

ENVIRONMENTAL ASSESSMENT

ESTABLISHMENT AND OPERATION OF A HELICOPTER AERIAL GUNNERY RANGE AND
ESTABLISHMENT OF SPECIAL USE AIRSPACE RESTRICTED AREA R-4601
LIMESTONE HILLS TRAINING AREA, MONTANA



2022



Prepared Under Contract with the
U.S. Army Corps of Engineers, Omaha District

**ENVIRONMENTAL ASSESSMENT
FOR THE**

**ESTABLISHMENT AND OPERATION OF A
HELICOPTER AERIAL GUNNERY RANGE
AND
ESTABLISHMENT OF SPECIAL USE AIRSPACE
RESTRICTED AREA R-4601
AT THE LIMESTONE HILLS TRAINING AREA, MONTANA**

THIS DRAFT DOCUMENT INCLUDES PRE-DECISIONAL MATERIAL AND IS
NOT INTENDED FOR PUBLIC RELEASE

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2022

PREPARED UNDER CONTRACT WITH THE
U.S. ARMY CORPS OF ENGINEERS, OMAHA DISTRICT



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1 **DRAFT FINDING OF NO SIGNIFICANT IMPACT**

2 **ESTABLISHMENT AND OPERATION OF A HELICOPTER AERIAL GUNNERY RANGE AND**
3 **ESTABLISHMENT OF SPECIAL USE AIRSPACE RESTRICTED AREA R-4601 AT THE**
4 **LIMESTONE HILLS TRAINING AREA, MONTANA**

5 **Introduction**

6 This draft Finding of No Significant Impact (FONSI) was prepared by the Air Force Global Strike Command
7 (AFGSC) in cooperation with the National Guard Bureau (NGB) and Federal Aviation Administration (FAA);
8 the FAA and NGB will sign their own FONSI documents. This Environmental Assessment (EA) analyzes the
9 potential effects of the Proposed Action and Alternatives as required in accordance with the National
10 Environmental Policy Act of 1969 (NEPA; 42 U.S. Code § 4321 *et seq.*); implementing regulations issued by the
11 President's Council on Environmental Quality (CEQ), 40 Code of Federal Regulations (CFR) Parts 1500-1508;
12 and agency regulations, policies, and procedures for implementing CEQ Regulations and NEPA, including: CFR
13 Part 989 and Air Force Instruction (AFI) 32-1015, *Integrated Installation Planning*; 32 CFR Part 651,
14 *Environmental Analysis of Army Actions, Final Rule* and the 2011 Army National Guard *NEPA Handbook*;
15 Federal Aviation Administration (FAA) Order 1050.1F, *Environmental Impacts: Policies and Procedures* and
16 FAA Order 7400.2N, *Procedures for Handling Airspace Matters*.

17 Malmstrom Air Force Base's 40th Helicopter Squadron (40 HS) and 341st Missile Wing Security Forces Group
18 (341 SFG) are tasked with armed defense of the Minuteman III intercontinental ballistic missile complex at
19 Malmstrom Air Force Base in Great Falls, Montana (MT). The 40 HS aircrews conduct aerial gunnery training
20 out-of-state, requiring deployments at high cost to the government, due to there being no aerial gunnery range
21 (AGR) in MT, or within a reasonable flight distance that would allow for flight to and from training on the
22 same day (e.g., one 12-hour flight duty period). More frequent out-of-state training to meet proficiency-training
23 requirements is not practical without compromising critical mission requirements at Malmstrom Air Force
24 Base (AFB). The AFGSC proposes to establish a helicopter AGR at the Limestone Hills Training Area
25 (LHTA), MT, to address this deficiency, increase effective maintenance of readiness posture, and attain
26 aircrew-training requirements.

27 As operator of LHTA, the Montana Air National Guard (MTARNG) has requested that the FAA establish a
28 joint-use special use airspace (SUA) restricted area (RA) at LHTA called R-4601, to authorize helicopter aerial
29 gunnery training across multiple Department of Defense service branches, including AFGSC and MTARNG.
30 Currently, ground-based weapons training and aircraft used in training (without gunnery) occurs at LHTA in
31 accordance with a FAA-authorized SUA Controlled Firing Area (CFA). The SUA R-4601 will be designated
32 as active by a Notice to Air Missions (NOTAM) when helicopter aerial gunnery is scheduled to segregate and
33 ensure the safety of nonparticipating aircraft (civilian, military) from the hazards associated with this essential
34 military training. When the RA is designated active by NOTAM, the CFA will not be operational. The CFA
35 will be active during all periods when the RA is not active. The decision in this FONSI is based on information
36 contained in the EA and supporting technical studies, which are hereby incorporated by reference. The EA's
37 purpose was to determine the potential impacts on the environment from the Proposed Action and to evaluate
38 whether any would be significant.

39 **Description of Proposed Action and Alternatives**

40 The proposed aerial gunnery range would encompass 846 acres within an existing training range used for ground-
41 based weapons training. Helicopter aircrews would fly from Malmstrom AFB to the LHTA, conduct brief
42 weapon firing familiarization while landed at existing helicopter landing pads within an adjacent ground-based
43 training range, then conduct aerial gunnery at the proposed AGR. MTARNG aircrews would fly from their base
44 in Helena and conduct similar aerial gunnery training at the LHTA. Additionally, the 40 HS and 341 SFG at
45 Malmstrom AFB would conduct an annual integrated helicopter-convoy training exercise without live firing of
46 weapons at LHTA. The helicopter aerial gunnery training would be conducted in accordance with standard
47 operating procedures (SOPs) and best management practices (BMPs) that address safety and environmental
48 resource protection. The following three alternatives were evaluated in the EA.

1 **Alternative 1:** This Alternative would establish and operate SUA R-4601 to authorize aerial gunnery training.
2 It would also establish and operate the proposed AGR, which would support up to 200 aerial gunnery helicopter
3 sorties per year; all gunnery training would occur within existing training ranges at LHTA. Annual integrated
4 helicopter-convoy tactical training (no live firing of weapons) would be conducted along Blue Route Road,
5 where public access is restricted during training within LHTA. No construction would be required to
6 implement this alternative. A Memorandum of Understanding (MOU) between MTARNG and Broadwater
7 County identifies SOPs to ensure the safety of persons using Old Woman’s Grave (OWG) Road, a public road
8 where public access must be controlled for safety reasons during hazardous military training. The proposed
9 helicopter AGR weapon danger zone lies within surface danger zones for existing ground-based weapons
10 training, and therefore will have no additional effects on the MOU agreement between MTARNG and
11 Broadwater County.

12 **Alternative 2:** This Alternative includes all the same elements as Alternative 1, with the exception that annual
13 helicopter-convoy training would be conducted along OWG Road. The proposed helicopter AGR weapon danger
14 zone lies within surface danger zones for existing ground-based weapons training, and therefore will have no
15 additional effects on the MOU agreement between MTARNG and Broadwater County.

16 **No Action Alternative:** CEQ regulations recommend consideration of the No Action Alternative which serves
17 as the baseline condition against which the impacts of Proposed Action and Alternatives can be evaluated.
18 Under the No Action Alternative, no AGR and no SUA RA would be established at LHTA. The AFGSC 40
19 HS would continue to conduct helicopter aerial gunnery training at out-of-state military training ranges without
20 the ability to effectively maintain proficiency training requirements. There would not be the opportunity for
21 other DoD service branches, such as MTARNG, to similarly benefit from having an AGR in Montana. Ongoing
22 ground-based training and helicopter training without aerial gunnery at LHTA would continue to be authorized
23 by the CFA subject to review and reauthorization by the FAA every two years.

24 **Finding of No Significant Impact**

25 Potential impacts on the human and natural environment were evaluated relative to the existing environment. For
26 each environmental resource or issue, the EA considered the Proposed Action’s direct and reasonably foreseeable
27 indirect effects, and cumulative impacts resulting from the action’s incremental effects when added to effects of
28 other past, present, and reasonably foreseeable actions in the vicinity of LHTA. The analyses indicate the action
29 would result in less than significant impacts to: airspace; air quality/climate; land use; noise; earth resources; water
30 resources; biological resources; cultural resources; infrastructure and utilities; hazardous materials/wastes; safety
31 and occupational health; socioeconomic, environmental justice, and protection of children; and visual resources
32 (aesthetics, light emissions). Therefore, no mitigation would be required.

33 Based on review of the facts and analyses in the attached Helicopter Aerial Gunnery Range and SUA R-4601
34 EA, it can be concluded that the action’s Preferred Alternative would not have a significant effect on the
35 environment either by itself or in considering cumulative impacts. Accordingly, this action will not require
36 preparation of an Environmental Impact Statement. A notice of availability (NOA) for the EA and draft FONSI
37 was published in the Broadwater County News, Great Falls Tribune, and Helena Independent Record
38 newspapers. The NOA initiated a 30-day public review and comment period beginning November 5, 2022,
39 and ending on December 5, 2022. **TBD** comments were received.

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Colonel Barry Little
USAF
341st Missile Wing Commander
Date:

1 **DRAFT FINDING OF NO SIGNIFICANT IMPACT (FONSI)**
2 **ARMY NATIONAL GUARD**

3 **ESTABLISHMENT AND OPERATIONS OF A HELICOPTER AERIAL GUNNERY RANGE AND**
4 **ESTABLISHMENT OF SPECIAL USE AIRSPACE RESTRICTED AREA R-4601 AT THE**
5 **LIMESTONE HILLS TRAINING AREA, MONTANA**

6 **Introduction**

7 Pursuant to the National Environmental Policy Act of 1969 (NEPA) (Title 42 United States Code § 4321
8 et seq.), and in accordance with Council on Environmental Quality (CEQ) *Regulations for Implementing*
9 *the Procedural Provisions of the National Environmental Policy Act (NEPA)* (Title 40 Code of Federal
10 Regulations [CFR] Parts 1500–1508), *Environmental Analysis of Army Actions*, Army Regulation 200-2,
11 as well as the Department of the Air Force (DAF) *Environmental Impact Analysis Process* implementing
12 regulation at 32 CFR Part 989.

13 Per 10 United States Code (USC) § 10501, the National Guard Bureau (NGB) is a joint activity of the
14 Department of Defense (DoD) and is responsible for ensuring that ARNG activities are performed in
15 accordance with applicable policies and regulations. NGB is the lead federal agency for MTARNG NEPA
16 actions. NGB is ultimately responsible for NEPA compliance; however, MTARNG has local responsibility
17 for NEPA document preparation and public outreach.

18 This Environmental Assessment (EA) has been prepared jointly by the Montana Army National Guard
19 (MTARNG), the DAF and the Federal Aviation Administration (FAA) to evaluate potential environmental
20 impacts of AFGSC establishing and operating an aerial gunnery range, along with the FAA establishing a
21 Special Use Airspace Restricted Area R-4601, at the Limestone Hills Training Area (LHTA), Broadwater
22 County, Montana.

23 AFGSC helicopters provide armed security support to the Minuteman III Intercontinental Ballistic Missile
24 (ICBM) complex located at Malmstrom Air Force Base (Malmstrom), Great Falls, Montana. The 40th
25 Helicopter Squadron (40 HS) aircrews currently conduct aerial gunnery training out-of-state, as there
26 currently is not an aerial gunnery range located within a reasonable flight distance from Malmstrom.
27 AFGSC seeks to establish and operate an aerial gunnery range at the LHTA, as it is located within a
28 reasonable flight distance from Malmstrom (one hour) which will allow flights to and from the training area
29 to be conducted within one training day (e.g., one 12-hour flight duty period). Establishing an aerial gunnery
30 range at the LHTA will increase effective maintenance of readiness posture and attain aircrew-training
31 requirements for AFGSC.

32 As operator of LHTA, the MTARNG has requested that the FAA establish a joint-use special use airspace
33 (SUA) restricted area (RA), called R-4601 at LHTA, to authorize helicopter aerial gunnery training across
34 multiple Department of Defense service branches, including AFGSC and MTARNG. Currently, ground-
35 based weapons training and aircraft used in training (without gunnery) occurs at LHTA in accordance with
36 a FAA-authorized SUA Controlled Firing Area (CFA), which is subject to review and re-authorization
37 every two years. The RA R-4601 will be designated as active by a Notice to Air Missions (NOTAM) when
38 helicopter aerial gunnery is scheduled to segregate and ensure the safety of nonparticipating aircraft from
39 the hazards associated with these essential military training requirements. When the RA is designated active
40 by NOTAM, the CFA will not be operational. The CFA will be active during all periods when restricted
41 airspace is not active. The decision in this FONSI is based on information contained in the EA and
42 supporting technical studies, which are hereby incorporated by reference. The purpose of the EA was to
43 determine the extent of environmental impacts that might result from the Proposed Action and to evaluate
44 whether any would be significant.

45 This EA considered all potential environmental impacts of implementing the Proposed Action and the No
46 Action Alternative, in addition to cumulative impacts of other reasonably foreseeable projects, and
47 identified measures to avoid, minimize, or compensate for environmental impacts.

1 This EA is attached and incorporated by reference.

2 **Description of Proposed Action and Alternatives**

3 **Proposed Action: (EA § 2.2, page 2-1):**

4 The proposed aerial gunnery range would encompass 846 acres within an existing duded impact area.
5 Helicopter aircrews would fly from Malmstrom AFB to LHTA, conduct brief weapon firing familiarization
6 while landed at existing helicopter landing pads within an adjacent ground-based training range, then
7 conduct aerial gunnery. Additionally, the 40 HS and 341st Security Forces Squadron at Malmstrom would
8 conduct an annual integrated helicopter-convoy training exercise without live weapons firing at LHTA. The
9 following three alternatives were evaluated in the EA.

10 The Proposed Action would see R-4601 established by the FAA and operated by the MTARNG, therefore
11 allowing the 40 HS the ability to conduct aerial gunnery training. It would also establish and operate the
12 proposed AGR, which would support up to 200 aerial gunnery helicopter sorties per year; all gunnery
13 training would occur within existing training ranges at LHTA. Annual integrated helicopter-convoy tactical
14 and blank-firing weapons training would be conducted along Blue Route Road, where public access is
15 restricted during live fire training within LHTA. No construction would be required to implement this
16 alternative.

17 **Alternatives Considered (EA § 2.3 and 2.4, pages 2-17 to 2-23):**

18 Through internal scoping, the USAF determined that there were two possible alternatives to meet the need
19 of the Proposed Action:

- 20 • Alternative 1 – Upgrade the existing LHTA to meet the needs for aerial gunnery training.
- 21 • Alternative 2 – Establish a new training site on other federal lands.

22 LHTA is the only existing DoD lands within one FDP of Malmstrom AFB with the potential to support
23 aerial gunnery training (see section 2.3.2.1 and section 2.4 of the EA for more Alternative 1 information).

24 **No Action Alternative (EA § 2.4, pages 2-24):**

25 CEQ regulations recommend consideration of the No Action Alternative. The No Action Alternative serves
26 as the baseline condition against which the impacts of Proposed Action Alternatives can be evaluated.
27 Under the No Action Alternative, no AGR and no SUA restricted area would be established at LHTA. The
28 AFGSC 40 HS would continue to conduct helicopter aerial gunnery training at out-of-state military training
29 ranges without the ability to effectively maintain proficiency training requirements. There would not be the
30 opportunity for other DoD service branches to similarly benefit from having an AGR in Montana. Ongoing
31 ground-based training and helicopter training without aerial gunnery at LHTA would continue to be
32 authorized by the CFA subject to review and reauthorization by the FAA every two years.

33 **Environmental Analysis**

34 **Exciting Conditions and Environmental Consequences (EA § 3.0, pages 3-1 to 3-14)**

35 The potential environmental impacts associated with the Proposed Action are fully described in the EA.
36 The EA identifies the environmental resources that could be affected by the Proposed Action, and
37 determines the significance of the impacts, if any to each of these resources. Based on the EA's analysis,
38 the MTARNG determined that the potential adverse impacts from the Proposed Action on airspace; air
39 quality/climate; land use; noise and compatible land use; earth resources (farmlands, geology, soils,
40 topography); water resources (surface and ground water, floodplains, wetlands, wild and scenic rivers);
41 biological resources (special status species, vegetation, wildlife); cultural resources (architectural,
42 archeological, cultural, historic); infrastructure (natural resources and energy supply, transportation,
43 utilities); hazardous materials/wastes; safety and occupational health; socioeconomic resources,
44 environmental justice, protection of children; and visual resources (aesthetics, light emissions) would not

1 be significant with the implementation of existing and proposed Best Management Practices (BMPs) and
2 Standard Operating Procedures (SOPs).

3 **Best Management Practices and Mitigation (EA § 3.2.4, pages 3-14 and 3-15)**

4 The MTARNG will employ Best Management Practices (BMPs) to minimize potential minor adverse
5 environmental impacts and maintain good stewardship. The BMPs would be implemented as appropriate
6 for the proposed action and include measures for airspace, land use, air quality, noise, earth resources, water
7 resources, biological resources, cultural resources, socioeconomics, hazardous waste and materials, and
8 safety and occupational health. No mitigation measures will be necessary to reduce potential adverse
9 environmental impacts to below significant levels.

10 **Public Review and Comment**

11 An opportunity for agency and public input on the Final EA and Draft FONSI were made available for a
12 30-day public review and comment period following publication of a public notice in the Broadwater
13 County News, Great Falls Tribune, and Helena Independent Record newspapers. The comment period ran
14 from November 5, 2022 until December 5, 2022. **TBD** comments were received.

15 **Finding of No Significant Impact**

16 After careful review of the EA, I have concluded that implementation of the Proposed Action by the
17 MTARNG would not generate controversy or have a significant adverse impact on the quality of the human
18 or natural environment. This analysis fulfills the requirements of NEPA and the CEQ regulations. An
19 Environmental Impact Statement will not be prepared. The FONSI will be signed and the action will be
20 implemented.

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ANTHONY HAMMETT
Colonel, GS
G-9, Army National Guard

Date

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1 **ENVIRONMENTAL ASSESSMENT ORGANIZATION**

2 This Environmental Assessment (EA) evaluates the potential physical, environmental, cultural, and social
3 effects of the proposed establishment and operation of a helicopter aerial gunnery training range near
4 Malmstrom Air Force Base, Montana (MT), and the proposed establishment of a Special Use Airspace
5 (SUA) restricted area (RA), (R-4601 LHTA, MT), to support the achievement of this training objective.
6 The U.S. Air Force is the lead agency for this Proposed Action. Cooperating agencies are the National
7 Guard Bureau, the Federal Aviation Administration (FAA), and the Montana Army National Guard.

8 This EA analyzes the potential effects of the Proposed Action Alternatives as required in accordance with
9 the National Environmental Policy Act of 1969 (NEPA; 42 U.S. Code § 4321 *et seq.*); implementing
10 regulations issued by the President’s Council on Environmental Quality (CEQ), 40 Code of Federal
11 Regulations (CFR) Parts 1500-1508 (85 Federal Register [FR] 43359, July 16, 2020, as amended by 87 FR
12 23453, April 20, 2022); and agency regulations, policies, and procedures for implementing CEQ
13 Regulations and NEPA, including: 32 CFR Part 989, the *Environmental Impact Analysis Process* of the
14 Department of Air Force; 32 CFR Part 651, *Environmental Analysis of Army Actions, Final Rule* and the
15 2011 Army National Guard *NEPA Handbook*; FAA Order 1050.1F, *Environmental Impacts: Policies and*
16 *Procedures*, and FAA Order JO 7400.2N, *Procedures for Handling Airspace Matters*. This EA will
17 facilitate the decision process regarding the Proposed Action Alternatives, and is organized as follows:

18 **SECTION 1.0 PURPOSE, NEED, AND SCOPE:** Summarizes the purpose of and need for the
19 Proposed Action, provides relevant background information, and describes the scope of the EA.

20 **SECTION 2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES:**
21 Describes the Proposed Action Alternatives, their screening criteria, and identifies alternatives carried
22 forward for detailed analysis or eliminated from further consideration.

23 **SECTION 3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES:**
24 Describes the existing relevant conditions (physical, environmental, cultural, and social) within the
25 Area of Potential Effect (APE) or Region of Influence (ROI) of the considered alternatives; evaluates
26 the potential environmental effects (direct, indirect, cumulative) of implementing the Proposed Action
27 Alternatives, including the No Action Alternative; and identifies proposed mitigation and
28 management measures, where appropriate.

29 **SECTION 4.0 COMPARISON OF ALTERNATIVES AND CONCLUSIONS:** Compares the
30 potential physical, environmental, cultural, and social effects of the Proposed Action Alternatives and
31 summarizes the expected significance of these alternatives.

32 **SECTION 5.0 LIST OF PREPARERS:** Identifies document preparers and their areas of expertise.

33 **SECTION 6.0 AGENCIES AND INDIVIDUALS CONSULTED:** Lists the agencies and individuals
34 consulted during preparation of this EA.

35 **SECTION 7.0 REFERENCES:** Provides bibliographical information for cited sources.

