials such as floor tiles, mastic,
37 roofing materials, pipe wrap, and wall plaster. USEPA has implemented several bans on
38 various ACMs between 1973 and 1990, so ACMs may be present in older buildings
39 (i.e., constructed before 1990). LBP was commonly used prior to its ban in 1978; therefore,
40 buildings constructed prior to 1978 may contain LBP. PCBs are man-made chemicals that
41 persist in the environment and were widely used in building materials (e.g., caulk) and electrical

1 products prior to 1979. Structures constructed prior to 1979 potentially include PCB-containing
2 building materials.

3 **Environmental Contamination.** The Defense Environmental Restoration Program was
4 formally established by Congress in 1986 to provide for the cleanup of DoD property at active
5 installations, Base Realignment and Closure installations, and formerly used defense sites
6 throughout the United States and its territories. The two restoration programs under the Defense
7 Environmental Restoration Program are the Environmental Restoration Program and the Military
8 Munitions Response Program. The Environmental Restoration Program addresses
9 contaminated sites while the Military Munitions Response Program addresses nonoperational
10 military ranges and other sites suspected or known to contain unexploded ordnance, discarded
11 military munitions, or munitions constituents. The USAF has organized all known and
12 suspected environmental contamination sites at Mountain Home AFB into solid waste
13 management units (SWMUs). The SWMUs include sites in the Environmental Restoration
14 Program and Military Munitions Response Program. Each SWMU is investigated and
15 appropriate remedial actions are taken under the supervision of the IDEQ. When no further
16 remedial action is necessary for a given SWMU, the unit is closed and it no longer represents a
17 threat to human health.

18 **Radon.** Radon is a naturally occurring odorless and colorless radioactive gas found in soils and
19 rocks that can lead to the development of lung cancer. Radon tends to accumulate in enclosed
20 spaces, usually those that are below ground and poorly ventilated (e.g., basements). USEPA
21 established a guidance radon level of 4 picocuries per liter (pCi/L) in indoor air for residences,
22 and radon levels above this amount are considered a health risk to occupants.

23 3.9.2 Existing Conditions

24 Mountain Home AFB

25 **Hazardous Materials, Hazardous Wastes, and Petroleum Products.** Mountain Home AFB
26 uses hazardous materials and petroleum products such as liquid fuels, aircraft deicer,
27 pesticides, and solvents for everyday operations. The use of these hazardous materials and
28 petroleum products results in the generation and storage of hazardous wastes and used
29 petroleum products on the installation. Mountain Home AFB is an RCRA Large Quantity
30 Generator with facility identification number ID3572124557 (MHAFB 2017e). RCRA Large
31 Quantity Generators generate 1,000 kilograms per month or more of hazardous waste or more
32 than 1 kilogram per month of acutely hazardous waste. Within the areas of the Proposed Action
33 and alternatives, hazardous materials, hazardous wastes, and petroleum products are
34 employed only at Building 1361 (Logistics Readiness Squadron) and Building 1365 (Aircraft
35 Maintenance Unit) (MHAFB 2017d, MHAFB 2017e).

36 Mountain Home AFB has implemented an installation-specific Hazardous Waste Management
37 Plan, which defines roles and responsibilities, addresses record keeping requirements, and
38 provides spill contingency and response requirements (MHAFB 2017e). Mountain Home AFB
39 also maintains an Integrated Contingency Plan, which identifies specific procedures and
40 responsibilities for responding to a spill of oil or a hazardous substance (MHAFB 2017d).

41 **Special Hazards.** All of the facilities proposed for renovation under the Proposed Action and
42 Alternative 1 are assumed to contain special hazards including ACMs, LBP, and PCBs. Limited

1 ACMs and LBP sampling occurred at Buildings 1364 and 1365 to support the proposed
2 renovations of these buildings. No ACMs or LBP were identified from these samples; however,
3 the USAF still suspects ACMs, LBP, and PCBs might be present within these buildings based
4 on their ages. Buildings 1315, 1335, and 1361 were not sampled for ACMs and LBP as part of
5 this Proposed Action, and USAF suspects these buildings might contain ACMs, LBP, and PCBs
6 based on their ages (366 CES/CEIE).

7 **Environmental Contamination.** The project areas for the Proposed Action and Alternative 1
8 do not contain any SWMUs. The nearest SWMUs to these areas include sites FT-06 (Fire
9 Training Area 6), ST-22 (Underground Storage Tanks at Building 1333), SD-25 (Flightline Storm
10 Drain), SD-27 (Wash Rack at Building 1354), and AOC-7 (Coal Storage Yard). SWMUs FT-06,
11 ST-22, and AOC-7 are closed and require no further remedial action because environmental
12 contamination was not identified at these SWMUs. SWMUs SD-25 and SD-27 are closed and
13 require no further remedial action because contaminated sediment/soil removal actions were
14 completed for both SWMUs (IDEQ 2015).