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1 **ENVIRONMENTAL ASSESSMENT SUMMARY**

- 2 **LEAD AGENCY:** United States Air Force (USAF), Air Force Global Strike
3 Command (AFGSC)
- 4 **COOPERATING AGENCIES:** National Guard Bureau (NGB)
5 Federal Aviation Administration (FAA)
6 Montana Army National Guard (MTARNG)
- 7 **TITLE OF PROPOSED ACTION:** Establishment and Operation of a Helicopter Aerial Gunnery
8 Range and Establishment of Special Use Airspace Restricted
9 Area R-4601 at the Limestone Hills Training Area, Montana
- 10 **AFFECTED JURISDICTIONS:** Broadwater, Cascade, Jefferson, Lewis and Clark, and Meagher
11 Counties, Montana (MT)
- 12 **POINT OF CONTACT:** Anthony Briganti, U.S. Army Corps of Engineers (USACE),
13 Omaha District
- 14 **PROPONENT:** Malmstrom Air Force Base (AFB), MT
- 15 **DOCUMENT DESIGNATION:** Draft Environmental Assessment (EA)

16 **ABSTRACT:** AFGSC helicopters provide armed security support of the Minuteman III intercontinental
17 ballistic missile (ICBM) complex at Malmstrom AFB, MT. Aircrews require training to maintain the
18 currency of their qualifications and training every 90 days to meet proficiency training requirements to
19 ensure readiness to meet their mission Directive. Due to no Aerial Gunnery Ranges (AGR) being located
20 near the AFB, costly deployments to out-of-state AGRs are required for the aircrews to maintain their
21 currency requirements. More frequent training out-of-state to meet proficiency training requirements is not
22 practical due to scheduling constraints, logistics, and impacts to their mission at the AFB. The AFGSC
23 proposes the establishment and operation of a helicopter AGR at the Limestone Hills Training Area
24 (LHTA), MT, to address this deficiency, increase the effective maintenance of readiness posture, and
25 maintain aircrew training requirements.

26 As operator of the LHTA, the MTARNG has requested the FAA to establish a joint-use Special Use
27 Airspace (SUA) restricted area (RA), (R-4601 LHTA, MT), to authorize helicopter aerial gunnery training
28 across multiple Department of Defense (DoD) service branches, including AFGSC and MTARNG.
29 Currently, ground-based weapons training and aircraft used in training (without gunnery) occurs at the
30 LHTA in accordance with a FAA-authorized SUA Controlled Firing Area (CFA). Because a CFA does not
31 authorize aircraft weapon firing or delivery activities, establishment of SUA R-4601 would be required to
32 implement the Proposed Action and to segregate and ensure the safety of nonparticipating aircraft (civilian,
33 military) from the hazards associated with essential military aerial gunnery training requirements.

34 This EA addresses the Proposed Action Alternatives and the No Action Alternative. The purpose of this EA
35 is to provide an environmental analysis in sufficient detail to determine whether it is necessary to prepare
36 an Environmental Impact Statement or to prepare a Finding of No Significant Impact (FONSI) for the
37 Proposed Action. This EA evaluates potential direct, indirect, and cumulative effects of the alternatives on
38 airspace; air quality and climate change; land use; noise (including compatible land use); earth resources
39 (topography, geology, soils, farmlands); water resources (surface waters, groundwater, floodplains, wetlands,
40 wild and scenic rivers); biological resources (vegetation, wildlife, wildlife habitat, protected species,
41 jurisdictional wetlands); cultural resources (historic, architectural, archaeological, and cultural);
42 socioeconomics, environmental justice, and protection of children; infrastructure and utilities (including
43 natural energy supply and transportation); hazardous materials and hazardous wastes; safety and occupational
44 health; and visual effects and aesthetic resources (including light emissions). This EA concludes that there
45 would be no significant adverse effects to the environment associated with either Proposed Action Alternative
46 and therefore would result in a FONSI. No mitigation would be required.

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EXECUTIVE SUMMARY

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Introduction

The U.S. Air Force (USAF) is the lead agency this Environmental Assessment (EA), which was prepared in accordance with the National Environmental Policy Act of 1969, as amended; President’s Council on Environmental Quality (CEQ) implementing regulations 40 Code of Federal Regulations (CFR) Parts 1500-1508 (85 Federal Register [FR] 43359, 16 July 2020, as amended by 87 FR 23453, 20 April 2022); and lead and cooperating agency regulations, policies, and procedures for implementing CEQ Regulations and NEPA. Cooperating Agencies include the Federal Aviation Administration (FAA), National Guard Bureau (NGB), and Montana Army National Guard (MTARNG).

The Air Force Global Strike Command (AFGSC), a Major Command of the United States Air Force is responsible for the nation's three intercontinental ballistic missile (ICBM) wings. The 341st Missile Wing Security Forces Group (341 SFG) organizes, trains, and equips personnel to secure the Minuteman III ICBM complex at Malmstrom Air Force Base (AFB), Montana (MT), to ensure the safety and security of maintenance teams deployed to the missile complex, and to provide force protection for ICBMs during on- and off-base movements. The 40th Helicopter Squadron (40 HS), which is part of the AFGSC 582nd Helicopter Group, provides helicopter armed security support to the 341st Missile Wing throughout the missile complex.

AFGSC helicopter aircrews require training to maintain their qualifications, which requires training every 90 days and to ensure readiness to meet their mission Directives. Due to no Aerial Gunnery Range (AGR) being located near the AFB, costly deployments to out-of-state AGRs are required for the 40 HS aircrews to maintain their currency requirements. More frequent training out-of-state to meet proficiency training requirements is not practical due to scheduling constraints, logistics, and impacts to their mission at the AFB.

Purpose and Need for the Proposed Action

The Proposed Action’s purpose is to establish and operate a helicopter AGR within one Flight Duty Period (FDP, 12 hours) from Malmstrom AFB, to meet aerial gunnery training requirements of the 40 HS and 341 SFG tasked by AFGSC with security support of the ICBM missile field operations. The Proposed Action includes establishing a Special Use Airspace (SUA) restricted area (RA), as required by 14 Code of Federal Regulation (CFR) Section (§) 73.11 *Special Use Airspace Restricted Areas*, to authorize aerial gunnery training.

The Proposed Action is needed to increase the efficiency and effective maintenance of the 40 HS’s and 341 SFG’s readiness posture and attainment of mission training requirements. Also, to further the AFGSC's execution of its training requirement roles and responsibilities as mandated under U.S. Department of Defense (DoD) Manual S-5210.41V3_AFMAN_31-108V3, *Nuclear Weapon Security Manual: Nuclear Weapon Environment-Specific Requirements*, 11 August 2016; DoD Directive 1322.18, *Military Training*, 03 October 2019; Air Force Policy Directive (AFPD) 11-2, *Aircrew Operations*, 31 January 2019; and AFPD 13-5, *Air Force Nuclear Enterprise*, 29 June 2017. The establishment of a SUA RA (14 CFR § 73.11) is needed to accommodate essential DoD aerial gunnery training requirements and to ensure the safety of nonparticipating aircraft (civilian, military) otherwise permitted to overfly the location established for military training.

1 **Alternatives Considered**

2 Several alternatives were considered and evaluated using selection standards to identify reasonable
3 alternatives for detailed evaluation in the EA. Reasonable means alternatives that are technically
4 and economically feasible, meet the purpose and need for the Proposed Action, and, where
5 applicable, meet the goals of the applicant (Council on Environmental Quality [CEQ] Regulation,
6 40 CFR § 1508). Establishing a new training site on other federal lands was eliminated because
7 the time and cost required to construct and operate a new training site would be on the order of
8 seven years or more to obtain all necessary authorizations and therefore would not reasonably meet
9 the purpose and need to address critical training requirements. Three different courses of action at
10 the Limestone Hills Training Area (LHTA), located in Broadwater County, MT, were considered;
11 two were carried forward for detailed analysis and one was eliminated because it would encroach
12 onto private lands and would have the potential for greater environmental effects.

13 As operator of the LHTA, MTARNG has submitted a proposal to the FAA requesting the
14 establishment of a SUA RA (14 CFR § 73.11) to authorize essential military helicopter aerial
15 gunnery training requirements for Department of Defense user's, including AFGSC and
16 MTARNG aircrews, both of which currently must travel out-of-state for this training. The
17 proposed SUA RA would only be activated during helicopter aerial gunnery training.

18 ***Proposed Action – Alternatives 1 and 2***

19 Under the Proposed Action, a helicopter AGR would be established within the existing primary
20 duded impact area of training ranges within the existing LHTA boundary, and helicopter weapons
21 familiarization and firing while on the ground would be at the existing Multi-Purpose Training
22 Range. In addition, a SUA RA (14 CFR § 73.11) would be established over the LHTA and
23 activated when aerial gunnery training is scheduled to segregate and protect nonparticipating
24 aircraft from the hazards associated this type of training. The two evaluated Proposed Action
25 alternatives differ with respect to the location where an annual integrated helicopter-convoy
26 training (without live firing of weapons) would occur at LHTA.

27 ***No Action Alternative***

28 Inclusion of a No Action Alternative is prescribed by the CEQ Regulations and serves as a
29 benchmark against which proposed Federal actions are evaluated. Under the No Action
30 Alternative, no helicopter AGR and no SUA RA (14 CFR § 73.11) would be established within
31 one FDP of Malmstrom AFB. The 40 HS would continue to conduct helicopter aerial gunnery
32 training at out-of-state military training ranges, which due to logistics, distance, and cost, do not
33 allow for effective maintenance of aerial gunnery proficiency without compromising mission
34 requirements at Malmstrom AFB. As no AGR and no SUA RA would be established at the LHTA,
35 there would not be the opportunity for the MTARNG to increase aerial gunnery proficiency and
36 readiness of their helicopter aircrews.

37 **Public and Agency Involvement**

38 Per the requirements of Executive Order (EO) 12372, *Intergovernmental Review of Federal*
39 *Programs*, as amended by EO 12416, federal, state, and local agencies with jurisdiction that could
40 potentially be affected by the proposed and alternative actions were notified and all received
41 comments were considered by the USAF during development of this EA. Consideration of the views
42 and information from all interested persons promotes open communication and enables better

1 decision-making by the USAF, National Guard Bureau (NGB), and Federal Aviation Administration
2 (FAA). All persons and organizations having potential interest in the Proposed Action, including
3 minority, low-income, disadvantaged, and federally recognized Native American tribes, are urged
4 to participate in the National Environmental Policy Act (NEPA) environmental analysis process.

5 Section 6.0 in the EA lists the persons and agencies consulted/coordinated with during
6 development of this EA. Response letters were received from the Broadwater County
7 Commissioners, Montana Fish, Wildlife & Parks, Montana Historical Society, U.S. Army Corps
8 of Engineers, U.S. Fish and Wildlife Service, Headwaters Flying Service, and local Bureau of
9 Land Management permitted grazing allotment holders (see Appendix A).

10 The opportunity for additional agency and public input will be provided during a 30-day public
11 comment period. The EA and draft Finding of No Significant Impact (FONSI) are available at:
12 <https://www.malmstrom.af.mil/About-Us/Environmental-Resources/> and at local libraries in Great
13 Falls (Great Falls Public Library), Helena (Lewis and Clark Library), and Townsend (Broadwater
14 School and Community Library). A Notice of Availability was published in newspapers circulated in
15 Broadwater County, Great Falls, and Helena, MT. All received comments will be included in the final
16 EA. Substantive comments received by the USAF will be addressed and may require edits to the EA,
17 as warranted, and in the FONSI prior to signature by USAF. The FAA and NGB will utilize the
18 analysis in this EA to make their own agency NEPA decision on the Proposed Action. The FAA will
19 defer rulemaking (final decision) on the final SUA RA proposal until the NEPA process is complete.

20 **Environmental Consequences**

21 The Proposed Action was evaluated to determine its potential direct, indirect, and cumulative
22 effects on the physical, environmental, cultural, and socioeconomic aspects of the LHTA and
23 surrounding area. Resource areas eliminated from detailed discussion include coastal resources
24 (not applicable since none occur), Department of Transportation Act, Section 4(f) resources (not
25 applicable since military exempt), and visual effects and aesthetic resources (does not involve
26 construction or demolition of any structures or facilities and military helicopter flights would be
27 in an area already accustomed to helicopter flights).

28 Resource areas evaluated in detail include:

- Airspace
- Land Use
- Air Quality and Climate Change
- Noise
- Geology, Topography, and Soils
- Water Resources
- Biological Resources
- Cultural Resources
- Socioeconomics, Environmental Justice, and Protection of Children
- Infrastructure and Utilities
- Hazardous and Toxic Materials and Wastes
- Safety and Occupational Health

29 The Proposed Action would result in the impacts identified throughout Section 3.0, *Existing*
30 *Conditions and Environmental Consequences*. Section 4.0, *Comparison of Alternatives and*
31 *Conclusions*, identifies that while impacts on resources would be less than significant with both
32 Proposed Action Alternatives 1 and 2, Alternative 1 would pose less potential constraint on the
33 integrated helicopter-convoy training and therefore is the Preferred Alternative. Table ES-1
34 summarizes the potential impacts associated with the Proposed Action and No Action Alternatives
35 for each evaluated resource area.

1 **Conclusions**

2 The evaluation performed in this EA concludes that there would be no significant adverse impact
 3 on the environment associated with the approval of the Proposed Action Alternative. This EA’s
 4 analysis determines, therefore, that an Environmental Impact Statement is unnecessary for
 5 approval of the Proposed Action Alternative, and that a FONSI is appropriate. This EA
 6 recommends approval of Proposed Action Alternative 1.

7 **Table ES-1. Comparison of Anticipated Environmental Effects of the Alternatives.**

Resource Issue Area	No Action	Alternative 1 (Preferred Alternative)	Alternative 2
Resources Eliminated from Detailed Analysis			
Aesthetic and Visual Resources	No effect.	Negligible.	Negligible.
Coastal Resources	NA	NA	NA
DOT Section 4(f)	NA	NA	NA
Resources Analyzed in Detail			
Airspace	No effect.	Less than significant effect.	Less than significant effect.
Land Use	No effect.	Less than significant effect.	Less than significant effect. Old Woman’s Grave Road may constrain helicopter-convoy training, and uncertain future constraint from inactive private mining claim.
Air Quality and Climate Change	No effect.	Less than significant effect.	Less than significant effect.
Noise	No effect.	Less than significant effect.	Less than significant effect.
Earth Resources	No effect.	Less than significant effect on soils. No impact on topography, geology, Prime Farmlands or Farmlands of Statewide Importance.	Less than significant effect on soils. No effect on topography, geology, Prime Farmlands, or Farmlands of Statewide Importance.
Water Resources	No effect.	No effect on floodplains, wetlands or Wild and Scenic Rivers. Less than significant effect on groundwater and surface waters.	No effect on floodplains, wetlands or Wild and Scenic Rivers. Less than significant effect on groundwater and surface waters.
Biological Resources	No effect.	No effect on wetlands or special status species. Less than significant impact on vegetation, wildlife, or sensitive species.	No effect on wetlands or special status species. Less than significant impact on vegetation, wildlife, or sensitive species.
Cultural Resources	No effect.	No adverse effects to historic, architectural, archaeological or to traditional cultural properties.	No adverse effects to historic, architectural, archaeological or to traditional cultural properties.
Socioeconomics, Environmental Justice, and the Protection of Children	No effect.	Minor long-term beneficial impacts on local businesses. No effects on Environmental Justice populations or children.	Minor long-term beneficial impacts on local businesses. No effects on Environmental Justice populations or children.

Resource Issue Area	No Action	Alternative 1 (Preferred Alternative)	Alternative 2
Infrastructure and Utilities	No effect.	Less than significant effect.	Less than significant effect.
Hazardous Materials Hazardous Waste	No effect.	Less than significant effect.	Less than significant effect.
Safety and Occupational Health	No effect.	Less than significant effect.	Less than significant effect.

1 NA = not applicable

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31 Appendix B—Proposed SUA Restricted Area Description

32 Appendix C—Additional Noise Figures

33 Technical Studies (Under Separate Cover)

34 Technical Study Volume 1—Air Quality, Airspace, and Noise

35 Technical Study Volume 2—Biology

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1		ACRONYMS AND ABBREVIATIONS
2	%	percent
3	§	Section
4	°F	degree(s) Fahrenheit
5	1-189 GSAB	1-189th General Support Aviation Battalion
6	341 MW	341st Missile Wing
7	341 SFG	341st Missile Wing Security Forces Group
8	40 HS	40th Helicopter Squadron
9	ACAM	Air Conformity Applicability Model
10	AFB	Air Force Base
11	AFGSC	Air Force Global Strike Command
12	AFI	Air Force Instruction
13	AFMAN	Air Force Manual
14	AFPD	Air Force Policy Directive
15	AGL	Above Ground Level
16	AGR	Aerial Gunnery Range
17	Air Force	United States Air Force
18	APE	Area of Potential Effect
19	AR	Army Regulation
20	Army	U.S. Department of the Army
21	ARNG	Army National Guard
22	ARTCC	Air Route Traffic Control Center
23	ATCAA	Air Traffic Control Assigned Airspaces
24	ATS	Air Traffic Service
25	BLM	Bureau of Land Management
26	BMP	Best Management Practice
27	CAA	Clean Air Act
28	CDNL	C-weighted Day-Night Average Sound Level
29	CEQ	Council on Environmental Quality
30	CFA	Controlled Firing Area
31	CFR	Code of Federal Regulations
32	CH ₄	methane
33	CO	carbon monoxide
34	CO ₂	carbon dioxide
35	CO _{2e}	carbon dioxide equivalent
36	CWA	Clean Water Act
37	DA Pam	Department of Army Pamphlet
38	DARNG	Director, Army National Guard

1	dB	decibel(s)
2	dBC	C-weighted decibel(s)
3	dBP	peak decibel(s)
4	DME	Distance Measuring Equipment
5	DNL	Day-Night Average Sound Level
6	DoD	Department of Defense
7	EA	Environmental Assessment
8	EIAP	Environmental Impact Analysis Process
9	EIS	Environmental Impact Statement
10	EO	Executive Order
11	EPA	U.S. Environmental Protection Agency
12	ESA	Endangered Species Act
13	FAA	Federal Aviation Administration
14	FDP	Flight Duty Period
15	FONSI	Finding of No Significant Impact
16	Fort Harrison	Fort William Henry Harrison
17	ft	foot/feet
18	GHG	Green House Gas
19	GIS	Geographic Information System
20	Graymont	Graymont Western US, Inc.
21	HARM	Helicopter Armament and Refueling Maintenance
22	HS	Helicopter Squadron
23	Hz	Hertz
24	ICBM	Intercontinental Ballistic Missile
25	ICRMP	Integrated Cultural Resources Management Plan
26	IFR	Instrument Flight Rules
27	INRMP	Integrated Natural Resources Management Plan
28	ITAM	Integrated Training Area Management
29	IWFMP	Integrated Wildland Fire Management Plan
30	KIAS	Knots Indicated Airspeed
31	lb/lbs	pound/pounds
32	L _{dnmr}	Onset-Rate Adjusted Day-Night Average Sound Level
33	LHTA	Limestone Hills Training Area
34	MBTA	Migratory Bird Treaty Act
35	MC	Munitions Constituents
36	MCA	Montana Code Annotated 2019
37	mi	mile(s)
38	mm	millimeter(s)

1	MOA	Military Operations Area
2	MOU	Memorandum of Understanding
3	MPTR	Multi-Purpose Training Range
4	MSL	Mean Sea Level
5	MT	Montana
6	MT SHPO	Montana State Historic Preservation Officer
7	MTARNG	Montana Army National Guard
8	MDEQ	Montana Department of Environmental Quality
9	MTFWP	Montana Department of Fish, Wildlife and Parks
10	MTNHP	Montana Natural Heritage Program
11	mya	million years ago
12	N ₂ O	nitrous oxide
13	NAAQS	National Ambient Air Quality Standards
14	NCOIC	Non-Commissioned Officer-in-Charge
15	NEPA	National Environmental Policy Act of 1969
16	NGB	National Guard Bureau
17	NHPA	National Historic Preservation Act
18	NM	Nautical mile(s)
19	NO ₂	nitrogen dioxide
20	NOAA	National Oceanic and Atmospheric Administration
21	NOTAM	Notice to Air Missions
22	NRCS	Natural Resources Conservation Service
23	NRHP	National Register of Historic Places
24	O ₃	ozone
25	OIC	Officer-in-Charge
26	ORA	Operational Range Assessment
27	ORAP	Operational Range Assessment Program
28	OSHA	Occupational Safety and Health Administration
29	OWG	Old Woman's Grave
30	Pb	lead
31	PM	particulate matter
32	PM _{2.5}	particulate matter of 2.5 micrometers in diameter or less
33	PM ₁₀	particulate matter of 10 micrometers in diameter or less
34	Pub. L.	Public Law
35	RA	Restricted Area
36	RFMSS	Range Facility Management Support System
37	RNAV	Area Navigation
38	RNP	Required Navigational Performance

1	ROI	Region of Influence
2	RSO	Range Safety Officer
3	SDZ	Surface Danger Zone
4	SFG	Security Forces Group
5	SIAP	Standard Instrument Approach
6	SO ₂	sulfur dioxide
7	SOC	Species of Concern
8	SOP	Standard Operating Procedure
9	SUA	Special Use Airspace
10	U.S.	United States
11	U.S.C.	United States Code
12	USACE	United States Army Corps of Engineers
13	USAF	United States Air Force
14	USFS	United States Forest Service
15	USFWS	United States Fish and Wildlife Service
16	UTTR	Utah Test and Training Range
17	UXO	Unexploded Ordnance
18	VFR	Visual Flight Rules
19	WDZ	Weapons Danger Zone
20	WOTUS	Waters of the U.S.
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1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 Introduction

The Air Force Global Strike Command (AFGSC), a Major Command of the United States (U.S.) Air Force (USAF or Air Force), prepared this Environmental Assessment (EA) in cooperation with the Montana Army National Guard (MTARNG), the National Guard Bureau (NGB), and the Federal Aviation Administration (FAA). The Proposed Action's primary focus is to establish and operate a helicopter Aerial Gunnery Range (AGR) in proximity to Malmstrom Air Force Base (AFB), Montana (MT), to support critical training requirements of the nuclear missile complex security forces. The Proposed Action also includes establishing a Special Use Airspace (SUA) restricted area (RA) to accommodate the aerial gunnery training requirement, and to protect civilian aircrafts from the hazards associated with this type of training, as required by Title 14 Code of Federal Regulations (CFR) Part 73, *Special Use Airspace*.

AFGSC proposes to establish the AGR at the Limestone Hills Training Area (LHTA), which is an existing major military training range in Broadwater County, MT. The MTARNG operates the LHTA and, to support the AFGSC's Federal Proposed Action, has requested the FAA to establish a SUA RA, (R-4601 LHTA, MT), over the LHTA to authorize helicopter aerial gunnery training.

The USAF prepared this EA in accordance with the following federal laws and regulations:

- National Environmental Policy Act (NEPA) of 1969 (42 U.S. Code [U.S.C.] Section [§] 4331-4332).
- President's Council on Environmental Quality (CEQ) regulations (40 CFR § 1500-1508) (85 FR 43359, July 16, 2020, as amended by 87 FR 23453, April 20, 2022) for implementing the procedural provisions of NEPA.
- USAF regulations, policies, and procedures for implementing CEQ Regulations and NEPA, including: 32 CFR § 989, *The Environmental Impact Analysis Process [EIAP]*, and Air Force Instruction (AFI) 32-1015, *Integrated Installation Planning*.

Since MTARNG, NGB, and FAA are cooperating agencies, this EA also was prepared in compliance with:

- 32 CFR § 651, *Environmental Analysis of Army Actions*.
- 2011 Army National Guard (ARNG) NEPA Handbook.
- FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*.
- FAA Order JO 7400.2N, *Procedures for Handling Airspace Matters*.

1.1.1 Background

AFGSC is responsible for the nation's three intercontinental ballistic missile (ICBM) wings; the Air Force's entire bomber force; Air Force Nuclear Command, Control and Communications systems; and operational and maintenance support to organizations within the nuclear enterprise. The U.S. Department of Defense (DoD) and Air Force Manual (AFMAN) (DoD Manual S-5210.41V3_AFMAN_31-108V3: *Nuclear Weapon Security Manual: Nuclear Weapon Environment-Specific Requirements* 2019), as well as the United States Strategic

1 Command, require AFGSC to provide armed helicopters to support security for ICBM
2 operations in missile fields.

3 The Malmstrom AFB 341st Missile Wing (341 MW) maintains and operates the Minuteman III
4 ICBM system and is assigned to the AFGSC. The 341 MW's mission is to defend America with
5 safe, secure, and effective nuclear forces and combat-ready airmen. The 341 MW Security Forces
6 Group (341 SFG) organizes, trains, and equips personnel to secure the missile complex, ensures
7 the safety and security of maintenance teams deployed to the missile complex, and provides force
8 protection for ICBMs during on- and off-base movements. The entire missile complex
9 encompasses approximately 13,800 square miles within Chouteau, Cascade, Lewis & Clark,
10 Fergus, Judith Basin, Wheatland, and Teton Counties, MT.

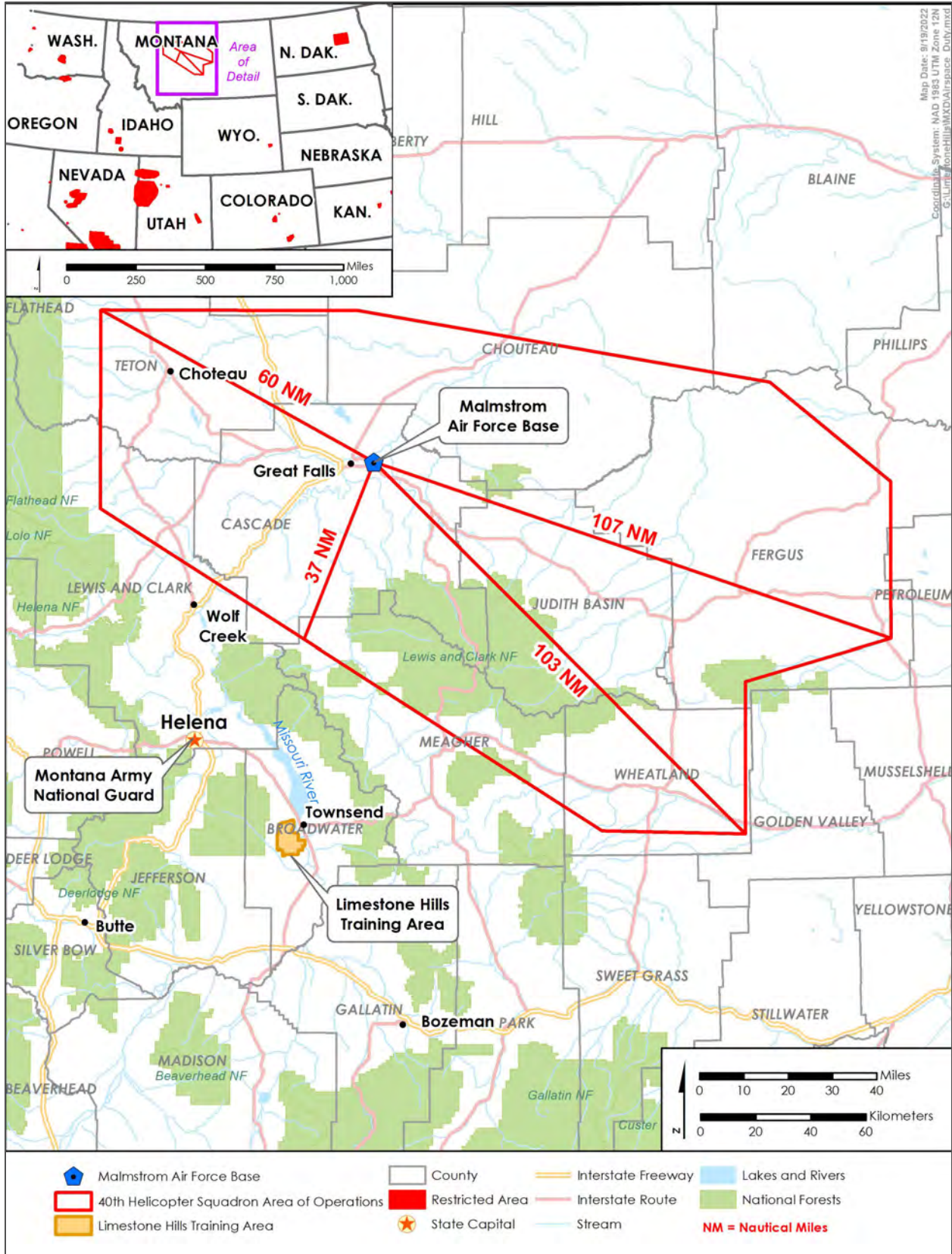
11 The 40th Helicopter Squadron (40 HS), which is part of the AFGSC 582nd Helicopter Group,
12 provides helicopter security response for the 341 MW throughout the missile complex. The 40 HS
13 also performs aerial surveillance of DoD strategic weapon convoys, short notice emergency
14 security forces responses, supports emergency war order tasking, priority personnel and cargo
15 airlifts, and executes search and rescue missions in support of the Joint Chiefs of Staff National
16 Search and Rescue Plan and emergency response plans for federal, state, and local agencies.

17 After qualification, 40 HS aircrews are required to conduct training every 90 days to remain current
18 on their qualification and to maintain proficiency (AFMAN 11-2UH-1N, Volume 1, *UH-1N*
19 *Helicopter Aircrew Training*). In accordance with AFI 11-202V3_AFGM2018-01, *General Flight*
20 *Rules*, a maximum Flight Duty Period (FDP) for a basic rotary wing without an Auto Flight Control
21 System is limited to 12 hours. The FDP begins when an aircrew member reports for a mission,
22 briefing, or other official duty, and ends at final engine shutdown after the final flight of the
23 completed mission. However, no existing AGR occurs within one FDP of Malmstrom AFB to
24 support the 40 HS's training requirements.

25 The helicopters' slow speed and limited range require logistically intensive, temporary unit
26 relocations to suitable, yet more distant, training ranges. Currently, the 40 HS temporarily deploys
27 on a quarterly basis to the Utah Test and Training Range (UTTR), which is more than 480 miles (mi)
28 from Malmstrom AFB. The deployments span approximately two weeks to allow for rotation of
29 aircrews. These temporary relocations impose a heavy cost on the federal government. The UTTR
30 is the nation's largest combined RA and land training area, hosting more than 22,000 training sorties¹
31 and 1,000 test sorties annually for the USAF, U.S. Army, and U.S. Marine Corps. More frequent
32 training by the 40 HS at the UTTR is not possible due to scheduling constraints and logistics, without
33 compromising mission requirements at Malmstrom AFB.

34 The LHTA is the only existing federal facility within one FDP with sufficient resources to support
35 the AFGSC aerial gunnery training requirements. The LHTA is located approximately 75 nautical
36 miles (NM) from Malmstrom AFB, which is within a distance consistent with the 40 HS's normal
37 area of operation (Figure 1-1). AFGSC proposes to establish a new AGR at the LHTA to increase
38 the efficiency and effective maintenance of the 40 HS's and 341 SFG's readiness posture and
39 attainment of mission training requirements.

¹ Sortie is a specialized term used to describe a military operational flight by a single aircraft (Office of the Chairman of the Joint Chiefs of Staff 2021).



1
 2 Note: The inset shows the closest locations of SUA RAs.

3 **Figure 1-1. Normal Area of Operations of the 40 HS.**

1 The LHTA provides highly varied terrain that is well suited for tactical aviation training. The
2 LHTA is part of the military training facilities of Fort William Henry Harrison (Fort Harrison),
3 which is located in Helena, MT, and has been used as a military training facility since the 1950s.
4 The LHTA is primarily used for: tank and Bradley Fighting Vehicle maneuvers; weapons firing,
5 hand grenade and detonation training; machine gun and small-arms firing; and mortar training.
6 Existing ground-based surface-to-surface and surface-to-air weapons training (e.g., Bradley
7 Fighting Vehicles, hand grenades, rifles, machine guns, mortars, etc.), aircraft airdrops of
8 equipment, and helicopter training without gunnery is conducted in accordance with a Letter of
9 Authorization from the FAA granting the using agency (MTARNG) the authority to operate a
10 Controlled Firing Area (CFA) at the LHTA. The CFA allows use of aircraft; however, no aerial
11 gunnery is authorized. In accordance with FAA Order JO 7400.2N, 27-1-6, *Controlled Firing Area*
12 *Activities*, “CFAs are not intended to contain aircraft ordnance² delivery activities.”

13 Accordingly, to support the AFGSC’s Proposed Action, MTARNG seeks FAA approval to
14 establish a joint-use SUA R-4601, to permit necessary aerial gunnery training across multiple DoD
15 service branches. The LHTA CFA would be retained for existing training when SUA R-4601 is
16 not active.

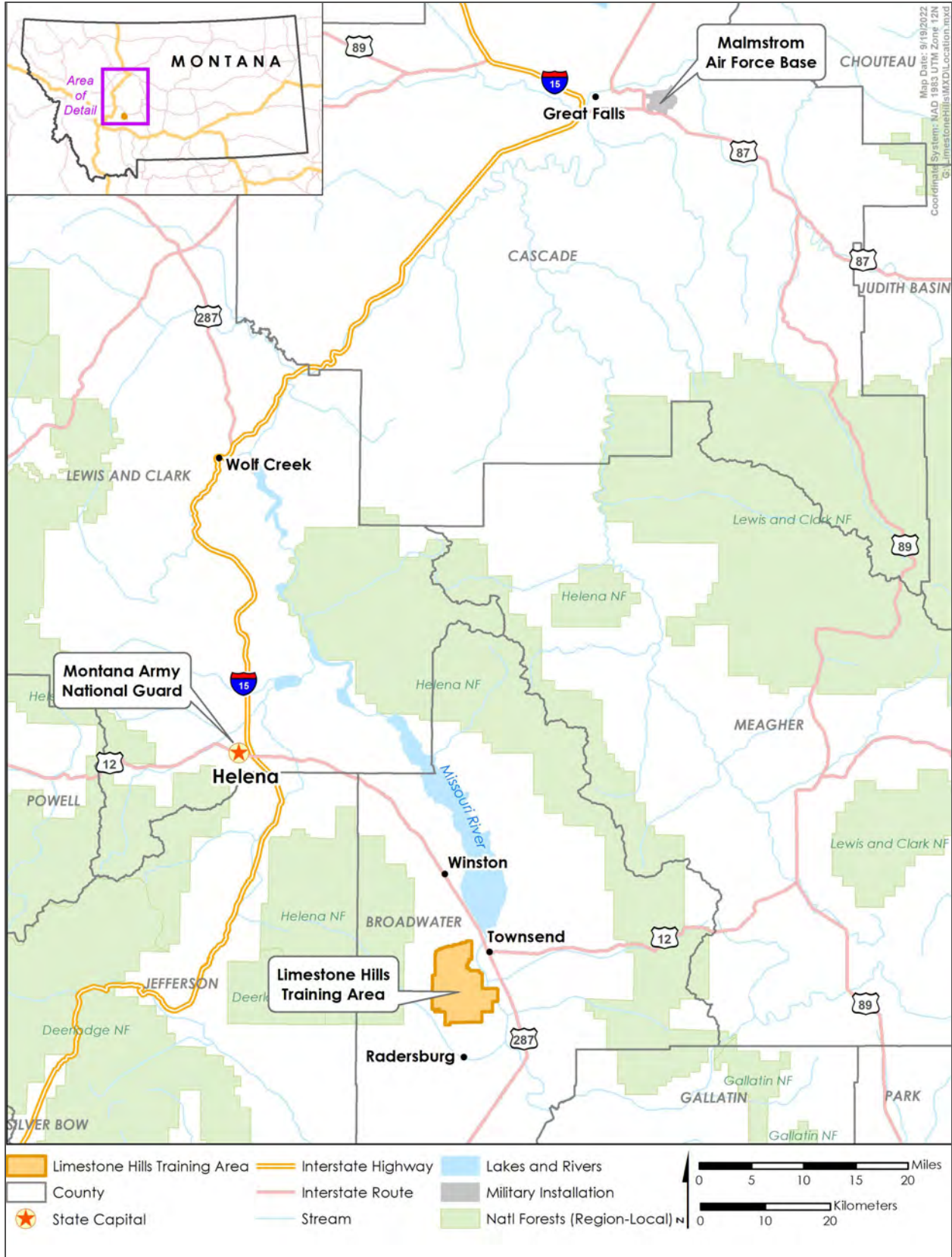
17 The Army Aviation Support Facility, located at the Helena Regional Airport, is home to MTARNG’s
18 1-189th General Support Aviation Battalion (1-189 GSAB). The combat support aircrews are
19 required to conduct live-fire gunnery training that meets individual, aircrew, and collective gunnery
20 requirements in accordance with National Guard Supplement 1 to Army Regulation (AR) 95-1,
21 *Aviation Flight Regulations*, and Training Circular 3-04.3, *Aviation Gunnery*. Currently, the 1-189
22 GSAB conducts helicopter training without aerial gunnery at the LHTA. Similar to the AFGSC 40
23 HS, MTARNG personnel must travel several hundred miles to Utah (Dugway Proving Grounds,
24 UTTR, and Wendover Gunnery Range) to meet minimum aerial gunnery training requirements.
25 Access to a local AGR at LHTA would increase the efficiency of MTARNG’s training and
26 substantially increase the operational readiness of its combat support aircrews.

27 The FAA administers navigable airspace in accordance with 49 U.S.C. Subtitle VII, *Aviation*
28 *Programs*, including rulemaking to establish SUA RAs (14 CFR § 73.11, *Special Use Airspace*
29 *Restricted Areas*). The FAA will review this EA and MTARNG’s aeronautical proposal to
30 establish SUA R-4601 over the LHTA and will make a decision regarding rulemaking after
31 AFGSC completes the NEPA process (see Section 1.4, *Decision-Making*).

32 **1.1.2 Project Location**

33 The LHTA is located west of the Missouri River and on the eastern slopes of the Limestone Hills,
34 in Broadwater County (Figure 1-2). The site is approximately 41 mi southeast of Fort Harrison, 33
35 mi southeast of Helena, and 130 mi south of Malmstrom AFB. The nearest cities, Townsend and
36 Radersburg, are approximately 1.5 to 2 mi east and south of LHTA, respectively. The primary
37 highways used to access the LHTA include Interstate 15 and State Highways 12 and 287.

² Ordnance is weapons and ammunition.



1
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Figure 1-2. LHTA Project Location.

1 **1.2 Purpose and Need**

2 **1.2.1 Purpose of the Action**

3 The Proposed Action's purpose is to establish and operate a helicopter AGR within one FDP from
4 Malmstrom AFB to meet aerial gunnery and training requirements of the 40 HS and 341 SFG
5 tasked by AFGSC with security support of the ICBM missile field operations. The Proposed
6 Action includes establishing a SUA RA, as required by 14 CFR § 73.11, to protect nonparticipating
7 aircraft (civilian, military) from the hazards associated with this type of training.

8 **1.2.2 Need for the Action**

9 The Proposed Action is needed to provide aerial gunnery training for the 40 HS and 341 SFG at a
10 facility located within one FDP of Malmstrom AFB and further the AFGSC's execution of its
11 training requirement roles and responsibilities as mandated under DoD Manual S-
12 5210.41V3_AFMAN_31-108V3, *Nuclear Weapon Security Manual: Nuclear Weapon*
13 *Environment-Specific Requirements*, 11 August 2016; DoD Directive 1322.18, *Military Training*
14 03 October 2019; Air Force Policy Directive (AFPD) 11-2, *Aircrew Operations*, 31 January 2019;
15 and AFPD 13-5, *Air Force Nuclear Enterprise*, 29 June 2017. The establishment of SUA R-4601
16 (14 CFR § 73.11) is needed to accommodate essential DoD aerial gunnery training requirements
17 and to ensure the safety of nonparticipating aircraft otherwise permitted to overfly the location
18 established for military training.

19 **1.3 Scope of the Environmental Assessment**

20 This EA discusses the affected environment and evaluates the potential environmental
21 consequences (effects or impacts) of implementing the Proposed Action Alternatives. Section 2.3,
22 *Alternatives Considered*, summarizes the considered helicopter AGR and training alternatives and
23 the evaluation process that resulted in the selection of two Action Alternatives (Alternatives 1 and
24 2) and the No Action Alternative to be carried forward for analysis in this EA.

25 This EA includes analysis of direct, indirect, and cumulative impacts the Proposed Action
26 Alternatives may have on airspace; land use; air quality and climate change; noise (including
27 compatible land use); earth resources (topography, geology, soils, farmlands); water resources
28 (surface waters, groundwater, floodplains, wetlands, wild and scenic rivers); biological resources
29 (vegetation, wildlife, wildlife habitat, protected species, jurisdictional wetlands); cultural
30 resources (historic, architectural, archaeological, and cultural); socioeconomics, environmental
31 justice, and protection of children; infrastructure and utilities (including natural energy supply and
32 transportation); hazardous materials and hazardous wastes; safety and occupational health; and
33 visual effects and aesthetic resources (including light emissions).

34 As the FAA is a cooperating agency and may adopt in whole or in part this EA, the analysis
35 considers the specific environmental impact categories identified in FAA Order 1050.1F as
36 potentially relevant to FAA actions. Table 1-1 lists the FAA environmental impact categories and
37 provides a cross-reference to the environmental resource areas where they are addressed in this
38 EA. Two FAA environmental impact categories, coastal resources and U.S. Department of
39 Transportation Act Section 4(f) properties, are not applicable and are not evaluated in this EA, as
40 noted in Table 1-1.

1 **Table 1-1. FAA Environmental Impact Categories and Where Addressed in this EA.**

FAA Impact Analysis Category	EA Section
Air Quality	3.4 Air Quality and Climate Change
Biological Resources	3.8 Biological Resources
Climate Change	3.4 Air Quality and Climate Change
Coastal Resources	3.1.1 <i>Not Applicable</i> , Montana lacks a coastal zone. Therefore, coastal resources and their pertinent regulations (Coastal Zone Management Act, 16 U.S.C. § 1451 <i>et seq.</i> ; Magnuson-Stevens Fishery Conservation and Management Reauthorization Act, 16 U.S.C. § 1801 <i>et seq.</i>) are not further discussed.
Department of Transportation Act, Section 4(f)	3.1.1 <i>Not Applicable</i> , Public Law 105-85 (Div. A, Title X, Section 1079, 18 Nov. 1997, 111 Stat. 1916) exempts military flight operations and designation of airspace for such operations from Section 4(f) compliance requirements. Therefore, Section 4(f) resources are not further discussed.
Farmlands	3.6 Earth Resources
Hazardous Materials, Solid Waste, and Pollution Prevention	3.10 Hazardous Materials and Hazardous Waste
Historic, Architectural, Archaeological, and Cultural Resources	3.9 Cultural Resources
Land Use	3.3 Land Use
Natural Resources and Energy Supply	3.11 Infrastructure and Utilities
Noise and Compatible Land Use	3.5 Noise
Socioeconomics, Environmental Justice, and Children’s Environmental Health and Safety Risks	3.12 Socioeconomics, Environmental Justice and Protection of Children
Visual Effects (Including Light Emissions)	3.1.1 Visual Effects and Aesthetic Resources
Water Resources (Including Wetlands, Floodplains, Surface Waters, Groundwater, Wild and Scenic Rivers)	3.7 Water Resources

2 In considering whether the effects of the Proposed Action are significant, this EA analyzes the
3 potentially affected environment and the degree of the effects of the action. Consistent with CEQ
4 Regulations (40 CFR § 1501.3 (b) (2)), the degree of the effects in considering significance
5 includes consideration of both short- and long-term effects, both beneficial and adverse effects,
6 effects on public health and safety, and effects that would violate federal, state, Tribal, or local
7 laws protecting the environment.