15 **Radon.** USEPA rates Elmore County, Idaho, as radon zone 1. Counties in zone 1 have a
16 predicted average indoor radon screening level greater than 4 pCi/L (USEPA 2017d).

17 MHRC

18 **Munitions-Related Wastes.** Routine training with F-15s at the MHRC generates range
19 residue. The munitions primarily used during such training includes defensive countermeasures
20 (chaff and flares), strafing (20-mm) practice rounds, and guided and unguided munitions.
21 Mountain Home AFB performs periodic clearing of range residue from MHRC, as needed, in
22 accordance with the instructions outlined in AFI 13-212.

23 **3.9.3 Environmental Consequences**

24 Impacts on hazardous materials and wastes would be significant if a proposed action would
25 result in noncompliance with applicable federal or state regulations, or increase the amounts
26 generated or procured beyond current management procedures, permits, and capacities.
27 Impacts on contaminated sites would be considered significant if a proposed action would
28 disturb or create contaminated sites resulting in negative effects on human health or the
29 environment, or if a proposed action would make it substantially more difficult or costly to
30 remediate existing contaminated sites.

31 **3.9.3.1 PROPOSED ACTION**

32 Mountain Home AFB

33 **Hazardous Materials, Hazardous Wastes, and Petroleum Products.** Minor impacts would
34 occur from the use of hazardous materials and petroleum products and the generation of
35 hazardous wastes during the proposed facility construction and modifications. Hazardous
36 materials that could be used include paints, welding gases, solvents, preservatives, and
37 sealants. Additionally, hydraulic fluids and petroleum products, such as diesel and gasoline,
38 would be used in the vehicles and equipment supporting facility construction. Construction
39 would generate negligible quantities of hazardous wastes. Contractors would be responsible for
40 the disposal of hazardous wastes in accordance with federal and state laws. All hazardous
41 materials, petroleum products, and hazardous wastes used or generated during construction

1 would be contained, stored, and managed appropriately (e.g., secondary containment,
2 inspections, spill kits) in accordance with applicable regulations to minimize the potential for
3 releases. Contractors could be required to develop and implement their own Spill Prevention
4 Control and Countermeasure Plans. All construction equipment would be maintained according
5 to the manufacturer's specifications and drip mats would be placed under parked equipment as
6 needed. Hazardous materials, hazardous wastes, and petroleum products currently within
7 Buildings 1361 and 1365 would be temporarily relocated to similar facilities to accommodate
8 building renovation.

9 Minor impacts would occur from increases in hazardous materials and petroleum products use
10 and hazardous wastes generation to support additional aircraft maintenance and operations.
11 Additional quantities of hazardous materials, hazardous wastes, and petroleum products, most
12 notably jet fuel, would be delivered, stored, used, and disposed of at Mountain Home AFB for
13 operation and maintenance of the proposed aircraft. The quantities of hazardous materials,
14 petroleum products, and hazardous wastes required for operation and maintenance of these
15 proposed aircraft would be similar to those for the installation's existing F-15SG aircraft. New
16 hazardous materials storage and hazardous waste collection points would be established as
17 necessary and most likely would be sited in Buildings 1335, 1361, and 1365 based on
18 anticipated building function. The Mountain Home AFB Hazardous Waste Management Plan
19 and Integrated Contingency Plan would be amended, as needed, for any new hazardous
20 materials, hazardous waste, or petroleum product capabilities. These plans would continue to
21 be followed to lessen the potential for a release and provide spill contingency and response
22 requirements. Significant impacts from hazardous materials, hazardous wastes, or petroleum
23 products are not expected.

24 **Special Hazards.** Minor impacts from special hazards might occur from the proposed
25 renovations to Buildings 1335, 1361, 1364, and 1365. Each of these buildings might contain
26 special hazards, including ACMs, LBP, and PCBs, which could be disturbed during renovation.
27 Surveys for special hazards would be completed, as necessary, by a certified contractor prior to
28 work activities to ensure that appropriate measures are taken to reduce potential exposure to,
29 and release of, these special hazards. Contractors would wear appropriate PPE and would be
30 required to adhere to all federal, state, and local regulations as well as the installation's
31 management plans for these special hazards. All ACM- and LBP-contaminated debris would be
32 disposed of at a USEPA-approved landfill. It is unlikely new building construction would include
33 the use of these special hazards because federal policies and laws limit their use in building
34 construction applications. The potential for future human exposure to special hazards and
35 reducing the amount of ACMs, LBP, and PCBs to maintain at Mountain Home AFB would be a
36 benefit of the Proposed Action. Significant impacts from special hazards are not expected.

37 **Environmental Contamination.** No impacts from existing environmental contamination would
38 occur because no environmental contamination is known to occur within project area. No
39 SWMUs coincide within the project area, and all nearby SWMUs are closed and require no
40 further remedial action. While no environmental contamination has been documented within the
41 project area if soil or groundwater that is believed to be contaminated was unexpectedly
42 discovered, the construction contractor would be required to immediately stop work, report the
43 discovery to USAF, and implement appropriate safety measures. Commencement of field
44 activities would not continue in this area until the issue was investigated and resolved.

1 **Radon.** Minor impacts from radon are possible. Based on the USEPA ratings of radon zone 1
2 for Elmore County, it is possible the new and renovated facilities could have indoor radon
3 screening levels greater than 4 pCi/L. Although basements and poorly ventilated areas are
4 most commonly affected by radon, any indoor space in contact with the ground (i.e., first-floor of
5 a slab building) is at risk. Radon would be managed in new construction by incorporating into
6 the design passive features that limit the ability of radon to enter the building. These features
7 could include placing aggregate material and matting below the concrete floor to encourage
8 lateral, rather than vertical, flow of soil gas; designing the heating, ventilation, and air condition
9 system to avoid depressurization of the first floor; and using air tight seals around pipes and
10 wires where they protrude from below grade. Periodic radon testing would occur as needed in
11 each new and renovated building. Post-construction radon management measures, such as
12 installing ventilation systems to remove radon that has already entered the building, would be
13 installed in buildings that test higher than 4 pCi/L. Therefore, significant impacts from radon are
14 not expected.

15 MHRC

16 **Munitions-Related Wastes.** Minor impacts at MHRC would occur from the increased
17 munitions use. The Proposed Action would increase the use of 20-mm practice rounds and
18 chaff at MHRC by approximately 8 and 19 percent, respectively. This increase in munitions use
19 would increase the amount of range residue generated and removed from MHRC; however,
20 because these munitions are inert, their potential to contaminate soil, surface water, and
21 groundwater is limited. Mountain Home AFB would continue to perform periodic clearing of
22 range residue in accordance with the instructions outlined in AFI 13-212. Therefore, significant
23 impacts from munitions-related wastes are not expected.

24 3.9.3.2 ALTERNATIVE 1

25 Alternative 1 would have similar impacts on hazardous materials and wastes as the Proposed
26 Action, as described in **Section 3.9.3.1**. Slightly greater adverse impacts would occur from the
27 use of hazardous materials and petroleum products and the generation of hazardous wastes
28 during the proposed facility construction and modifications because of the larger footprint of
29 construction from the four munitions storage facilities and addition to Building 1315. The
30 impacts from increases in hazardous materials and petroleum products use, hazardous wastes
31 generation, and range residue production associated with the operation and maintenance of the
32 six additional F-15SG would be identical to the Proposed Action. Similar impacts from special
33 hazards would occur under Alternative 1 as the Proposed Action because the amounts of
34 ACMs, LBP, and PCBs disturbed during construction and renovation would be similar. No
35 impacts from existing environmental contamination would occur because no environmental
36 contamination is known to occur within the footprint of the Alternative 1 project area. The
37 potential for radon to be encountered at any new construction would be identical to the
38 Proposed Action. Significant impacts on hazardous materials and wastes are not expected.

39 3.9.3.3 NO ACTION ALTERNATIVE

40 Impacts on hazardous materials and waste conditions would not be expected under the No
41 Action Alternative. Quantities and types of hazardous materials and wastes would remain
42 unchanged when compared with existing conditions.

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1 4. Cumulative Impacts

2 The CEQ regulations for implementing NEPA require that the cumulative impacts of a proposed
3 action be assessed (40 CFR §§ 1500–1508). A cumulative impact is defined as the following
4 (40 CFR §1508.7):

5 *The impact on the environment which results from the incremental impact of the*
6 *action when added to other past, present, and reasonably foreseeable future*
7 *actions regardless of what agency (Federal or non-Federal) or person*
8 *undertakes such other actions. Cumulative impacts can result from individually*
9 *minor but collectively significant actions taking place over a period of time.*

10 Cumulative impacts are most likely to arise when a relationship exists between a proposed
11 action and other actions expected to occur in a similar location or during a similar time period.
12 Actions overlapping with, or in proximity to, a proposed action would be expected to have more
13 potential for a relationship than more geographically separated actions.