8 The establishment of proposed SUA R-4601 would authorize aircraft-related activities associated
9 with proposed aerial gunnery training at the LHTA. There would be no change to the existing
10 ongoing ground-based gunnery and helicopter training (without aerial gunnery), already
11 authorized by the LHTA CFA and subject to review and reauthorization every two years by the
12 FAA (e.g., Letter of Authorization Aeronautical Case No. 22-ANM-30NR, 9 May 2022). The
13 existing ongoing training activities at the LHTA are considered in the context of the No Action
14 Alternative against which the Proposed Action Alternatives are evaluated and are also considered
15 as part of the cumulative effects.

1 **1.4 Decision-Making**

2 The USAF and the cooperating agencies (MTARNG, NGB, FAA) will each make decisions based
3 on the analyses presented in this EA, wholly or in part. A cooperating agency means “*any federal*
4 *agency other than a lead agency which has jurisdiction by law or special expertise with respect to*
5 *any environmental impact involved in a proposal (or a reasonable alternative) for legislation or*
6 *other major federal action significantly affecting the quality of the human environment (40 CFR §*
7 *1508.1).*” Since the Proposed Action is on federal and state property used for military training, the
8 USAF requested, by letters dated 05 January 2018, that the NGB (which maintains accountability
9 of the states for federal property assigned to the National Guard) and MTARNG (operator of the
10 LHTA) formally participate as cooperating agencies. As the FAA administers navigable airspace
11 and part of the Proposed Action is airspace-related, the USAF invited the FAA (23 January 2018)
12 to become a cooperating agency. Copies of the signed cooperating agency letters are included in
13 Appendix A, *Correspondence and Received Comments*.

14 The USAF, as lead agency, must decide whether to prepare a Finding of No Significant Impact
15 (FONSI) or to make a recommendation to prepare an Environmental Impact Statement (EIS) based
16 on the analyses presented in this EA. This EA analyzes the potential for significant environmental
17 effects associated with two Proposed Action Alternatives and the No Action Alternative. If the
18 analyses presented in this EA indicate that the Proposed Action would not have the potential for
19 significant physical, environmental, cultural, or social effects, then the USAF would prepare a
20 FONSI. A FONSI briefly presents the reasons why a Proposed Action would not have a significant
21 effect on the human environment and why an EIS would not be necessary. If the analyses presented
22 in this EA indicate that significant environmental effects would result from the Proposed Action
23 that cannot be mitigated below significant levels, a Notice of Intent to prepare an EIS would be
24 required, or no action would be taken.

25 The NGB and FAA cooperating agencies will make determinations of whether or not to adopt the
26 EA to support their decision-making. Per amendments to 10 U.S.C. § 10501, described in DoD
27 Directive 5105.77, the NGB is a joint activity of the DoD (DoD 2015). The NGB serves as a
28 channel of communication and funding between the U.S. Army and state ARNG organizations in
29 the 50 states, three territories, and the District of Columbia of the U.S. The NGB also is the channel
30 of communications on all matters pertaining to the National Guard between the U.S. Departments
31 of the Army (Army) and the Air Force. The ARNG is a Directorate within the NGB. The ARNG’s
32 Environmental Division within the Installation Directorate is responsible for environmental
33 matters, including compliance with NEPA. As the ARNG is a federal decision-maker concerning
34 implementation of this Proposed Action, this is a Federal Proposed Action. The decision-making
35 on the part of the ARNG includes selecting an alternative to implement and identifying the actions
36 that the government will commit to undertake to minimize environmental effects, as required under
37 NEPA, CEQ Regulations, and 32 CFR § 651. The FONSI, if appropriate, would be signed by the
38 USAF, FAA, and the NGB. The MTARNG would use this EA to tier off the document, completing
39 a Record of Environmental Consideration and Environmental Checklist for the MTARNG
40 helicopter gunnery actions.

41 As a result of the FAA’s status as a cooperating agency, the EA is also being prepared following
42 FAA NEPA criteria as contained in FAA Order JO 7400.2N and FAA Order 1050.1F. The FAA
43 will utilize the analysis in this EA to make their own agency NEPA decision on the Proposed
44 Action. The FAA may adopt in whole or in part this EA prepared by the AFGSC in accordance

1 with 40 CFR § 1506.3 of the CEQ Regulations and the following procedures. The FAA must
2 determine, based on an independent evaluation, that this EA, or portions thereof: (1) adequately
3 addresses the relevant FAA action (in this case, rulemaking for proposed SUA R-4601); and (2)
4 meets the applicable standards for an EA in the CEQ Regulations and FAA Order 1050.1F
5 (*Environmental Impacts: Policies and Procedures*). In adopting all or part of another agency’s
6 NEPA document, the FAA takes full responsibility for the scope and content that addresses the
7 relevant FAA action. To the extent that another agency’s NEPA document does not adequately
8 address the relevant FAA action or meet the applicable standards in the CEQ Regulations and FAA
9 Order 1050.1F, the NEPA document must be supplemented.

10 The FAA administers navigable airspace to ensure the safety of aircraft and its efficient use in
11 accordance with 49 U.S.C. Subtitle VII, *Aviation Programs*. Responsibilities include regulating
12 the establishment of SUA RAs in accordance with 14 CFR § 73.11. This AFGSC EA supports
13 MTARNG’s aeronautical proposal to establish SUA RA R-4601 over LHTA. MTARNG (as
14 manager of the LHTA) submitted the aeronautical proposal, dated 09 March 2022, to the FAA for
15 review and processing. This will facilitate early consideration of aeronautical factors that may
16 result in modification of the final SUA proposal, which in turn may affect the environmental
17 analysis. The FAA will defer rulemaking (final decision) on the final SUA proposal until the NEPA
18 process is completed.

19 **1.5 Public and Agency Involvement**

20 NEPA and CEQ Regulations require that environmental information be made available to federal
21 agencies, Native American tribes, state agencies, local units of government, and the general public
22 throughout the decision-making process and prior to making a final decision. Per the requirements
23 of Executive Order (EO) 12372, *Intergovernmental Review of Federal Programs*, as amended by
24 EO 12416, federal, state, and local agencies with jurisdiction that could potentially be affected by
25 the proposed and alternative actions were notified during the development of this EA (see Section
26 6.0, *Persons and Agencies Consulted/Coordinated*).

27 The USAF consulted with the Montana State Historic Preservation Office (MT SHPO) and
28 conducted tribal consultation pursuant to Section 106 of the National Historic Preservation Act
29 (NHPA) of 1960 (Public Law [Pub. L.] 89-665; 54 U.S.C. § 300101 *et seq.*; DoD Instruction
30 4710.02, *Interactions with Federally Recognized Tribes*; and AFI 90-2002, *Air Force Interactions
31 with Federally Recognized Tribes*) during initial scoping (October 2020) and has sent letters with
32 completion of this EA and cultural resources technical studies requesting concurrence with the
33 USAF’s determination of no adverse effect on historic properties located within the Area of Potential
34 Effect (APE) for the Proposed Action (see Appendix A.2). The USAF consulted with the U.S. Fish
35 and Wildlife Service (USFWS) in accordance with Section 7 of the Endangered Species Act of 1973
36 (ESA; 16 U.S.C. § 1531 *et seq.*) (October 2020) and has requested informal consultation (50 CFR
37 402.13) with completion of this EA and the biology technical report for concurrence with the Air
38 Force’s determination of may affect but is not likely to adversely affect federally-listed endangered,
39 threatened or candidate species for listing during training (see Appendix A.2).

40 The opportunity for additional agency and public input will be provided during a 30-day public
41 comment period following completion of the EA and Draft FONSI. The USAF has notified the
42 agencies, Native American tribes, and local entities and persons identified in Section 6.0, *Persons
43 and Agencies Consulted/Coordinated*, of the availability of these documents. The USAF also has

1 made these documents available to the public, as described below. A Notice of Availability
2 announcing the availability of these documents for review was published in newspapers circulated
3 in Broadwater County, Great Falls, and Helena, MT (see Appendix A.2).

4 The EA will be made available for review at the following locations:

- 5 • Broadwater School and Community Library, 201 N. Spruce Street, Townsend, MT 59644;
6 (406-266-5060).
- 7 • Lewis and Clark Library, 120 S. Last Chance Gulch, Helena, MT 59601; (406-447-1690).
- 8 • Great Falls Public Library, 301 2nd Avenue North, Great Falls, MT 59401; (406-453-0349).
- 9 • USAF website (<https://www.malmstrom.af.mil/About-Us/Environmental-Resources/>)

10 Copies of interagency and intergovernmental correspondence and received public comments to-
11 date are included in Appendix A, *Correspondence and Received Comments*. All comments
12 received during the public review period and in response to consultation requests will be included
13 in the EA and may require edits to the EA.

14 **1.6 Related NEPA, Environmental, and Other Documents and Processes**

15 The following technical studies were completed in support of this document: Air Quality (Ramboll
16 2022), Airspace (HMMH 2022a), Biology (AEM Group 2022), Cultural Resources (Brockington
17 2022a, 2022b), and Noise (HMMH 2022b).

18 Several planning and environmental documents related to the LHTA are identified below.

- 19 • Memorandum of Understanding (MOU) between Broadwater County and Montana Army
20 National Guard (15 March 2022) documenting standard operating procedures (SOPs)
21 concerning the protection of travelers on Old Woman’s Grave Road when live-fire training
22 is conducted in the LHTA.
- 23 • Limestone Hills Training Area Land Withdrawal Final Legislative Environmental Impact
24 Statement (MTARNG and Bureau of Land Management [BLM] 2008). This Legislative
25 EIS provides extensive background information on the geographic setting, environmental
26 resources, and training operations at the LHTA.
- 27 • Final EA for the Fort William Henry Harrison Real Property Master Plan (MTARNG
28 2020a). This document considers the long-term mission requirements and identifies major
29 development and training objectives proposed for execution over the next 68 years that will
30 further meet the requirements and support the mission of the MTARNG.
- 31 • Updated Integrated Cultural Resources Management Plan (ICRMP) for the Installations of the
32 Montana Army National Guard, 2021–2025 (MTARNG 2020b). The cultural resources
33 program outlined in the ICRMP applies to all MTARNG facilities in MT, including the LHTA.
- 34 • 2022-2025 Integrated Natural Resources Management Plan (INRMP) Fort Harrison
35 Training Area and Limestone Hills Training Area (MTARNG 2021a). The primary
36 purpose of the INRMP is to integrate the management and conservation of natural
37 resources with the military mission and land use needs of the LHTA.
- 38 • Montana Army National Guard Hazardous Material and Waste Management Plan (Tetra
39 Tech 2019). This Hazardous Material and Waste Management Plan applies to any unit or
40 activity that generates and disposes of waste while using MTARNG training sites.

- 1 • Implementation Agreement by and between the Director of the Army National Guard
2 (DARNG), MTARNG, BLM, and Graymont Western US, Inc. (Graymont) (DARNG et al.
3 2018). This agreement sets forth the policies and procedures agreed to by MTARNG
4 regarding management of defense-related uses including removal of unexploded ordnance
5 (UXO); the exploration, development, mining, and reclamation activities conducted by
6 Graymont and other holders of mineral rights; and administration of public land laws by
7 BLM for the purpose of coordinating the joint and compatible use of the LHTA (including
8 permits, authorizations and leases in regards to mining and livestock grazing).
- 9 • Elkhorn Cooperative Memorandum of Understanding between the Montana Department of
10 Fish, Wildlife and Parks (MTFWP) and the U.S Department of the Interior, BLM, Butte Field
11 Office and the U.S. Department of Agriculture, Natural Resources Conservation Service
12 (NRCS) and the U.S. Department of Agriculture, Forest Service (USFS) Helena-Lewis and
13 Clark and Beaverhead-Deerlodge National Forests (USFS 2020). The MOU addresses
14 cooperative management goals for the Elkhorn Mountains, which occupy approximately
15 250,000 acres approximately 16 mi southeast of Helena. Both the Helena and Beaverhead-
16 Deer Lodge National Forests manage approximately 160,000 acres, and the BLM manages
17 another 75,000 acres. The LHTA occurs within the Elkhorn Cooperative Management Area.
- 18 • The Fort William H. Harrison and LHTA Joint Land Use Study (Matrix Design Group
19 2014). The Joint Land Use Study identified and developed specific implementation actions
20 for participating communities to carry out, which will help to reduce or avoid conflicts
21 between the military installation and the cities of Helena and Townsend, and Broadwater
22 and Lewis & Clark Counties.

23 **1.7 Regulatory Framework**

24 This section identifies applicable federal, state, and local regulations that apply to the Proposed Action
25 and considered alternatives. This EA was prepared in accordance with the NEPA, CEQ Regulations
26 for implementing the procedural provisions of NEPA, and USAF, Army, and FAA regulations and
27 procedures for compliance with NEPA and CEQ Regulations (see Section 1.1, *Introduction*).

28 The Army and National Guard have numerous regulations addressing range management and
29 safety requirements for ground-based and aviation training. National Guard Regulation 385-63,
30 *Army National Guard Range Safety Program, Policy, and Standards* (NGB 2019) addresses policy
31 and range operational responsibilities for live-fire training on ARNG ranges and training facilities.
32 This regulation is supplemental to Department of the Army Pamphlet (DA Pam) 385-63 (April
33 2014), *Range Safety*, and DA Pam 385-64 (October 2013), *Ammunition and Explosives Safety*
34 *Standards*. Aviation operations, safety, and SUA management are addressed in AR 95-2, *Air*
35 *Traffic Control, Airfield/Heliport, and Airspace Operations* (31 March 2016) and DA Pam 385-
36 90 (24 February 2010), *Army Aviation Accident Prevention Program*.

37 In addressing environmental considerations, the USAF and cooperating agencies rely upon
38 relevant statutes (and their implementing regulations) and EOs that establish standards and provide
39 guidance on environmental and natural resources management and planning. These include, but
40 are not limited to, the following:

- 41 • AFI 32-1015, Integrated Installation Planning, 4 January 2021;
- 42 • AFMAN 32-7003, Environmental Conservation, 20 April 2020;

- 1 • AR 200-1, Environmental Protection and Enhancement, 13 December 2007;
- 2 • Archaeological Resources Protection Act, as amended (16 U.S.C.; Chapter 1B);
- 3 • Clean Air Act (CAA), as amended (42 U.S.C. § 7401 *et seq.*);
- 4 • Clean Water Act (CWA), as amended (33 U.S.C. § 1251 *et seq.*);
- 5 • Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. §
- 6 9601 *et seq.*);
- 7 • DoD American Indian and Alaska Native Policy and DoD Instruction No. 4710.02: DoD
- 8 Interactions with Federally Recognized Tribes (updated January 2012);
- 9 • Emergency Planning and Community Right-to-Know Act (42 U.S.C. §§ 11001–11050);
- 10 • ESA (16 U.S.C. § 1531 *et seq.*);
- 11 • Migratory Bird Treaty Act, as amended (16 U.S.C. §§ 703-712);
- 12 • NHPA Section 106 (36 CFR Part 800, 54 U.S.C. § 306108 *et seq.*);
- 13 • Noise Control Act, as amended (42 U.S.C. § 4901 *et seq.*);
- 14 • Resource Conservation and Recovery Act (42 U.S.C. § 6901 *et seq.*);
- 15 • The Pollution Prevention Act (42 U.S.C. § 13101(b));
- 16 • Toxic Substances Control Act (15 U.S.C. §§ 2601–2629);
- 17 • EO 11593, Protection and Enhancement of the Cultural Environment;
- 18 • EO 11988, as amended, Floodplain Management;
- 19 • EO 11990, Protection of Wetlands;
- 20 • EO 12088, Federal Compliance with Pollution Control Standards;
- 21 • EO 12372, Intergovernmental Review of Federal Programs, as amended by EO 12416;
- 22 • EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and
- 23 Low-Income Populations, and Executive Memorandum of 11 February 1994, regarding
- 24 EO 12898;
- 25 • EO 13007, Indian Sacred Sites;
- 26 • EO 13045, Protection of Children from Environmental Health Risks and Safety Risks;
- 27 • EO 13175, Consultation and Coordination with Indian Tribal Governments;
- 28 • EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds;
- 29 • EO 13693, Planning for Federal Sustainability in the Next Decade, amended by EO 13834,
- 30 Efficient Federal Operations;
- 31 • EO 13990, Protecting Health and the Environment and Restoring Science to Tackle the
- 32 Climate Crisis; and
- 33 • EO 14008, Tackling the Climate Crisis at Home and Abroad.
- 34

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 Introduction

The Proposed Action addressed in this EA includes the establishment and operation of a helicopter aerial gunnery training range, and the establishment of SUA R-4601 to authorize aerial gunnery training within one FDP of Malmstrom AFB. Through the alternative development and screening process, AFGSC identified that the only reasonable alternative would be to implement the Proposed Action at the LHTA. Section 2.2 describes how the Proposed Action would be implemented at the LHTA.

In accordance with CEQ Regulation 40 CFR § 1502.14, and USAF EIAP regulation 32 CFR § 989.8, this chapter details the process AFGSC followed to identify reasonable alternatives that meet the purpose and need for the Proposed Action (as described in Section 1.2, *Purpose and Need*). Section 2.3 describes the considered alternatives, the selection standards used to screen them, and the results of the screening process. Three alternatives for implementing the Proposed Action at the LHTA were developed, two are carried forward for analysis in this EA, and one was eliminated because it did not meet all criteria for selection. Section 2.4 describes the Proposed Action Alternatives and the No Action Alternative.

2.2 Proposed Action

There are several elements associated with implementation of the Proposed Action at the LHTA, which are organized below under four subsections:

- Section 2.2.1 describes elements associated with establishment, operation, and maintenance of the proposed helicopter AGR. Table 2-1 summarizes key elements related to implementation of the Proposed Action.
- Section 2.2.2 describes the proposed helicopter aerial gunnery training.
- Section 2.2.3 describes the activities and elements associated with establishment of proposed SUA R-4601 and reviews the existing CFA that authorizes ongoing training activities.
- Section 2.2.4 describes Best Management Practices (BMPs) and SOPs associated with implementation of the Proposed Action.

2.2.1 Helicopter Aerial Gunnery Range

2.2.1.1 Range Area and Weapon Danger Zone

The overall amount of land required for an AGR consists of the physical range footprint and the Weapons Danger Zone (WDZ). The physical range footprint consists of the firing positions, targets, and any necessary support structures (AFMAN 13-212 V1, *Range Planning and Operations*, 22 June 2018; Training Circular 25-8, *Training Ranges*, 22 July 2016).

The WDZ is a mathematically predicted area that encompasses the ground and airspace for lateral and vertical containment of weapons, munitions, projectiles, fragments, components, and debris resulting from aviation-delivered ordnance. The three-dimensional WDZ accounts for weapon firing direction, accuracy, failures, and ricochets of a specific weapon/munition delivered by each specific aircraft type.

1

Table 2-1. Summary of Proposed Action Elements.

Proposed Helicopter Aerial Gunnery Range and Potential Users	
Approximately 846 acres within the existing 3,648-acre duded impact area.	
No construction would be required to operate the proposed AGR. The existing training range is equipped with targets (steel, tires), range control tower, road access, and firebreak roads.	
The proposed AGR would be used by AFGSC 40 HS and MTARNG helicopters. Other DoD service branches may use the AGR depending on availability.	
Range Operation and Maintenance	
Helicopter aerial gunnery training would be scheduled utilizing the Fort Harrison Range Facility Management Support System in accordance with the MTARNG Training Center SOP.	
The AFGSC would provide qualified active-duty ground personnel to support range operations, including the Officer-in-Charge/Non-Commissioned Officer-in-Charge, Range Safety Officer, and fire suppression in the event of a training-related fire. The number of personnel required would be specified in a Support Agreement between AFGSC and MTARNG. MTARNG aviation would coordinate with Range Operations as to the number of ground personnel they would provide to support range operations during their gunnery training. This EA assumes a maximum of 14 personnel.	
Helicopter aerial gunnery training would occur within existing training ranges. MTARNG maintains training ranges in accordance with ongoing SOPs. Helicopter aerial gunnery would not increase frequency of range maintenance.	
Proposed Helicopter Live-Fire Gunnery and Frequency	
A helicopter aerial gunnery training event would include surface-to-surface weapons familiarization while on the ground (engines off) at the existing Multi-Purpose Training Range, followed by air-to-surface gunnery at the proposed AGR located within the main duded impact area of existing training ranges.	
Up to 100 helicopter aerial gunnery training events would be scheduled per year (approximately 50 day-events, 50 night-events). Each training event would include a sortie formation of two helicopters for a total of up to 200 sorties per year. Two hundred sorties would result in up to 780,000 7.62-millimeter rounds fired annually.	
Aerial gunnery training events may be scheduled on any day of the week, depending on range availability, weather, and seasonal limitations. Live-fire gunnery at LHTA is seasonally limited to approximately 140 days per year to avoid and minimize disturbance impacts to wintering big game wildlife.	
Proposed Integrated Helicopter and Convoy Training (Without Live-Fire Gunnery) and Frequency of Use	
This training would include one sortie formation of two helicopters and up to 15 vehicles (mix of BearCats, Humvees, and general-purpose vehicles). Convoy training would occur once annually by the AFGSC 40 HS and 341 SFG. Vehicles would park along a designated portion of road at the LHTA. Helicopters would provide overwatch and tactical communications with SFG ground personnel (up to 30), who would conduct threat response training; no live firing of weapons would occur.	
Range Time Required per Training Event	
Aerial Gunnery: 2-3 hours	Integrated Helicopter-Convoy: 2 hours
Flight Altitudes and Refueling	
LHTA: 50 to 1,500 feet (ft) Above Ground Level (AGL)	Enroute to/from base: 500 to 2,000 ft AGL
Refueling: Helena Regional Airport	
Proposed SUA R-4601	
R-4601 would be established over the boundaries of LHTA.	
Designated Altitudes: Surface to 9,000 ft Mean Sea Level	Time of Use: 0700 to midnight (local) one hour earlier daylight savings. Will be published by Notice to Air Missions when designated in active status.
Controlling Agency: FAA, Salt Lake City Air Route Traffic Control Center	Using Agency: Adjutant General, State of Montana

2

1 The proposed AGR, named the West AGR, would be located within the existing main duded
2 impact area (defined as potential for fired weapons to produce duds or UXO) associated with
3 training ranges at the LHTA (Figure 2-1). The physical footprint of the proposed West AGR would
4 be 2.1 mi in length by 0.6 mi in width, encompassing approximately 846 acres within the 3,648-
5 acre duded impact area. There would be a single north-south oriented firing leg with a stand-off
6 distance of approximately 328 to 1,640 ft from the western boundary of the range; all firing would
7 be to the east into the center of the duded impact area.