14 The CEQ’s guidance for considering cumulative impacts states that NEPA documents “should
15 compare the cumulative effects of multiple actions with appropriate national, regional, state, or
16 community goals to determine whether the total effect is significant.” The first step in assessing
17 cumulative impacts involves identifying and defining the scope of other actions and their
18 interrelationship with a proposed action or alternatives. The scope must consider other projects
19 that coincide with the location and timeline of a proposed action and other actions.

20 This cumulative effects analysis focuses on past, present, and reasonably foreseeable future
21 projects related to the beddown of six additional F-15SGs at Mountain Home AFB, including
22 building construction and renovation, an increase in installation personnel, an increase in
23 aircraft operations, and an increase in inert munitions use at MHRC. For the purposes of this
24 analysis, the temporal span of consideration is the period of construction beginning in 2018
25 through 5 years following the beddown.

26 4.1 Projects Considered for Potential Cumulative Impacts

27 This section provides decision makers with the cumulative effects of the Proposed Action at
28 Mountain Home AFB by determining the incremental contribution of the Proposed Action
29 together with past, present, and reasonably foreseeable future actions. **Sections 4.1.1** through
30 **4.1.3** summarize past, present, and reasonably foreseeable future actions within the region that
31 could interact with implementation of the Proposed Action at Mountain Home AFB. The
32 sections briefly describe each action, present the proponent and the timeframe (e.g., past,
33 present/ongoing, future) of the action, and indicate which actions have the potential to
34 cumulatively interact with the Proposed Action.

35 4.1.1 Past Actions

36 Past activities are those actions that occurred within the geographic scope of cumulative effects
37 that have shaped the current environmental conditions of the project area. No substantial
38 projects have been completed within the recent past that warrant consideration regarding
39 cumulative impacts. The majority of construction activities to establish airfield pavements,

1 interior roads, and installation infrastructure were completed approximately 70 years ago. The
2 installation infrastructure has expanded since that time to accommodate changes in the
3 installation's mission and fluctuations in population. Facility improvements and demolition
4 actions continue, as needed to maintain space-use efficiency and optimized operations.
5 Therefore, the impacts of past actions are now considered part of the existing environment and
6 are incorporated in the description of the affected environment in **Section 3**.

7 **4.1.2 Present and Reasonably Foreseeable Future Actions**

8 **4.1.2.1 ON-INSTALLATION PROJECTS**

9 **Changes in MHRC Range Operations.** This project would upgrade existing ground-based
10 operations, facilities, targets, and munitions to enhance integrated air and ground-based training
11 within the range complex (MHAFB 2017f). These changes are intended to enable the
12 installation to meet training requirements associated with air strike control missions, Survival
13 Evasion Resistance Escape training, Joint Terminal Attack Controller training, Combined Arms
14 Training missions, and Close Air Support missions. To enhance aircrew air-to-ground training,
15 USAF proposed improvements and additions to facilities in the SCR, upgrade and addition of
16 targets on JBR, changes in the envelope for ground-based operations in the MHRC, and
17 increases to existing and addition of new munitions release activities. No new airspace would be
18 established and no changes to existing airspace configurations would occur under the Proposed
19 Action. An EA was completed for this project in May 2017, which concluded with a Finding of No
20 Significant Impact in August 2017.

21 **Sustainable Water Supply.** The proposed project consists of establishing a new sustainable
22 water supply conveyed via predominantly linear underground infrastructure to a proposed Water
23 Treatment Facility that would be established within the installation boundary (Amec 2017). The
24 project would install or develop a dedicated vertical turbine pump station and intake structure at
25 the CJ Strike Reservoir; a pressurized conveyance feature (pipe) extending from the CJ Strike
26 Reservoir to Mountain Home AFB, predominantly through land administered by BLM, although
27 some smaller parcels of private (non-federal land) may be crossed by the system; a Water
28 Treatment Facility with ancillary elements, including: 1) a 30-acre foot raw water reservoir;
29 2) water treatment processing equipment; 3) sludge drying beds; and 4) disinfection processing
30 equipment; two-track roadways requiring temporary and permanent easements; and a
31 connection to the existing water storage and distribution system within the installation. A
32 revised Draft EA was prepared for this project, and was made available for public review in July
33 2017.