8 Several types of helicopters may use the proposed West AGR, including Twin Huey (UH-1N
9 Iroquois), Grey Wolf (AW139M), Black Hawk (UH-60), Chinook (CH-47), and associated
10 variants. The modeled WDZ (approximately 3,846 acres) for the 7.62-millimeter (mm) rounds
11 would be contained within the boundaries of the LHTA based on anticipated aircraft.

12 The WDZ may overlap an existing Surface Danger Zone (SDZ) used for ground-fired weapons.
13 DA Pam 385-63, *Range Safety*, defines an SDZ as: “that portion of the earth and the air above in
14 which personnel and/or equipment may be endangered by ground weapons firing or demolition
15 activities.” While overlap or use of common WDZs and SDZs reduces the land area required for
16 live-fire ranges, the areas where overlap occurs cannot be occupied at the same time. Generally,
17 no other training would occur during aerial gunnery training for safety reasons.

18 **2.2.1.2 Targets**

19 Aircrews would fire weapons at existing ground targets within the boundaries of the proposed
20 West AGR (Figure 2-1). These include four vehicle-shaped Explosive Ordnance Demolition
21 Technology targets. These targets are made of 1-inch thick steel plate, include angled steel on the
22 exterior to help direct incoming firing and reduce ricochet hazards, and are maintenance free. In
23 addition, partially buried tires also are present that could be used as targets.

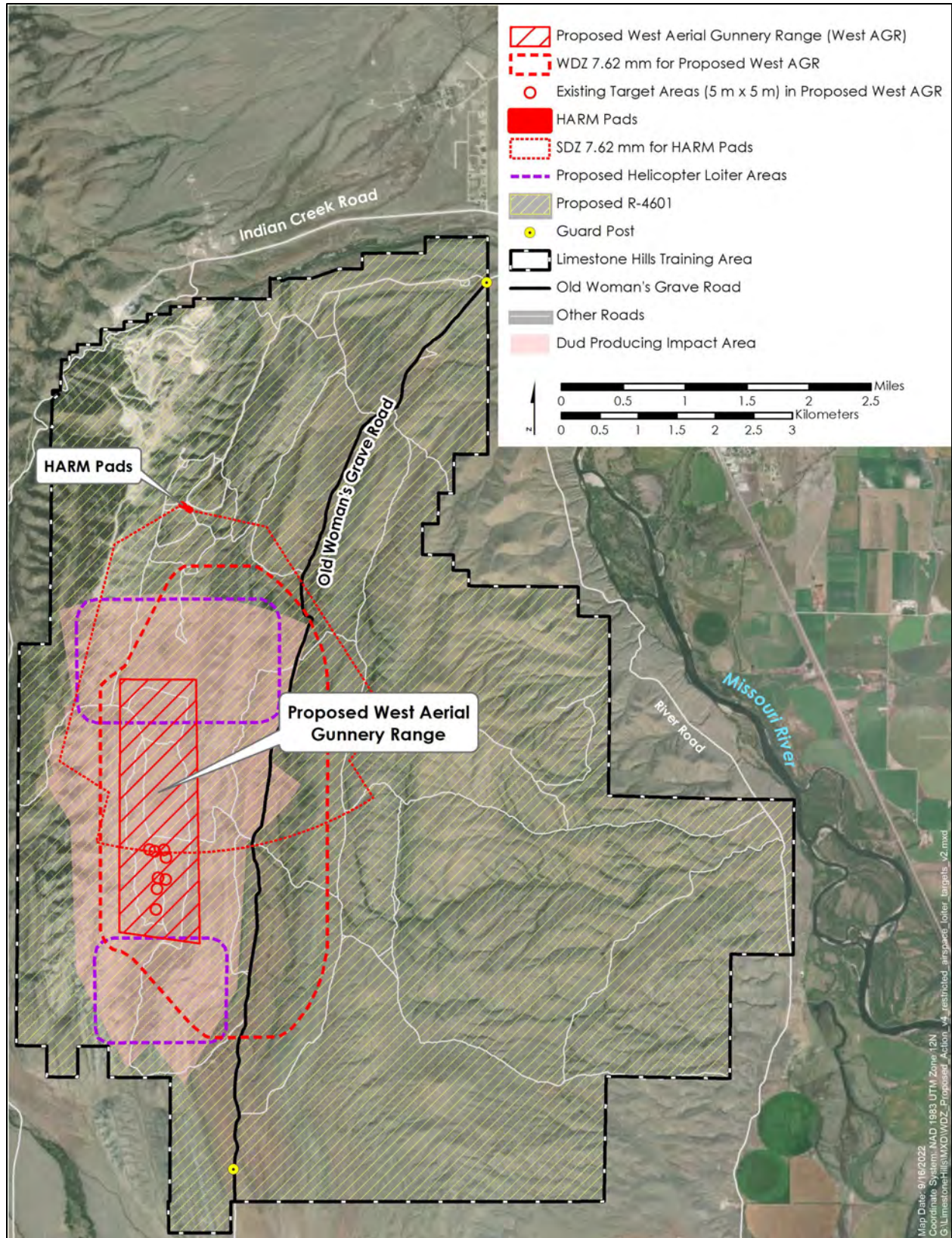
24 **2.2.1.3 Operations and Maintenance**

25 Use Agreement

26 The AFGSC would enter into a Support Agreement with MTARNG to conduct helicopter gunnery
27 training at the LHTA. The agreement would describe the responsibilities of the parties, including
28 any operational/maintenance requirements that AFGSC must implement or provide.

29 Scheduling

30 Helicopter units would schedule training at Fort Harrison in accordance with the MTARNG
31 Training Center SOP. All scheduling would be executed utilizing the Range Facility Management
32 Support System (RFMSS). This is an automated system that provides the capability for units to
33 electronically submit schedule requests for use of training ranges. Range Control personnel review
34 these requests to ensure that required information has been provided and that scheduling, safety,
35 or environmental conflicts are resolved prior to approval of requests. Scheduling decisions
36 consider training priorities, range-throughput capacities, usage rates, special training needs
37 identified by unit commanders, and applicable limitations or restrictions. A Notice to Air Missions
38 (NOTAM) will be published 24-hours in advance of when the SUA RA will be designated as
39 active. Time of use would range from 0700 to midnight (local) and one hour earlier during daylight
40 savings time. When the RA is designated as active, the CFA will not be operational. The CFA will
41 be active during all periods when restricted airspace is not active.



1
 2 **Figure 2-1. Proposed AGR and Modeled WDZ, Existing Modeled SDZ for HARM Pads,**
 3 **and Proposed SUA RA at the LHTA.**

1 Existing ground-based live-fire training at the LHTA occurs daily, both day and night, but is
2 seasonally limited to approximately 140 days per year to avoid and minimize disturbance to
3 wintering big game wildlife. Environmental conditions posing extreme or high fire risk, especially
4 during the summer, also limit the number of days available for training. These seasonal and
5 environmental constraints would apply to scheduling of helicopter aerial gunnery training.

6 A critical scheduling consideration at the LHTA is elimination of safety conflicts. In accordance with
7 the Limestone Hills Training Area Withdrawal Act of 2013 (Pub. L. 113-66), all military training
8 activities are scheduled using established procedures for deconfliction with ongoing UXO clearance
9 activities, permitted mining operations, and permitted livestock grazing. The procedures are outlined
10 in the 2018 Implementation Agreement governing the joint-use of the LHTA (DARNG et al. 2018).

11 Range Operation and Fire Suppression Support

12 On days with scheduled AFGSC helicopter gunnery, up to 14 active-duty personnel would travel
13 by vehicles (up to four passenger cars, trucks, or vans) from Malmstrom AFB to support range
14 operations. This would include the Officer-in-Charge (OIC)/Non-Commissioned Officer-in-
15 Charge (NCOIC), Range Safety Officer (RSO), and personnel to support range safety, including
16 fire suppression in the event of a training-related fire.

17 In accordance with MTARNG Range Operation SOPs, fire suppression vehicles, equipment, and
18 trained personnel are on hand during live-fire training at the LHTA. Existing firebreaks and dirt roads
19 provide access to the training sites. On-site firefighting equipment includes High Mobility
20 Multipurpose Wheeled Vehicles (colloquially referred to as “Humvees”) with water tanks and pumps,
21 Polaris Rangers with small water tanks and pumps, backpack water pumps, and fire flappers. In the
22 event of a fire, the training unit would communicate with Range Operations to place the training range
23 in a “check fire” (i.e., halt gunnery). The training unit OIC, NCOIC, and RSO would assume initial
24 wildfire Incident Command responsibility and the training unit’s ground personnel would provide
25 attack/fire suppression activities from the firebreak perimeter road until relieved by Range Control.
26 Range Operations would initiate deployment of additional firefighting assets to the training site, as
27 necessary. Fire prevention and suppression on and adjacent to the LHTA related to military activities
28 are addressed through an Interagency Agreement between MTARNG and the USFS (DARNG et al.
29 2018). Range Control would request USFS emergency services, as appropriate.

30 MTARNG aviation units would coordinate with LHTA Range Control to determine the number
31 of ground personnel required to support range operations during their aerial gunnery training. The
32 number of MTARNG personnel would be expected to be similar to or less than required during
33 AFGSC aerial gunnery training.

34 Maintenance

35 Maintenance of the proposed West AGR would include range clearance activities in accordance
36 with existing procedures within the duded impact area to maintain or enhance operational safety,
37 or to prevent the accumulation of munition or range debris (DoD Instruction 3200.16, *Operational*
38 *Range Clearance*, 21 April 2015). As the proposed West AGR is entirely within an existing
39 training range, there would be no change to the frequency of ongoing range clearance activities
40 associated with aerial gunnery operations. Approximately 10 percent (%) of the duded impact
41 area is cleared every year of UXO by a local explosive ordnance disposal unit (EA 2019). If targets
42 require future replacement, they would be replaced at their existing location. If steel targets require

1 replacement, the metal would be recycled. Comparable steel plate targets generally weigh between
2 8,000 to 11,000 pounds (lbs) (depending on model and would be placed using a heavy-lift
3 helicopter [e.g., Chinook CH-47]). If a new target location is desired, the location would be
4 coordinated and approved prior to target placement in accordance with SOPs identified in
5 MTARNG’s ICRMP and INRMP (MTARNG 2020b, 2021a). Prior to target placement, an
6 Operational Range Clearance would be conducted to remove any munition or range debris to
7 ensure the safety of the crew during target placement and to establish the baseline level of
8 contamination. Emplacing targets would not require clearing of vegetation or grading.

9 Existing firebreak maintenance includes annual weed spraying; other maintenance requirements
10 are based on the condition of the firebreak. No change to maintenance of firebreaks around the
11 duded impact area would be required with the Proposed Action.

12 **2.2.2 Helicopter Gunnery Training**

13 **2.2.2.1 Gunnery Sorties**

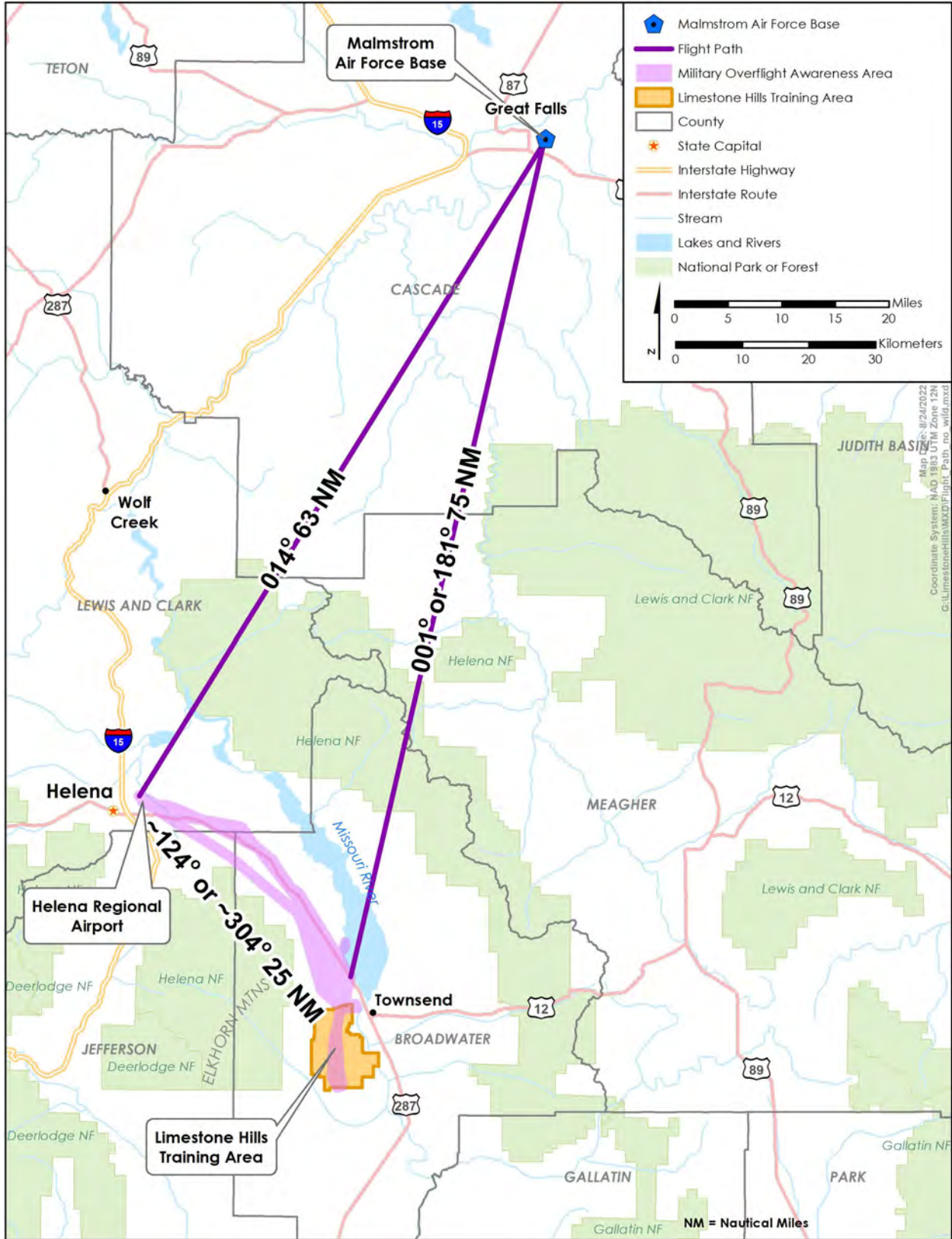
14 Gunnery training would occur during the day and night, generally during the same 24-hour period.
15 The 40 HS would schedule up to 60 helicopter gunnery training events (e.g., 30 days, 30 nights)
16 per year (Table 2-2). However, they may schedule more training at night (e.g., 25 days, 35 nights)
17 if necessary due to range scheduling constraints. Aerial gunnery training conducted at night also
18 satisfies daytime training requirements due to the greater degree of difficulty of night flight
19 operations. MTARNG estimates up to 40 helicopter gunnery training events (20 days, 20 nights)
20 per year. Two helicopters would participate in each training event. A total of 200 helicopter
21 gunnery sorties are estimated per year, 120 by AFGSC and 80 by MTARNG.

22 **Table 2-2. Proposed Annual Helicopter Gunnery Training Sorties.**

User	Projected Use of Gunnery Range (Training Events)		Number of Helicopters per Training Event	Total Annual Sorties
	Number of Days	Number of Nights		
Malmstrom AFB, 40 HS	30	30	2	120
MTARNG, 1-189th General Support Aviation Battalion	20	20	2	80
Total	50	50	2	200

24 **2.2.2.2 Flight Paths and Altitude**

25 The 40 HS may fly different flight paths depending on whether the same helicopters participate in
26 one (day or night only) or two (day and night) training events over a 24-hour period. Helicopters
27 would use a triangular-shaped flight path when conducting one training event per day (Figure 2-2):
28 an outbound leg in a southerly direction from Malmstrom AFB to the LHTA for gunnery training,
29 northwest to Helena Regional Airport to refuel, then an inbound leg from Helena back to base.
30 The flight path would be L-shaped when conducting both daytime and night-time training during
31 the same 24-hour period (Figure 2-2). Helicopters would fly the same outbound leg as described
32 above; however, after a refueling and aircrew break in Helena, the helicopters would return to
33 LHTA for night-time training after which they would follow a reciprocal route back to base. Flight
34 paths could deviate somewhat depending on weather or in the event of an emergency.



1
2

Figure 2-2. Helicopter Flight Paths to and from LHTA.

1 The flight paths between Helena and LHTA, as well as within the LHTA boundaries, would be
2 within the existing Military Overflight Awareness Area identified in the Joint Land Use Study
3 (Matrix Design Group 2014). This area overlays the typical flight routes used by MTARNG
4 aviation units that fly from their base at the Army Aviation Support Facility located at the Helena
5 Regional Airport to the LHTA to conduct existing training without aerial gunnery; and includes
6 an additional 0.5 mi on each side of the flight route center line. MTARNG helicopters would use
7 the same flight routes to and from the LHTA for aerial gunnery training.

8 While enroute, helicopter cruise speeds generally would range between 90 and 130 knots indicated
9 airspeed (KIAS),³ depending on type of helicopter. AFGSC flight times to and from Malmstrom
10 AFB and LHTA, including refueling in Helena, would take approximately two to three hours.
11 MTARNG flight times to and from Helena and LHTA take approximately 20 minutes each way.

12 Helicopters would be flown at altitudes to avoid and minimize disturbance over noise sensitive areas,
13 which as defined in FAA Order 1050.1F, normally include residential, educational, health, and
14 religious structures and sites, and parks, recreational areas, areas with wilderness characteristics,
15 wildlife refuges, and cultural and historical sites. In accordance with FAA requirements 14 CFR §
16 91.119 (*Minimum Safe Altitudes*) and Advisory Circular 91-36D (*Visual Flight Rules [VFR] Flight*
17 *Near Noise-Sensitive Areas*, 17 September 2004), helicopters would fly to and from their home base
18 and LHTA at minimum altitudes of: 500 ft Above Ground Level (AGL) over non-congested areas;
19 1,000 ft above the highest obstacle within a 2,000-ft radius over congested areas (e.g., cities, towns,
20 settlements) or groups of people; and a voluntary effort where practical of flying at 2,000 ft AGL
21 over National Parks, National Wildlife Refuges, Waterfowl Production Areas and Wilderness
22 Areas as depicted on FAA sectional charts (see Section 3.5, *Noise* for additional discussion and
23 figures of flight paths and noise sensitive areas).

24 **2.2.2.3 Aerial Gunnery Training**

25 All aerial gunnery training would be in accordance with Air Force and Army requirements (AFI
26 11-214, *Air Operations Rules and Procedures*, 08 July 2020; Training Circular 3-0.4.3, *Aviation*
27 *Gunnery*, 15 March 2019; DA Pam 350-38, *Standards in Weapons Training*, 28 September 2020;
28 Joint Publication 3-09, *Joint Fire Support*, 10 April 2019) and FAA Advisory Circular 91-36D
29 (*VFR Flight Near Noise-Sensitive Areas*). All gunnery would use 7.62 mm ammunition fired from
30 M240 machine guns or similar, outfitted with brass catchers to catch fired cartridge cases.
31 Generally, ball and tracer rounds would be used; however, ball-only rounds would be used during
32 times of elevated fire risk as communicated by Range Control.

33 After arrival at LHTA, helicopters would fly to concrete helicopter landing pads (also termed
34 Helicopter Armament and Refueling Maintenance [HARM] Pads) at the existing Multi-Purpose
35 Training Range (MPTR) (see Figure 2-1). The helicopters would fly a normal approach, with
36 direction dependent on wind conditions. The helicopters' aircrew would conduct a reconnaissance
37 of the modeled 7.62 mm SDZ to confirm the area is clear of persons on the ground, grazing
38 livestock, or big game wildlife. Weapons familiarization (load, test fire) would not commence until
39 the aircraft commander determines the SDZ area is cleared for training and has requested clearance

³ A knot is 1 nautical mile per hour. Distances are measured in aviation using nautical miles, which are equal to the distance between one minute of latitude. It is the standard measurement on all charts that use latitude and longitude. KIAS is the number shown on the airspeed indicator on the aircraft. It's the flying equivalent of reading a car's speedometer. One nautical mile is equal to 1.15 statute miles.

1 from Range Control. After receipt of clearance, the helicopters would descend from 300 ft to a 5-
2 ft AGL hover, reposition to keep guns pointed downrange, then land and shutdown. The helicopters
3 would remain on the ground long enough for the gunners to load and briefly fire the aircraft-
4 mounted M240 machine guns at existing ground targets.

5 After weapon familiarization at the HARM Pads, the aircrew would fly directly to the West AGR
6 and perform a range-clearing maneuver of the WDZ. This would consist of multiple passes starting
7 at the perimeter of the WDZ and working inward to ensure the area is clear of nonparticipating
8 aircraft, vehicles and persons on the ground, grazing livestock, and big game wildlife. This maneuver
9 would be flown at 60 to 70 KIAS, depending on conditions, and at varying altitudes between 50 and
10 1,000 ft AGL to provide better coverage and awareness for the aircrews as they scan the WDZ area.
11 Aerial gunnery training would not commence until the aircraft commander determines the WDZ
12 area is cleared for training and has requested clearance from Range Control. Once granted “Hot”
13 status by Range Control, the aircraft would loiter north or south of the intended target to conduct
14 required crew-briefs, instruction, and arm weapons. The aircraft would loiter at 50 to 100 ft AGL or
15 at 1,000 to 1,500 ft AGL depending on the training scenario. Airspeed would range from 90 to 110
16 KIAS when at a low loiter altitude or at 60 to 70 KIAS when at a high loiter altitude.

17 Once crew briefing is completed, the aircraft would ingress towards the firing axis in position to
18 engage the intended target. The intent would be to provide a stable platform for the gunner by
19 maintaining a constant airspeed (approximately 70 KIAS), altitude (300 ft AGL) and heading (north
20 or south). Ingress from a low holding pattern would be a 50 ft AGL maneuver with a momentary
21 pop up to 300 ft AGL on the firing axis. Ingress from a high holding pattern would include a gradual
22 descent to 300 ft AGL. Time on the firing axis would range from 60 to 90 seconds. The firing axis
23 would be a north or south straight line at the appropriate standoff distance west of the intended target
24 with the firing direction east to the target within the duded impact area. No dual-side gunnery from
25 the aircraft would occur. The aircraft would egress the firing axis and descend to 50 to 100 ft AGL
26 while maneuvering as necessary to depart the simulated threat area.

27 Depending on the training scenario, the aircraft would either egress to the north or south loiter
28 area. If required to stay on target, the aircraft would follow a racetrack-style flight pattern at 50 ft
29 AGL to get the aircraft back to the firing axis as many times required by the training scenario, and
30 then egress to the north or south loiter area.

31 Upon reaching the north or south loiter area, the aircraft would either hold at 50 to 100 ft AGL or
32 climb and hold at 1,000 to 1,500 ft AGL. After establishing the aircraft safely at the holding
33 altitude, the crew would debrief the maneuver, perform required checks and functions, and conduct
34 required instruction. The aircraft would make multiple passes within the loiter area until all tasks
35 are satisfied, generally 1 to 10 minutes depending on the crew’s proficiency and amount of
36 instruction required. The crew would then repeat the same training pattern/scenario or conduct a
37 new training pattern/scenario. The aircraft would continue training patterns/scenarios until training
38 is completed or the range time runs out. Generally, the training time at the West AGR would be
39 split between the participating aircraft, such that as one aircraft leaves the range, its formation
40 partner would tag-in. In the event of a weapons malfunction, the aircraft would orbit the West
41 AGR. The aircraft would maintain its altitude, or slowly climb to 300 ft AGL, depending on the
42 emergency and would remain as required to safely clear the malfunction.

43 At the end of training, and once weapons are safe, a fire clearing maneuver would be conducted
44 using the same flight profile as the range clearing maneuver, covering the entire WDZ from the

1 firing axis to the perimeter. The crew would scan the area for any smoke or flames and
 2 communicate with Range Control for fire suppression, as applicable. Once the aircraft commander
 3 determines the WDZ is cleared, the aircrew would notify Range Control, and would depart the
 4 area once they are cleared off. The aircrew would fly to Helena for refueling and either fly back to
 5 Malmstrom AFB or return for night aerial gunnery training, as applicable. At the completion of
 6 aerial gunnery training, the aircrew would return to base using the applicable flight path (described
 7 above in Section 2.2.2.2, *Flight Paths and Altitude*).

8 An estimated 780,000 rounds of ammunition would be expended during helicopter aerial gunnery
 9 training on an annual basis (Table 2-3). The 40 HS aircrews generally would include four gunners
 10 per aircraft, each of whom would fire approximately 1,000 rounds of 7.62 mm ammunition,
 11 totaling 4,000 rounds per individual aircraft sortie. The MTARNG aircrews would include two to
 12 three gunners, each of whom would fire approximately 1,500 rounds of 7.62 mm ammunition,
 13 totaling up to 3,000 to 4,500 rounds per sortie depending on aircraft.

14 **Table 2-3. Estimated Aerial Gunnery Training Usage of 7.62 mm Ammunition.**

Helicopter Airframe	Rounds Per Gunner	Gunners Per Sortie	Rounds Per Sortie	Total Training Sorties		Annual Total Ammunition	
				Day	Night	Day	Night
Malmstrom AFB							
(UH-IN, MH-139)	1,000	4	4,000	60	60	240,000	240,000
MTARNG							
(UH-60)	1,500	2	3,000	20	20	60,000	60,000
(CH-47)	1,500	3	4,500	20	20	90,000	90,000
Total	1,000 to 1,500	2 to 4	3,000 to 4,500	100	100	390,000	390,000
Grand Total				200		780,000	

15 Note: Day, night and annual totals are based on multiplying the expended ammunition estimate per aircraft sortie by the total
 16 number of sorties.

17 **2.2.2.4 Integrated Helicopter-Convoy Training**

18 Once annually, Malmstrom AFB would schedule integrated training by the 40 HS and 341 SFG.
 19 The training exercise would include off-base convoy movement of up to 15 vehicles (mix of
 20 Humvees, BearCats, and general-purpose vehicles) between the AFB and LHTA (approximately
 21 260 mi round trip). The convoy would travel between the AFB and LHTA on primary highways
 22 (Interstate 15; State Highways 12/287) and local gravel roads (River Road, Old Woman’s Grave
 23 [OWG] Road), and two helicopters (UH-IN and/or MH-139) would provide overflight surveillance.

24 While at the LHTA, the convoy would use existing gravel roads. Convoy vehicles would park along
 25 the edge of a pre-designated portion of roadway. In accordance with MTARNG’s INRMP SOPs,
 26 vehicles would avoid driving on road shoulders and no off-road vehicle use would occur. Two
 27 helicopters would provide overflight cover and reconnaissance for the convoy. Flight training would
 28 occur from 50 to 1,500 ft AGL. One helicopter would fly at low altitude (50 to 100 ft AGL, 90-110
 29 KIAS) to detect threats to the convoy, while the other helicopter would fly higher altitude visual
 30 reconnaissance (1,000 to 1,500 ft AGL, 50-70 KIAS). No aerial gunnery training would occur.

1 Up to thirty 341 SFG personnel would dismount the convoy to conduct training exercises within
2 an approximate 3,280-ft area on either side of the roadway. Training exercises would include
3 tactical communication between the aircrew and personnel on the ground. The 341 SFG personnel
4 also would conduct threat response training, including spreading out to see potential targets, dry
5 weapons employment patterns, use of Multiple Integrated Laser Engagement System gear (lasers
6 and blank cartridges), or firing of weapons with blanks (5.56 mm, 7.62 mm, 9 mm and/or.50
7 caliber). The training exercises at the LHTA would occur over an approximate two-hour period.
8 The total duration of the training mission would span eight hours, including convoy travel and
9 helicopter overwatch flight time between Malmstrom AFB and the LHTA.

10 **2.2.3 Establish SUA Restricted Area**

11 **2.2.3.1 Overview**

12 All airspace in the LHTA operating region is part of the National Airspace System, managed by
13 the FAA to support the requirements of three major airspace user groups—general aviation,
14 commercial air carriers, and DoD.

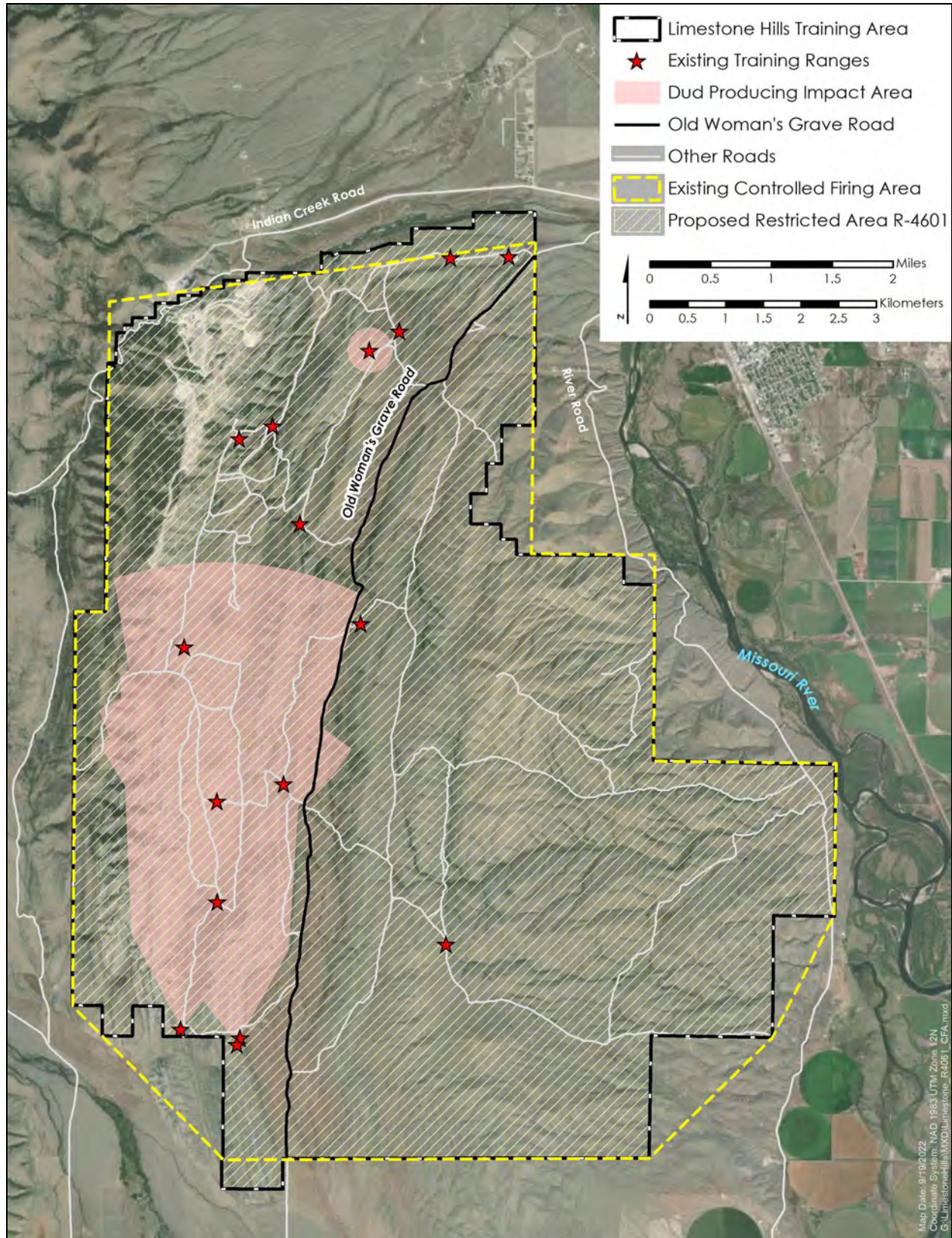
15 Currently, all surface live-fire weapons familiarization and training at the LHTA occurs within a
16 FAA-authorized CFA that covers the majority of LHTA and extends a bit beyond the east and west
17 boundaries (Figure 2-3); this type of SUA is not charted. Daily usage may be scheduled over a 22-
18 hour period (8:00 a.m. to 6:00 a.m. local), and the maximum height of projectiles for all surface-
19 fired weapon systems is within 4,000 ft AGL. Use of weapon systems is in accordance with all
20 safety precautions and procedures specified for the operation of the CFA and in FAA Order JO
21 7400.2N (*Procedures for Handling Airspace Matters*). Aircraft involvement in any training is
22 controlled through constant contact with the range control tower, coordination, regulation,
23 standard operating procedures, safety briefings, and inspections. Aircraft may be utilized for
24 transport of equipment and/or personnel to and from the ranges; however, no aerial gunnery
25 activities are allowed within the CFA.

26 **2.2.3.2 Proposed Restricted Area**

27 The proposed SUA R-4601, ranging from the ground surface to 9,000 ft mean sea level (MSL;
28 approximately 4,000 ft AGL), would be established over the entire LHTA prior to implementation
29 of helicopter aerial gunnery training to contain and segregate military aerial gunnery training that
30 could be hazardous to nonparticipating aircraft (civilian or military) (Figure 2-3). The proposed
31 SUA RA legal description is provided in Appendix B, *Proposed SUA Restricted Area Description*.

32 Ordnance Delivery Activities

33 Under the Proposed Action, there would be an increase of approximately 780,000 7.62 mm rounds
34 fired during helicopter gunnery training (see Table 2-3). In comparison, the amount of 7.62 mm
35 rounds fired at the LHTA between 2017 and 2021 has varied from 25,280 to 78,260 with an
36 average of 44,449 over that period (Table 2-4).



1
2

Figure 2-3. Existing CFA and Proposed SUA R-4601.

1 **Table 2-4. Total Rounds of 7.62 mm Ammunition Expenditures within the LHTA, 2017 to 2021.**

Weapon, Ammunition	Total Rounds Per Year				
	2017	2018	2019	2020	2021
Rifle, 7.62 mm (Ball)	14,211	5,160	9,580	9,894	7,160
Machine Gun, 7.62 mm (Ball)	1,1,100	0	8,800	22,200	42,000
Machine Gun, 7.62 mm (4 Ball/1 Tracer)	22,002	23,946	5,400	5,233	29,100
Machine Gun, 7.62 mm (Lead-Free)	0	2,192	1,500	12,765	0
Total Rounds	37,313	31,298	25,280	50,092	78,260

2 Source: MTARNG unpublished data, 2022.

3 Existing training at the LHTA includes employment of a variety of weapons and expenditure of
 4 ammunition of various calibers, explosives, hand grenades, mortars, rockets, and missiles (Table
 5 2-5). The expenditure of small-arms ammunition (5.56 mm up to 0.50 caliber) over the five-year
 6 period from 2013 to 2018 averaged 1.35 million rounds (EA 2019). The ongoing surface-to-surface
 7 or surface-to-air weapons firing would continue in accordance with the FAA-authorized CFA.

8 **Table 2-5. Existing Ground-Based Weapons Training Authorized Within the CFA at the LHTA.**

Weapon Type	Maximum Altitude Required
5.56 mm (M193/855 ball, M196/856 tracer)	1,056 ft AGL
7.62 mm (M80 ball, M118 special)	2,500 ft AGL
9 mm (M882 ball, M939 TP-T)	305 ft AGL
.38 calibers (M41 ball)	291 ft AGL
.50 calibers (M33 tracer, M2 ball)	2,956 ft AGL
35 mm Practice Rocket (M73)	666 ft AGL
M203 Grenade Launcher (M781 TP)	548 ft AGL
MK-19/47MG (M918, B570)	1,017 ft AGL
Demolitions C-4 (up to 400 lbs) (ballistic bags used over top)	4,000 ft AGL
Hand Grenade (M61)	492 ft AGL
Claymore (M18A1)	500 ft AGL
Numerous signal flares	328 ft AGL
60 mm Mortar (Practice Rounds Only)	4,000 ft AGL
81 mm Mortar (Practice Rounds Only)	4,000 ft AGL
120 mm Mortar (Practice Rounds Only)	4,000 ft AGL
M1A1 Tank (M831, M865, Laser systems to 8,000 meters)	1,000 ft AGL (Lasers used with eye safe filters)
ODS Bradley (M91 0, M793)	3,280 ft AGL
AT-4 (M 136)	820 ft AGL
Dragon missile (M223) area B	328 ft AGL
Javelin	1,640 ft AGL
TOW missile (BTM-71A-3, BGM-71 E-1 B, BTM-71A-2)	328 ft AGL inert
(HE) TOW, TOW 2, TOW 2A, TOW 2B	2,462 ft AGL

1 Aircraft-Based Activities

2 As authorized under the existing CFA, MTARNG currently conducts ten types of helicopter
 3 training missions, including: aircrew continuation training, forward arming and refueling points,
 4 high altitude landing, hoist, mission equipment package, mountain flying techniques, night vision
 5 goggles, personnel recovery, readiness level progression, and sling load. In 2019, MTARNG
 6 conducted at total of 833 helicopter training sorties; approximately, 85% were conducted during
 7 the day. No substantial change to the number of sorties associated with ongoing MTARNG
 8 helicopter training are proposed.

9 The establishment of SUA R-4601 would authorize helicopter aerial gunnery training sorties.
 10 Helicopter aerial gunnery would result in an annual increase of up to 200 sorties, with
 11 approximately half of those during the day and half at night (see Section 2.2.2, *Helicopter Gunnery*
 12 *Training*). Table 2-6 presents the aircraft types and compares the total annual number of helicopter
 13 sorties representative of existing training with the increase associated with inclusion of the
 14 proposed helicopter aerial gunnery training.

15 **Table 2-6. Representative Existing and Proposed Annual Helicopter Sorties.**

User, Airframe	Existing Helicopter Sorties			Proposed Helicopter Sorties		
	Day	Night	Total	Day	Night	Total
Existing Training without Aerial Gunnery						
MTARNG, CH-47	177	31	208	177	31	208
MTARNG, UH-60	474	84	558	474	84	558
MTARNG UH-72	57	10	67	57	10	67
Total	708	125	833	708	125	833
Proposed Training with Aerial Gunnery						
AFGSC, UH-IN	-	-	-	30	30	60
AFGSC, MH-139	-	-	-	30	30	60
MTARNG, CH-47	-	-	-	20	20	40
MTARNG, UH-60	-	-	-	20	20	40
Total	-	-	-	100	100	200
Grand Total	708	125	833	808	225	1,033

16 Note: Existing helicopter sorties based on 2019 total flight hours at LHTA and percent allocation by airframe for day and night
 17 periods (MTARNG, unpublished data 29 June 2020).

18 Other Elements

19 The Proposed Action would not establish any new ground-based training ranges, target areas, or
 20 changes in types of weapons used at the LHTA. No major changes to the existing communications
 21 and surveillance currently providing coverage of the existing CFA at the LHTA would occur with
 22 continued use of the CFA or from the establishment of SUA R-4601. This includes a designated
 23 RSO on all live-fire ranges and a sufficient number of safety observers to cover the LHTA SUA,
 24 all with real-time communications with the Range OIC and Range Control Tower (also see Section
 25 2.2.4, *Best Management Practices and Standard Operating Procedures*). If at any time,
 26 communication is lost, hazardous activities would cease until reliable communication is re-

1 established, and would also cease if a nonparticipating aircraft approaches the live-fire training
2 area or if an occupied vehicle is observed on OWG Road.

3 Use of proposed SUA R-4601 would be controlled by the FAA, Salt Lake City Air Route Traffic
4 Control Center (ARTCC). As MTARNG manages these training facilities, they would be
5 responsible for scheduling and reporting on the use of proposed SUA R-4601 established over the
6 LHTA. MTARNG would submit an annual report on the utilization of proposed SUA R-4601 to
7 the FAA in accordance with FAA Order JO 7400.2N (*Procedures for Handling Airspace Matters*).