34 **Adaptive Reuse of Building 291.** As proposed, this project would renovate and repurpose
35 Building 291 and the accompanying 103-acre area that comprises the former Alert Complex to
36 support training operations for the 366 Civil Engineering Squadron for Readiness and
37 Emergency Management Flight and the 366 FW (MHAFB 2016). Building 291 and the acreage
38 surrounding it on the installation is a NRHP-eligible facility. Additionally, a portion of the Live
39 Ordnance Loading Area is encompassed by the Alert Complex. The entire Alert Complex is
40 also within QD arcs. The Draft EA, dated April 2016, noted that impacts from this project would
41 be minor and that it would contribute negligibly to cumulative impacts on resources on the
42 installation.

1 **4.1.3 Off-Installation Projects**

2 **City of Mountain Home/Elmore County Water Pipeline.** The City of Mountain Home and
3 Elmore County have approached the Idaho Water Resource Board about developing a
4 sustainable water supply for the area (SPW Water Engineering 2017). At this time, details of the
5 County/City project are still being determined; however, it is possible that a pump station and
6 pipeline could be routed through alignments parallel to those proposed in support of the
7 Sustainable Water Supply project that would provide an alternative potable water supply for the
8 installation. While the City of Mountain Home and Elmore County applied to the BLM for a
9 right-of-way on April 28, 2017, the exact location and scope of their proposed water project
10 remains unclear. A NEPA impact assessment will be required for this project, but is not yet
11 under way.

12 **4.2 Cumulative Effects Analysis**

13 The following analysis in **Sections 4.2.1** through **4.2.9** examines the cumulative effects on the
14 environment that would result from the incremental impacts of the Proposed Action, in addition
15 to other past, present, and reasonably foreseeable future actions. This analysis assesses the
16 potential for an overlap of impacts with respect to project schedules or affected areas. This
17 section presents a qualitative analysis of the cumulative effects. There is a negligible difference
18 in the impacts associated with the Proposed Action and Alternative 1. This difference would be
19 indistinguishable and, therefore, the cumulative impacts would be expected to be similar.

20 **4.2.1 Noise**

21 Construction and air operations associated with implementing the Proposed Action or
22 Alternative 1 in a concurrent timeframe with the other cumulative projects would result in
23 short- and long-term, minor, cumulative, adverse impacts on Mountain Home AFB and
24 surrounding communities. Additional construction actions associated with Alternative 1 would
25 contribute slightly more to the short-term, cumulative, adverse noise impacts on the installation.
26 Noise from operations associated with the Proposed Action and Alternative 1 would be
27 indistinguishable from current conditions; however, long-term, minor, cumulative effects on the
28 noise environment are possible because of incremental increases in aircraft noise in areas
29 surrounding Mountain Home AFB, at the MHRC, and under existing MTRs, when considered
30 collectively with changes in operations in the MHRC. Because flight programs would vary
31 operating altitudes to reduce the potential for noise impacts on sensitive noise receptors,
32 operational noise impacts would be minor. Although these operations may cumulatively result in
33 a perceptible increase in the presence and operation of military aircraft in the local airspaces, no
34 noise-producing activity or project has been identified that, when combined with the Proposed
35 Action, would have greater than minor, adverse impacts on sensitive noise receptors in the
36 environment.

37 **4.2.2 Air Quality**

38 The Proposed Action or Alternative 1 would contribute to minor, adverse, cumulative effects if
39 implemented concurrently with the other identified cumulative projects. Cumulative short- and
40 long-term effects would be expected from the increase in mobile source emissions during
41 construction (e.g., commuter and construction vehicles and equipment), aircraft, and flight
42 operations under the Proposed Action and other identified cumulative projects. By directly

1 inventorying all emissions in nonattainment regions and monitoring concentrations of criteria
2 pollutants in attainment regions, Idaho takes into account the effects of all past and present
3 emissions in their states. This is done by putting a regulatory structure in place designed to
4 prevent air quality deterioration for attainment areas. This structure of rules and regulations is
5 contained in the State Implementation Plan (SIP). SIPs are the regulations and other materials
6 for meeting clean air standards and associated CAA requirements. SIPs include the following:

- 7 • state regulations that USEPA has approved
- 8 • state-issued, USEPA-approved orders requiring pollution control at individual companies
- 9 • planning documents such as area-specific compilations of emissions estimates and
10 computer simulations (modeling analyses) demonstrating that regulatory limits ensure
11 that the air will meet air quality standards.

12 The SIP process applies either specifically or indirectly to all activities in the region. No projects
13 have been identified that, when combined with the Proposed Action, would threaten the region's
14 attainment status; would have substantial GHG emissions; or would lead to a violation of any
15 federal, state, or local air regulation. Therefore, short- and long-term cumulative effects would
16 be minor.