8 **2.2.4 Best Management Practices and Standard Operating Procedures**

9 The proposed helicopter aerial gunnery training took several factors into consideration, including
10 existing land uses, terrain, access, and environmental constraints to minimize safety risks and
11 potential impacts to the extent practical. Primary considerations, safety measures, and pertinent
12 BMPs and SOPs include the following:

- 13 • The proposed West AGR and all air-to-surface weapon firing will be located entirely within
14 the existing primary duded impact area at the LHTA. All helicopter weapon
15 familiarization and firing while on the ground will be from existing concrete HARM Pads
16 located within the existing MPTR. Use of the existing training areas avoids and minimizes
17 impacts associated with establishment and operation of a new AGR.
- 18 • The firing direction and axis for the proposed West AGR were sited to take advantage of
19 natural terrain and topography, which will contribute to containment of fired ammunition and
20 separation for nonparticipating aircraft and ground personnel, and environmental constraints.
- 21 • Helicopter flight paths to, from, and in the LHTA will be in accordance with FAA standards
22 (14 CFR § 91.119, *Minimum Safe Altitudes*) and Advisory Circular 91-36D (*VFR Flight Near*
23 *Noise-Sensitive Areas*), as well as within the Military Overflight Awareness Area between
24 Helena and LHTA to minimize impacts to noise-sensitive areas on the ground to the extent
25 practical. Helicopter flights will avoid Townsend unless required in an emergency. Every
26 attempt will be made by pilots to fly friendly and avoid excessive overflight of populated areas.
- 27 • Generally, no aerial gunnery training will be scheduled during the 01 December to 30 April
28 time period to avoid and minimize disturbance impacts to wintering big game wildlife. If
29 winter training is desired/needed, then it would be restricted to the 16 January to 15 March
30 time period (with no use during the 01 December to 15 January and 16 March to 30 April
31 time periods) in compliance with recommendations by the MTFWP (2020).
- 32 • In accordance with SOPs, helicopter gunnery training flight planning and operations will
33 comply with AFI 91-212_AFGM2020-01, *Bird/Wildlife Aircraft Strike Hazard*
34 *Management Program* (12 June 2020, 31 May 2018) or similar guidance to reduce the
35 potential for bird/wildlife hazards and mishaps. As part of the SOPs, Pilots would report
36 any bird or other wildlife strike using FAA Form 5200-7, *Bird/Other Wildlife Strike Report*.
- 37 • Helicopter aerial gunnery will be conducted in accordance with existing joint-use and
38 safety procedures to deconflict military training with permitted mining and grazing within
39 the LHTA (DARNG et al. 2018).
- 40 • In accordance with LHTA SOPs, helicopters will avoid overflight of Graymont's facilities
41 and active mining areas. The helicopter aerial gunnery firing direction is to the east away
42 from Graymont's mining areas.

- 1 • The helicopter aerial gunnery firing direction will avoid the Pilgrim site, a NHPA eligible
2 prehistoric stone circle habitation site that occurs in the existing duded impact area and
3 was mitigated in 1982, but continued avoidance is recommended.
- 4 • Vehicles will avoid driving on road shoulders and no off-road vehicle use is allowed.
- 5 • In accordance with LHTA SOPs, live-fire gunnery training will avoid times of extreme fire
6 hazard. Use of tracer rounds will be restricted during times of elevated fire risk, as
7 communicated by Range Control. All helicopter gunnery will use weapons outfitted with
8 brass catchers to reduce potential range fires. During live-fire gunnery training, firefighting
9 equipment and training unit personnel will be on hand to provide initial attack/fire
10 suppression activities from the firebreak perimeter road in the event of a fire until relieved
11 by Range Control or USFS, as applicable.
- 12 • Per the SUA RA proposal:
 - 13 ○ The proposed SUA R-4601 would be established and managed in accordance with FAA
14 JO 7400.2N, *Procedures for Handling Airspace Matters*; AR 385-63, *Range Safety*;
15 AR 95-2, *Air Traffic Control, Airfield/Heliport, and Airspace Operations*; and a Letter
16 of Agreement between the Salt Lake City ARTCC and The Adjutant General, State of
17 Montana.
 - 18 ○ The designated Range OIC is responsible to ensure all firing ceases prior to
19 nonparticipating aircraft penetration of the SUA RA. A designated RSO must be
20 present on all live-fire ranges. Designated safety observers will be in place to cover the
21 entire RA and must have continuous and effective communication with the RSO, Range
22 OIC and Range Control Tower at all times. Surveillance must be maintained five
23 minutes prior to and during all times that hazardous activity is in progress. Visibility
24 must be sufficient to permit visual surveillance extending to a minimum of 5 mi in all
25 directions beyond the SUA RA. If, at any time, communication is lost, hazardous
26 activities will cease until reliable communication is re-established among safety
27 observers and RSO, Range OIC, and the Range Control Tower. Hazardous activities in
28 the SUA RA will cease if a nonparticipating aircraft approaches the area.
29 Nonparticipating aircraft must not be observed in the entire SUA RA.
 - 30 ○ No hazardous weapons training would be allowed unless the cloud ceiling is at least 1,000
31 ft above the maximum ordinate altitude (highest trajectory of fired round) within the RA,
32 no projectile may enter a cloud formation, and visibility is sufficient to permit visual
33 surveillance extending to a minimum of 5 mi in all directions beyond the SUA RA.
 - 34 ○ Aircraft involvement in any training will be controlled through effective
35 communication and coordination, following regulations and SOPs, safety briefings,
36 and inspections. Aircraft will have constant communications contact with the Range
37 Control Tower.
- 38 • Prior to conducting ground-based weapons firing from the existing concrete HARM Pads
39 within the MPTR, pilots will conduct a reconnaissance of the 7.62 mm SDZ to ensure the
40 area is clear of persons on the ground, grazing livestock, and big game wildlife. Weapons
41 familiarization and firing will not commence until the aircraft commander determines the
42 SDZ is cleared for training and obtains clearance from Range Control.
- 43 • Prior to aerial gunnery training, pilots will conduct a range clearing maneuver, consisting of
44 multiple passes over the entire West AGR 7.62 mm WDZ, to ensure the area is clear of civilian

1 and nonparticipating aircraft, vehicles and persons on the ground, grazing livestock, and big
2 game wildlife prior to obtaining clearance from Range Control to commence gunnery training.
3 If any of the above were detected after receipt of clearance, aerial gunnery training will cease
4 and Range Control will be immediately notified to place the range in a “check fire” status.
5 Aerial gunnery will not resume until the aircraft commander determines the WDZ area is
6 cleared and obtains clearance from Range Control to commence aerial gunnery training.

- 7 • Helicopter pilots will conduct a range clearing maneuver at the end of live weapons
8 gunnery to check for smoke or fire and communicate with Range Control to immediately
9 initiate fire suppression, as applicable.
- 10 • Public access to the LHTA occurs on OWG Road. Guards are posted at both ends of the
11 road on the installation to inform the public of live-fire training. A MOU between
12 MTARNG and Broadwater County, MT (15 March 2022), documents the SOPs to protect
13 travelers on OWG Road when live fire training events are occurring because SDZs extend
14 over OWG Road. The proposed WDZ for the AGR lies within existing SDZs and therefore
15 will have no additional effects on the MOU agreement between MTARNG and Broadwater
16 County. The same SOPs would apply to the proposed aerial gunnery training. The SOPs
17 include the following elements:
 - 18 ○ The road guard will flag down an approaching traveler to inform them of the danger of
19 proceeding along OWG Road during live fire training. If the traveler turns around,
20 training will continue.
 - 21 ○ If the traveler wishes to continue down OWG Road through the SDZ, the road guard
22 will allow them to do so and will immediately inform the OIC to put the range(s) in a
23 “check fire” status. All live fire will cease and weapons will be cleared until the training
24 unit can verify the traveler is out of the SDZ. Once the traveler is verified as being out
25 of the SDZ, live fire training will resume.
 - 26 ○ If it cannot be verified that the traveler has cleared the SDZ, the range will remain in
27 “check fire” and the training unit will dispatch a vehicle to verify the location of the
28 traveler. If the traveler will not clear the SDZ, the training unit will contact the Sheriff’s
29 Office for assistance. Once the traveler is verified as being out of the SDZ, live fire
30 training will resume.
 - 31 ○ To provide added protection, road signs will be posted every 1,640 ft along the affected
32 portion of OWG Road informing travelers that they are within the SDZ area of live fire
33 military ranges.

34 **2.3 Alternatives Considered**

35 This section summarizes the alternatives selection standards, development process, screening of
36 alternatives, identification of alternatives carried forward for detailed analysis and alternatives
37 eliminated from further consideration.

38 **2.3.1 Selection Standards**

39 NEPA and CEQ Regulations require consideration of a reasonable range of alternatives for the
40 Proposed Action. This means alternatives that are technically and economically feasible, meet the
41 purpose and need for the Proposed Action, and, where applicable, meet the goals of the applicant
42 (CEQ Regulation, 40 CFR § 1508). Per the USAF EIAP regulations (32 CFR § 989.8), selection

1 standards were used to screen the potential alternatives and to aid in the identification of reasonable
2 alternatives for detailed analysis in this EA.

3 The USAF determined that a reasonable alternative should meet the following selection standards:

- 4 1. Within one FDP of Malmstrom AFB.
- 5 2. On federal lands or under federal management to avoid land acquisition costs.
- 6 3. Location sufficient size to contain helicopter gunnery, including SDZs and WDZs, fully
7 within training area boundaries.
- 8 4. SUA RA currently exists or is feasible to establish.
- 9 5. Co-location at an existing training range does not result in loss in capacity to support
10 ongoing training requirements and military mission.
- 11 6. Terrain feasible for operating and maintaining AGR.
- 12 7. Location minimizes potential for fire hazards, such as being in area without dense
13 vegetative fuels, has existing firebreaks, accommodates firebreak establishment, and/or
14 enables firetruck access.
- 15 8. Does not encroach on private lands or violate existing agreements with private landowners.
- 16 9. Sufficient distance from population centers to limit off-site noise concerns.
- 17 10. Few environmental (notably wetlands, sensitive resources) and cultural resource constraints.

18 **2.3.2 Development of Alternatives**

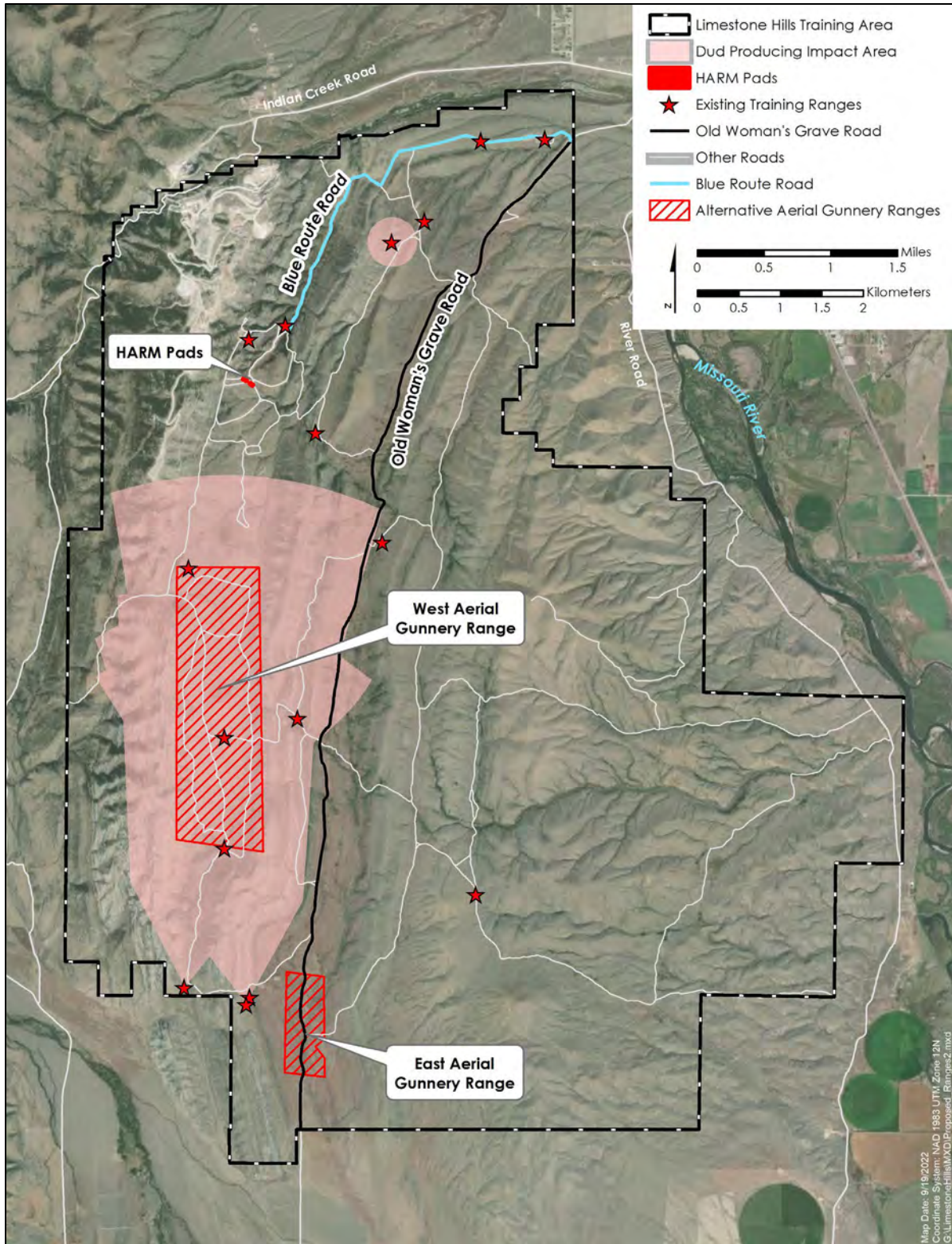
19 Through internal scoping, the USAF determined that there were two possible alternatives to meet
20 the purpose and need of the Proposed Action:

- 21 • Alternative 1 – Upgrade the existing LHTA to meet the needs for aerial gunnery training.
- 22 • Alternative 2 – Establish a new training site on other federal lands.

23 **2.3.2.1 Alternative 1 - LHTA**

24 LHTA is the only existing DoD lands within one FDP of Malmstrom AFB with the potential to
25 support aerial gunnery training. Therefore, AFGSC, in coordination with MTARNG, identified the
26 following three Alternatives to establish and operate an AGR, conduct aerial gunnery and convoy
27 training, and to establish a SUA RA at the LHTA (Figure 2-4):

- 28 • Alternate 1A – Establish the West AGR, encompassing 846 acres, within the existing main
29 duded impact area; the firing direction would be east into the West AGR. Weapons
30 familiarization would occur from the existing HARM Pads within the MPTR. Integrated
31 helicopter-convoy training without live firing would occur along Blue Route Road. This
32 alternate would include the establishment of proposed RA R-4601 over the boundaries of
33 the LHTA.
- 34 • Alternate 1B – Establish the West AGR, encompassing 846 acres, within the existing main
35 duded impact area; the firing direction would be east into the West AGR. Weapons
36 familiarization would occur from existing HARM Pads within the MPTR. Integrated
37 helicopter-convoy training without live firing would occur along OWG Road. This
38 alternate would also include the establishment of proposed RA R-4601 over the boundaries
39 of the LHTA.



Notes:

- Alternate 1A - West AGR and integrated helicopter-convoy training along Blue Route Road,
- Alternate 1B - West AGR and integrated helicopter-convoy training along OWG Road (East AGR area).
- Alternate 1C - West and East AGRs with integrated helicopter-convoy training at both AGRs.

Figure 2-4. Proposed Alternate Locations of Helicopter Gunnery and Training.

- 1 • Alternate 1C – Establish two AGRs, one located west of OWG Road within the existing
2 main duded impact area (West AGR) and a new site southeast of the duded impact area
3 along OWG Road (East AGR). The firing direction of both the West and East AGR’s would
4 be to the east. The two AGRs would encompass approximately 982 acres. Integrated
5 helicopter-convoy weapons training would include helicopter live firing at the West AGR
6 and ground weapons live firing by 341 SFG personnel at the East AGR. This option would
7 also include the establishment of proposed RA R-4601 over the boundaries of the LHTA.

8 **2.3.2.2 Alternative 2 – Other Federal Lands**

9 Establishing a new training site on other federal lands was not considered reasonable for meeting
10 the purpose and need to address critical training requirements based on time and cost
11 considerations. Substantial investment would be required to construct and operate a new training
12 site, and timelines would be on the order of seven years or more to complete required studies,
13 environmental review, obtain all necessary authorizations and complete construction (AFMAN
14 13-212v1, *Range Planning and Operations*, 22 Jun 2018). Additionally, this Alternative would
15 not be consistent with the DoD goal to increase efficiency because, as a primary component of
16 Base Realignment and Closure, the DoD is eliminating and/or consolidating many installations
17 throughout the U.S. As sufficient land area is available at the LHTA to accommodate the required
18 AGR, the USAF determined that, in accordance with DoD directives and vision, establishment of
19 a new training site was neither feasible nor necessary. Therefore, this Alternative was dropped
20 from further consideration for development.

21 **2.3.3 Screening of Alternatives**

22 The selection standards described in Section 2.3.1 were applied to the three potential LHTA
23 Alternates. As shown in Table 2-7, Alternates 1A and 1B met all screening criteria. These were
24 developed further and carried forward as Proposed Action Alternatives 1 and 2, respectively, for
25 detailed analysis (Section 2.4, *Evaluated Alternatives*).

26 Alternate 1C did not meet all selection standards, as it would encroach on private lands. In addition,
27 it was determined to have the potential for greater environmental effects associated with
28 establishment of two new live-fire training ranges at the LHTA. Therefore, this course of action
29 was eliminated from further consideration.

30 Other potential layouts at LHTA were considered, but they were not developed into alternatives
31 because they would pose an unacceptable fire hazard risk (based on vegetation, terrain); the WDZ
32 would not be contained within the boundaries of the LHTA; or would increase potential conflicts
33 with other approved uses at LHTA.

1

Table 2-7. LHTA Screening Comparison Matrix.

Selection Criteria	Helicopter Gunnery Locations		
	West AGR, HARM Pads	West AGR, HARM Pads	West AGR, East AGR
	Helicopter-Convoy Training Location		
	Blue Route Road	OWG Road	West and East AGRs
	Alt. 1A	Alt. 1B	Alt. 1C
1. Within one FDP of Malmstrom AFB	Yes	Yes	Yes
2. On federal lands or under federal management to avoid land acquisition costs	Yes	Yes	Yes
3. Location sufficient size to contain helicopter gunnery, including SDZs and WDZs, within training area boundaries	Yes	Yes	Yes
4. SUA RA exists or is feasible to establish	Feasible	Feasible	Feasible
5. Co-location at existing training range does not result in loss in capacity to support ongoing training and mission	Yes	Yes	Yes
6. Terrain feasible for operating and maintaining helicopter gunnery range	Yes	Yes	Yes
7. Location minimizes potential for fire hazards (vegetation, firebreaks, and/or fire truck access)	Yes	Yes	Yes
8. Does not encroach on private lands	Yes	Yes	No
9. Sufficient distance from population centers to limit noise concerns	Yes	Yes	Yes
10. Few environmental and cultural resources constraints	Yes, with BMPs	Yes, with BMPs	Yes/No

2 **2.4 Evaluated Alternatives**

3 AFGSC identified that Alternatives 1 and 2 meet the purpose and need for the Proposed Action
 4 and all the screening criteria. These Action Alternatives were developed in coordination with
 5 MTARNG, which is a cooperating agency for the Proposed Action. *Both Alternatives 1 and 2*
 6 *include the same proposed helicopter gunnery training elements and establishment of SUA R-*
 7 *4601, as detailed in Section 2.2, but differ with respect to the location of the proposed integrated*
 8 *helicopter-convoy training.* As required by 40 CFR § 1502.14, this EA also analyzes the No Action
 9 Alternative. The alternatives are described below, evaluated in Section 3.0, and summarized in
 10 Section 4.0. Based on the evaluation of these alternatives (Sections 3.0 and 4.0), the USAF has
 11 identified Alternative 1 as the Preferred Alternative.

12 The alternatives were refined during the development of this EA based on environmental constraints
 13 at the LHTA and comments received during interagency and intergovernmental coordination and
 14 outreach with local landowners or permit holders within the boundaries of the LHTA. The maximum
 15 altitude of the proposed SUA RA was lowered to avoid and minimize potential conflicts with area
 16 navigational approaches to Helena Regional Airport and victor airways (standard flight routes).
 17 Considerations for activation of the proposed SUA RA ranged from all the time to only during
 18 proposed helicopter aerial gunnery training; activation during aerial gunnery training (analyzed in
 19 this EA) minimizes potential impacts to nonparticipating aircraft. Initially the Proposed Action
 20 included new target placement within the proposed West AGR, but that element was subsequently
 21 removed; the firing direction was limited from west to east at existing targets located in the southern
 22 portion of the area, which is away from Graymont facilities and mining activities and the National

1 Register of Historic Places (NRHP)-eligible Pilgrim Site. Several BMPs and SOPs (Section 2.2.4)
2 are included as part of the Proposed Action to avoid and minimize potential environmental impacts
3 and safety risks during helicopter aerial gunnery training.

4 **2.4.1 Alternative 1 – Blue Route Road**

5 Alternative 1 (Figure 2-5) includes: (1) helicopter air-to-surface gunnery training at the proposed
6 West AGR located within the duded impact area of existing training ranges; (2) helicopter surface-
7 to-surface weapon familiarization and firing while landed on existing concrete HARM Pads located
8 within the MPTR; (3) integrated helicopter and convoy training without live firing of weapons along
9 and adjacent to Blue Route Road (a maintained gravel road); and (4) establishment of proposed RA
10 R-4601 from the surface to 9,000 ft MSL over the LHTA. Implementation of this alternative would
11 annually allow up to 200 helicopter gunnery sorties (including up to 14 ground personnel to support
12 range operations), and one integrated helicopter-convoy training exercise (two helicopter sorties, up
13 to 15 vehicles, up to 30 SFG personnel) without live firing of weapons.