17 **4.2.3 Soils**

18 If implemented concurrently, the Proposed Action or Alternative 1 and other cumulative projects
19 involving construction actions (e.g., addition of targets on the firing ranges, potable water
20 infrastructure) would result in temporarily disturbed ground surfaces and short-term, minor,
21 adverse impacts on soils. Although soils would be disturbed by earthmoving and other
22 construction activities, any effects would not be expected to exceed individual project
23 boundaries and would not result in significant impacts on soil resources because BMPs, erosion
24 and sediment controls, and other management actions would be implemented. Replanting with
25 vegetation post-construction would minimize cumulative impacts on soils.

26 **4.2.4 Cultural Resources**

27 The Proposed Action would not affect cultural or historical resources, and would, therefore, not
28 contribute to cumulative impacts on those resources.

29 **4.2.5 Water Resources**

30 Short-term, minor, cumulative adverse impacts on ground and surface water would be expected
31 from implementation of the Proposed Action or Alternative 1 and other cumulative projects
32 involving demolition and construction. Long-term, the impacts from the cumulative increase in
33 impervious surfaces on the installation from the proposed development actions would be minor
34 and adverse. Once installed, use of the sustainable water pipeline would have long-term,
35 beneficial impacts on groundwater as the project would provide an alternative water source to
36 the existing groundwater supply while further enabling cleanup actions, as appropriate, of the
37 installation's existing groundwater and nitrate contamination. In accordance with federal and
38 state stormwater regulations, the post-development hydrologic condition of the areas where the
39 proposed F-15SG aircraft would be maintained, new facility construction, and renovation of an
40 existing facility would occur must be restored to pre-development conditions. For these

1 projects, preservation of pre-development hydrologic condition would be ensured through
2 adherence to and incorporation of BMPs and appropriate low impact development strategies
3 that would be expected to lessen or eliminate potentially long-term, adverse impacts on water
4 resources.

5 **4.2.6 Socioeconomics**

6 Construction, demolition, and renovation actions associated with concurrent implementation of
7 the Proposed Action or Alternative 1 and the other identified cumulative projects would result in
8 short-term, minor, beneficial effects on the local economy and local employment levels, lasting
9 only for the duration of these activities. Cumulative socioeconomic impacts are not expected
10 from the increase in personnel because there are no present or reasonably foreseeable future
11 actions that include similar types of actions and corresponding effects.

12 **4.2.7 Health and Safety**

13 Short-term, negligible, cumulative adverse impacts on health and safety (e.g., slips, falls, heat
14 exposure, exposure to mechanical, electrical, vision, or chemical hazards) would be expected
15 as a result of demolition and construction activities associated with the concurrent
16 implementation of the Proposed Action or Alternative 1 and the other cumulative projects.
17 Employment of appropriate safety methods during these activities would be expected to
18 minimize the potential for such impacts. Considered collectively, the Proposed Action or
19 Alternative 1 and MHRC operations would increase air operations resulting in increased
20 potential for bird and wildlife aircraft strikes. Cumulatively, these impacts would be long-term,
21 minor, and adverse. However, such events would be minimized by air operational adherence to
22 existing BASH protocols. Cumulative long-term, minor, beneficial impacts on health and safety
23 would be expected from upgrades associated with construction of modern facilities to support
24 the F-15SG programs and from improvements to the potable water supply associated with the
25 Sustainable Water Supply projects for both the installation and the City of Mountain
26 Home/Elmore County.

27 **4.2.8 Biological Resources**

28 Long-term, minor, adverse cumulative impacts on vegetation resources would result from
29 construction for the Proposed Action or Alternative 1, expansion of facilities and addition of
30 targets to support operational changes in the MHRC, and construction and installation of
31 pipelines to implement the sustainable water supply for the installation. Short- and long-term,
32 minor, direct, adverse cumulative impacts would be expected to result from noise during
33 demolition and construction activities. Long-term, minor, cumulative adverse impacts on wildlife
34 could occur from the mortality of small, less-mobile terrestrial species (e.g., reptiles and small
35 mammals) as a result of collision with construction equipment associated with construction and
36 demolition activities as part of the Proposed Action or Alternative 1 and other cumulative
37 projects involving development. Additionally, the increase in aircraft and operations associated
38 with the Proposed Action and expansion of the flight training envelope in the MHRC would be
39 expected to increase the potential for on-ground and in-air collisions with wildlife such as deer
40 and birds. To minimize this potential for impacts, airfield and flight operations would be
41 conducted in accordance with the existing BASH plan.

1 **4.2.9 Hazardous Materials and Wastes**

2 Planned and foreseeable cumulative construction, renovation, and demolition activities within
3 Mountain Home AFB would result in short-term cumulative increases in the volume of
4 hazardous wastes generated at the installation. The increase in air operations associated with
5 the Proposed Action or Alternative 1 and expansion of training operations in the MHRC could
6 increase the potential for minor spills and releases. Operations and maintenance teams would
7 implement BMPs to reduce the potential for spills and ensure quick clean ups. Hazardous
8 materials and wastes would be handled, stored, and disposed of in accordance with applicable
9 regulations and approved plans. USAF regulations require construction contractors to recycle
10 materials to the maximum extent possible to reduce the amount of debris disposed of at
11 off-installation landfills. Debris from development activities on Mountain Home AFB that could
12 not be recycled would go to area landfills; however, landfill capacity is available. Additionally,
13 the amount of range residue generated and removed from MHRC would increase under the
14 Proposed Action, Alternative 1, and actions associated with the changes in MHRC range
15 operations. However, Mountain Home AFB would continue to perform periodic clearing of range
16 residue in accordance with the instructions outlined in AFI 13-212. Therefore, no significant
17 cumulative adverse impacts on waste management, hazardous waste storage, or handling
18 would be anticipated.

19 **4.3 Unavoidable Adverse Impacts**

20 Unavoidable adverse impacts would result from implementation of the Proposed Action or
21 Alternative 1. Adverse impacts on soils, stormwater management, vegetation, wildlife, air
22 quality, and the noise environment would be unavoidable during construction activities but not
23 significant.

24 **4.4 Compatibility of Proposed Action with the Objectives of 25 Federal, Regional, State, and Local Land Use Plans, 26 Policies, and Controls**

27 The Proposed Action or Alternative 1 would occur on government-owned lands and airspace
28 within which USAF currently operates. The nature of activities for the Proposed Action or
29 Alternative 1 would not differ from current USAF use of these areas. USAF would continue to
30 follow all requirements related to F-15SG operation and maintenance and would therefore be
31 consistent with current federal, regional, state, and local land use policies and controls.

32 **4.5 Relationship between Short-Term Uses of the Human 33 Environment and Maintenance and Enhancement of 34 Long-Term Productivity**

35 Short-term uses of the biophysical components of the human environment include direct,
36 project-related disturbances and direct impacts associated with an increase of population and
37 activity that occurs over a period of less than 5 years. Long-term uses of the human
38 environment include those impacts occurring over a period of more than 5 years, including
39 permanent resource loss.

1 Implementation of the Proposed Action or Alternative 1 would not require short-term resource
2 uses that would result in long-term compromises of productivity. Under the Proposed Action or
3 Alternative 1, short-term uses of the environment would result in noise and air emissions from
4 construction actions. Long-term impacts are not expected because of the interim nature of the
5 construction. Noise and air emissions generated during flight operations training would not be
6 expected to result in long-term, adverse impacts on noise-sensitive receptors or wildlife. The
7 nature of activities for the Proposed Action would not differ from current uses of these areas.

8 Therefore, implementation of the Proposed Action or Alternative 1 would not result in significant
9 impacts on sensitive resources. As a result, it is not anticipated that the Proposed Action or
10 Alternative 1 would result in any environmental impacts that would permanently narrow the
11 range of beneficial uses of the environment or pose long-term risks to health, safety, or the
12 general welfare of the public.

13 The nature of activities for the Proposed Action and Alternative 1 would not differ from current
14 uses of these areas.

15 **4.6 Irreversible and Irretrievable Commitment of Resources**

16 NEPA CEQ regulations require environmental analyses to identify "...any irreversible and
17 irretrievable commitments of resources that would be involved in the Proposed Action should it
18 be implemented" (40 CFR § 1502.16). Irreversible and irretrievable resource commitments are
19 related to the use of nonrenewable resources and the effects the uses of these resources would
20 have on future generations. Irreversible effects primarily result from the use or destruction of a
21 specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable
22 timeframe. Building construction material, such as gravel and fuel usage for construction
23 equipment, would constitute the consumption of non-renewable resources. Irretrievable
24 resource commitments also involve the loss in value of an affected resource that cannot be
25 restored because of the action.

26 Most resource commitments associated with the Proposed Action or Alternative 1 would be
27 neither irreversible nor irretrievable. Most impacts associated with the Proposed Action would
28 be short-term and temporary (e.g., air emissions from construction), or longer lasting but
29 negligible (e.g., increase in potable water demand and benefits from implementing green
30 infrastructure). Those limited resources that could involve a possible irreversible or irretrievable
31 commitment would be used in a beneficial manner.

32 Construction and renovation of installation facilities and infrastructure would require the
33 consumption of limited amounts of material typically associated with interior renovations (wiring,
34 insulation, windows, and drywall) and exterior construction (concrete, steel, sand, mortar, brick,
35 and asphalt). An undetermined amount of energy to conduct construction, renovation, and
36 operation of these facilities would be expended and irreversibly lost, but energy would be used
37 in an efficient and sustainable manner throughout the useful life cycle of the facilities.

38 Training operations would continue to involve the consumption of nonrenewable resources such
39 as gasoline used in vehicles and jet fuel used in the F-15SG aircraft. None of these activities is
40 expected to significantly decrease the availability of mineral or petroleum resources; however,
41 this use of fuel would be irreversible. No other irreversible or irretrievable commitment of
42 resources would be expected.

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A

Public and Stakeholder
Coordination List



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Appendix A: Public and Stakeholder Coordination List

Federal Political Representatives

Idaho Senators

Idaho Representative, 2nd District

State Agency Contacts

Idaho State Historic Preservation Office

Special Assistant for Military Affairs

State Political Representatives

Governor of Idaho

Idaho House of Representatives, District 23

Idaho Senate, District 23

Local Agencies and Officials

Elmore County Commission

Mountain Home Chamber of Commerce

Mountain Home City Council

Mayor of Mountain Home

Tribal Contacts

Burns Paiute Tribe

Northwestern Band of the Shoshone Nation

Paiute-Shoshone Tribes of Fort McDermitt

Shoshone-Bannock Tribes

Shoshone-Paiute Tribes of Duck Valley

Non-Governmental Organizations

Idaho Conservation League

Idaho Rivers United

Idaho Wildlife Federation

Libraries

Mountain Home AFB Library

Mountain Home Public Library

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B

Government to Government
Coordination Materials



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Appendix B: Government to Government Coordination Materials

Example Government to Government Invitation Letter



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 366TH FIGHTER WING (ACC)
MOUNTAIN HOME AIR FORCE BASE IDAHO



25 OCT 2017

Colonel Joseph D. Kunkel
Commander
366 Gunfighter Avenue Ste 331
Mountain Home AFB ID 83648

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Dear [REDACTED]

The United States Air Force (USAF) and the 366th Fighter Wing (366 FW) have initiated development of an Environmental Assessment (EA) to evaluate the proposed beddown of additional Republic of Singapore Air Force (RSAF) F-15SGs at Mountain Home Air Force Base (AFB), Idaho. The purpose of this letter is to respectfully invite your participation in a government-to-government capacity in the evaluation and preparation of an EA.

The EA will address and evaluate USAF's proposed increase in the number of permanently assigned RSAF F-15SG aircraft at Mountain Home AFB from 14 to 20, for a total of 62 aircraft on base. The proposed beddown of additional aircraft is being conducted in accordance with a Letter of Request submitted by the Singapore Ministry of Defense and RSAF and will continue building the USAF relationship and interoperability with the Singapore armed forces. The RSAF squadron would continue to operate as a separate fighter squadron under the operational control of the 366 FW and there would be no change in the mission for the base.

The proposed project would include increases in the number of airframes, support personnel, aircraft operations, and two types of inert munitions expenditures. It would also include construction and renovation of supporting facilities on the base. Construction and renovation to support the beddown would occur from 2018 through 2020 and the increase in airframes, personnel, aircraft operations, and munitions use would begin in 2019. All aircraft operations would take place within existing military training routes and airspace, and additions to or alterations of airspace are not proposed. Additionally, all munitions expenditures would take place within existing military range training areas currently authorized for munitions use, and changes or additions to the range areas are not proposed.

Pursuant to Executive Order 13175, *Consultation and Coordination With Indian Tribal Governments*, we are providing you with the attached Description of the Proposed Action and Alternatives. Your review and comments on the attached materials will help us develop the scope of our environmental review, which is being conducted in accordance with the National Environmental Policy Act and its implementing regulations. USAF anticipates publishing the Draft EA this winter and the Final EA in Spring 2018.

We look forward to your participation in this process and would appreciate very much receiving any questions or comments regarding the attached materials, if possible, within 30 days from receiving this correspondence. Do not hesitate to call me at (208)828-2366 to arrange dates and times to discuss at your convenience.

Sincerely



Handwritten signature of Joseph D. Zunkel in black ink, consisting of a large 'J' and 'Z' followed by 'UNKEL'.

JOSEPH D. ZUNKEL, Colonel, USAF

Attachment:

Description of the Proposed Action and Alternatives for U.S. Air Force Beddown of Additional Republic of Singapore Air Force F-15SGs at Mountain Home Air Force Base, Idaho, September 2017