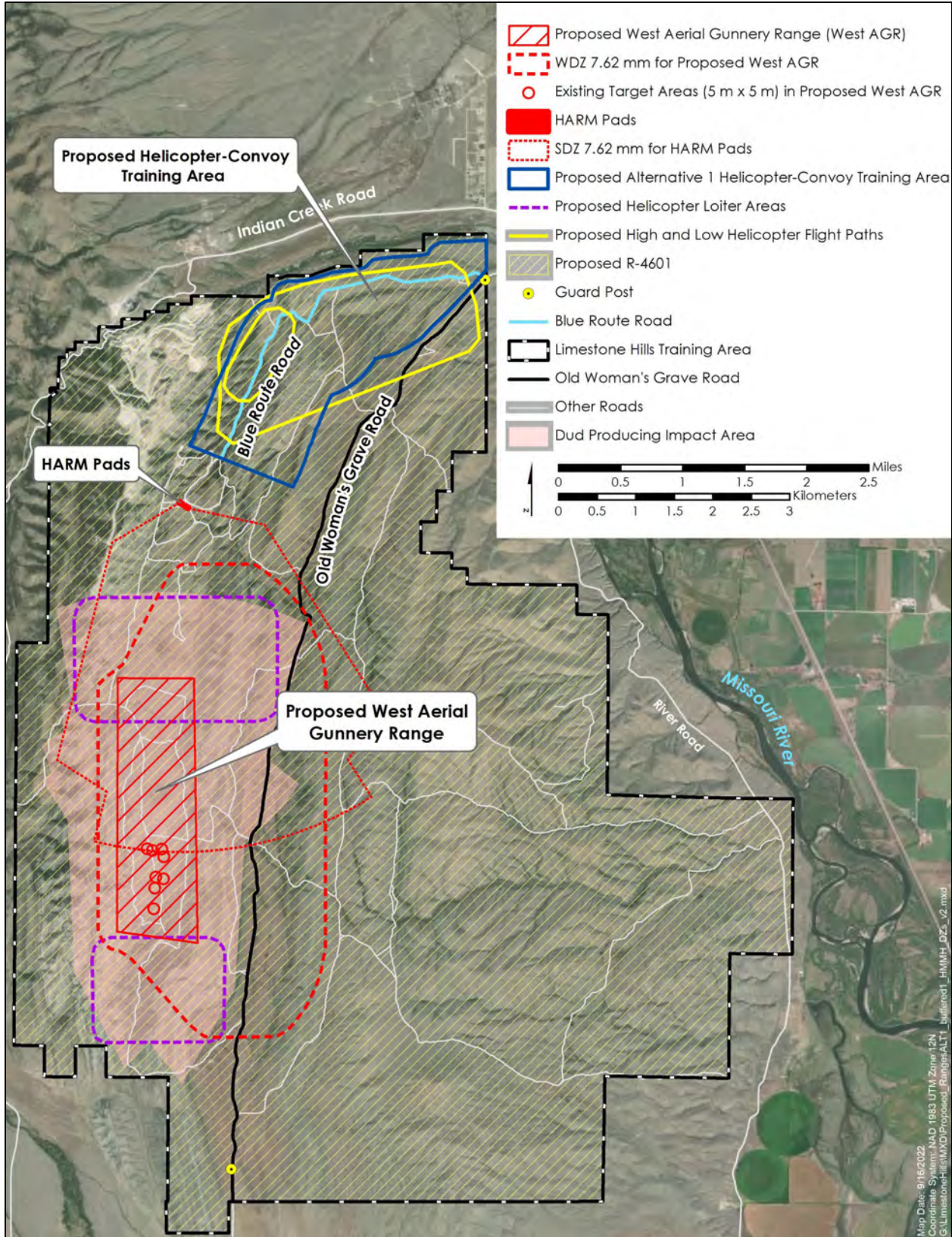
14 **2.4.2 Alternative 2 – OWG Road**

15 Alternative 2 (Figure 2-6) includes: (1) helicopter air-to-surface gunnery training at the proposed
16 West AGR located within the duded impact area of existing training ranges; (2) helicopter
17 surface-to-surface weapon familiarization and firing from the existing concrete HARM Pads
18 located within the MPTR; (3) integrated helicopter and convoy training without live firing of
19 weapons along and adjacent to a 0.75-mi section of OWG Road (a gravel road); and (4)
20 establishment of proposed RA R-4601 from the surface to 9,000 ft MSL over the LHTA.
21 Implementation of this alternative would annually allow up to 200 helicopter gunnery sorties
22 (including up to 14 ground personnel to support range operations), and one integrated helicopter-
23 convoy training exercise (two helicopter sorties, up to 15 vehicles, up to 30 SFG personnel).

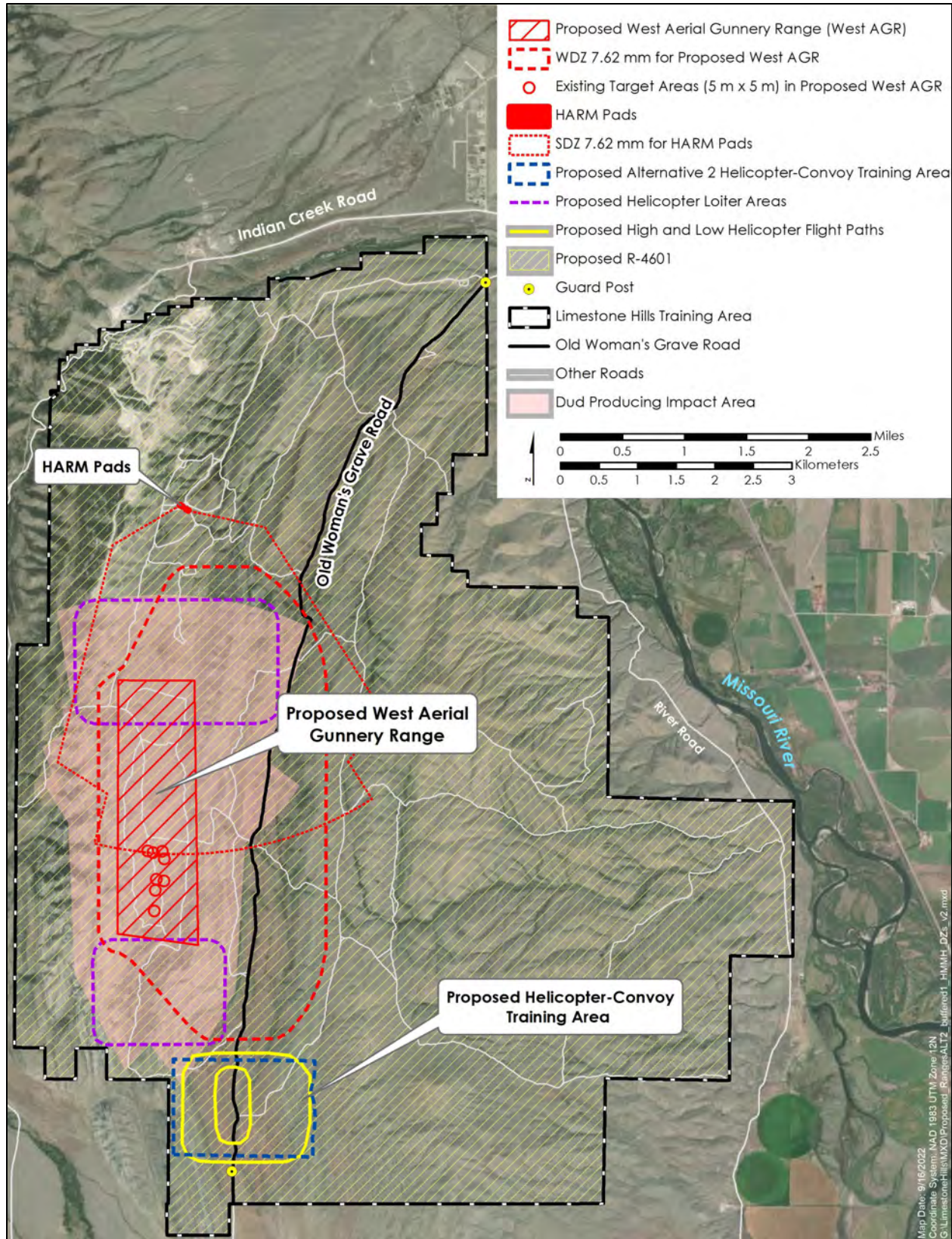
24 **2.4.3 No Action Alternative**

25 Under the No Action Alternative, no AGR and no SUA RA (14 CFR § 73.11) would be established
26 within one FDP of Malmstrom AFB. The 40 HS would continue to conduct helicopter aerial
27 gunnery training at out-of-state military training ranges, which due to logistics, distance, and cost,
28 do not allow for effective maintenance of aerial gunnery proficiency without compromising
29 mission requirements at Malmstrom AFB.

30 As no AGR or SUA RA would be established at the LHTA, there would not be the opportunity for
31 MTARNG to increase aerial gunnery proficiency and readiness of their helicopter aircrews. Ongoing
32 ground-based training and helicopter training without aerial gunnery would continue to be authorized
33 by the CFA, subject to review and authorization by the FAA every two years.



1
 2 **Figure 2-5. Proposed Alternative 1 - Locations of Helicopter Gunnery Range and Training, and**
 3 **Establishment of Proposed SUA R-4601.**



1
 2
 3

Figure 2-6. Proposed Alternative 2 - Locations of Helicopter Gunnery Range and Training and Establishment of Proposed SUA R-4601.

3.0 EXISTING CONDITIONS AND ENVIRONMENTAL CONSEQUENCES

This section describes current baseline conditions at the LHTA, with emphasis on those resources potentially impacted by the Proposed Action. The potential impacts of Proposed Action Alternatives 1 and 2 are compared with the No Action Alternative for each environmental issue area in this section. The determination of significance is based on context and intensity (40 CFR § 1508.27). Two summary sections are provided at the end of this chapter: one addresses impacts of the considered alternatives in the context of foreseeable future projects in the region, and the other summarizes recommended BMPs and mitigation measures compiled across the issue areas addressed in this section.

3.1 Approach to Analysis

As noted in Section 1.3, *Scope of the Environmental Assessment* and Table 1-1, this EA considers the potential for impacts to several physical, environmental, cultural, and social issue areas. CEQ Regulations (40 CFR § 1501.9[f][1]) state that the lead agency shall “identify and eliminate from detailed study the issues which are not significant, or which have been covered by prior environmental review (§ 1506.3), narrowing the discussion of these issues in the statement to a brief presentation of why they will not have a significant effect on the human environment or providing a reference to their coverage elsewhere.” Section 3.3.1 identifies issue areas that were evaluated but eliminated from detailed study since they would have no impact or effects would be negligible.

The Region of Influence (ROI) for the different environmental issue areas evaluated in this section may vary depending on how the action elements interact with the environment, therefore, the ROI is defined in each resource section. The analysis of cultural resources considered the Area of Potential Effect (APE), which is defined in 36 CFR § 800.16(d) as “the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist.” The existing conditions within the APE or ROI are described based on the technical studies conducted to support the evaluation of the Proposed Action (Ramboll 2022; HMMH 2022a, 2022b; AEM Group 2022; Brockington 2022a, 2022b), recent environmental documents identified in Section 1.6, geographic information system (GIS) data obtained from MTARNG and other sources, and other documents as identified in the following resource sections.

The criteria used to determine the potential significance of environmental effects (or impacts) of the considered alternatives are specified in each resource issue section. As noted in the CEQ guidelines (40 CFR § 1508.1g), effects or impacts means changes to the human environment that are reasonably foreseeable and include the following:

- (1) Direct effects, which are caused by the action and occur at the same time and place.
- (2) Indirect effects, which are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.
- (3) Cumulative effects, which are effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or

1 person undertakes such other actions. Cumulative effects can result from individually
2 minor but collectively significant actions taking place over a period of time.

3 (4) Effects include ecological (such as the effects on natural resources and on the
4 components, structures, and functioning of affected ecosystems), aesthetic, historic,
5 cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may
6 also include those resulting from actions which may have both beneficial and detrimental
7 effects, even if on balance the agency believes that the effects will be beneficial.

8 Effects do not include those that the agency has no ability to prevent due to its limited statutory
9 authority or would occur regardless of the proposed action. In considering whether the effects of
10 the proposed action are significant, agencies shall analyze the potentially affected environment
11 and degree of the effects of the action, considering both short- and long-term effects, beneficial
12 and adverse effects, effects on public safety, and effects that would violate federal, state, tribal, or
13 local law protecting the environment (40 CFR § 1501.3b (2)).

14 **3.1.1 Resources Eliminated from Detailed Analysis**

15 Coastal Resources

16 Montana lacks a coastal zone. Therefore, coastal resources and their pertinent regulations (Coastal
17 Zone Management Act, 16 U.S.C. § 1451 *et seq.*; Magnuson-Stevens Fishery Conservation and
18 Management Reauthorization Act, 16 U.S.C. § 1801 *et seq.*) are not applicable to this EA.

19 Department of Transportation Act, Section 4(f)

20 Pub. L. 105-85 (Div. A, Title X, Section 1079, 18 Nov. 1997, 111 Stat. 1916) exempts military
21 flight operations and designation of airspace for such operations from Section 4(f) compliance
22 requirements. Therefore, Section 4(f) resources are not applicable to this EA.

23 Visual Effects and Aesthetic Resources

24 Existing land use within the LHTA includes military training (including aircraft), permitted mining
25 along the western boundary, and permitted grazing allotments (Section 3.3, *Land Use*, Figure 3-4,
26 Figure 3-5). Limited low-density residential housing occurs near the north and northeastern
27 boundaries of LHTA with most residential development further east; sparse development occurs
28 in the vicinity of other LHTA boundaries.

29 Impacts to the aesthetic quality of visual resources would generally be indicated by the removal,
30 substantial alteration, and/or obstruction of scenic resources that are visually important or have
31 unique characteristics in an area. The Proposed Action does not involve construction or demolition
32 of any structures or facilities, nor would it introduce helicopter flights to a new area not already
33 accustomed to military helicopter flights. Existing training includes the use of aircraft, including
34 helicopters, in accordance with the FAA-authorized CFA. Existing helicopter training flights occur
35 both east and west of OWG Road. The 200 sorties associated with Alternatives 1 and 2 represent
36 a relatively small increase (24%) over existing helicopter flights (without gunnery training) and
37 would be localized with gunnery activities limited to west of OWG Road and reconnaissance
38 within the existing 7.62 mm SDZ for the HARM Pads and WDZ for the proposed West AGR
39 extending approximately 0.5 mi east of OWG Road.

1 The Proposed Action would not represent a substantial change to the visual baseline of military
2 training activities. Visibility is based on screening, distance, backdropping and related facility
3 contrast, and other factors, such as the angle of observation and light and atmospheric conditions.
4 The main type of screening at the project site is topographic, although vegetation and structures
5 may provide localized screening. With greater distance, landscape elements become less obvious
6 and less detailed. The LHTA exists in an area of high topographic relief, and a variety of color,
7 contrast, and form, with a high potential for visual absorption. The topography in the area
8 surrounding the proposed helicopter gunnery includes high ridges and rounded hills ranging from
9 approximately 4,800 to 5,700 ft MSL (see Section 3.6, *Topography*, Figure 3-14), which would
10 predominantly shield helicopter gunnery training from residences located at lower elevations
11 (approximately 3,900 to 4,000 ft) in the vicinity of the LHTA. Helicopter flights associated with
12 the proposed helicopter gunnery training (two per training event) and the annual integrated
13 helicopter-convoy training (two helicopters, up to 15 vehicles) may be visible from Interstate
14 Highway 15, Highways 12/287 and possibly Townsend, but they would not provide significant
15 distraction from normal activities or represent a substantial change over existing conditions that
16 include military aircraft flights and vehicles to and from the LHTA.

17 Impacts resulting from light emissions would typically be caused by any lighting or glare that would
18 cause an annoyance for people in the vicinity or interfere with normal activities including work and
19 recreation. No new lights would be installed as part of Alternatives 1 or 2. Under the Proposed Action,
20 two helicopters would use lights during night aerial gunnery training events, which may include use of
21 ball-tracer ammunition. Existing night training activities at the LHTA include helicopter operations
22 (without aerial gunnery) and ground-based training use of ball-tracer ammunition when not restricted
23 due to fire threat level. The frequency of proposed helicopter night flights and use of ball-tracer
24 ammunition under Alternatives 1 and 2 would be intermittent similar to the baseline No Action
25 Alternative. Night flights (two helicopters) along any of the proposed flight routes would be less than
26 20% of total nights annually; i.e., Helena-LHTA (19% of total nights), Malmstrom AFB-LHTA (6-
27 8% of total nights), and Helena-Malmstrom AFB (1% of total nights). Helicopter flights along flight
28 routes would range from 500 to 2,000 ft to minimize impacts on noise-sensitive areas (see Section
29 2.2.2.2, *Flight Paths and Altitudes*), which in turn would minimize visual effects of light emissions.

30 Based on the above considerations, any visual consequences of Alternatives 1 and 2 aerial gunnery
31 training and the establishment of SUA R-4601, which is required for both alternatives, would be
32 intermittent and consistent with the visual baseline of military training activities. Therefore, effects
33 to visual resources, aesthetics or visual effects from light emissions would be negligible and a
34 more detailed analysis is not warranted.

35 **3.2 Airspace**

36 **3.2.1 Definition of Resource**

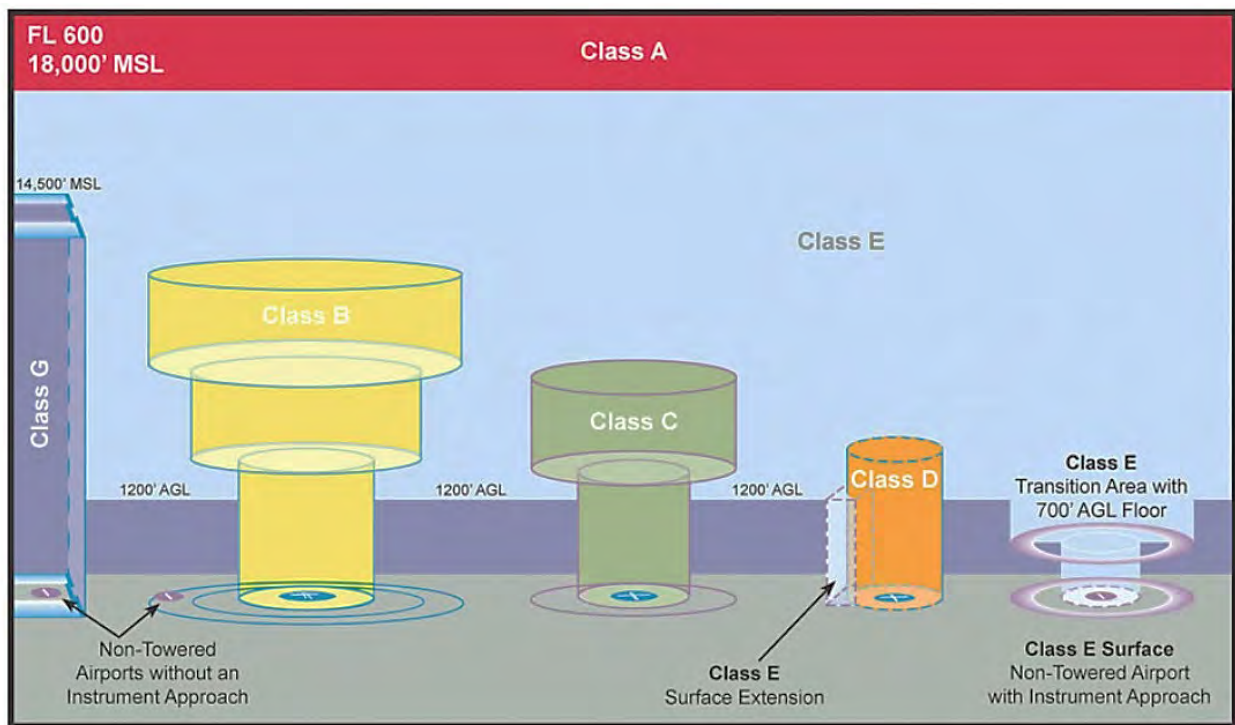
37 Airspace is a three-dimensional resource defined by latitude, longitude, and altitude. The FAA has
38 the responsibility for developing plans and policies for the use of all navigable airspace and for
39 assigning (by regulation or order) the use of the airspace necessary to ensure both the safety and
40 efficient use of all airspace (49 U.S.C. § 40103[b]). FAA JO 7400.2N, *Procedures for Handling*
41 *Airspace Matters*, describes specific rules and regulations concerning airspace designation and
42 management (FAA 2021a). The DoD requests airspace from the FAA and schedules and uses

1 airspace in accordance with processes and procedures detailed in DoD Directive 5030.19, *DoD*
2 *Responsibilities of Federal Aviation*, and FAA regulations.

3 Airspace management is necessary to ensure that all users of the National Airspace System can
4 operate in navigable airspace in a safe, secure, and efficient manner. Airspace management considers
5 airspace designation, usage, and administration to best accommodate the individual and common
6 needs of military, commercial, general aviation, and private citizens by controlling airspace allocation
7 and utilization, obstruction evaluations and markings, and the control of air traffic and handling of
8 flight operations. The FAA defines airspace management as the direction, control, and handling of
9 flight operations in the navigable airspace that overlies the geopolitical borders of the U.S. and its
10 territories. Navigable airspace means airspace at or above the minimum altitudes of flight defined by
11 regulations and includes the airspace needed to ensure safety in the take-off and landing of aircraft
12 (49 U.S.C. § 40102) and the airspace needed for military training and other special uses.

13 The FAA organizes airspace according to its class. The airspace classes dictate pilot qualification
14 requirements, rules of flight that must be followed, and the type of equipment necessary to operate
15 within that airspace. Figure 3-1 depicts each class of airspace available to all users (civilian and
16 military). There are six classes of airspace: A, B, C, D, E (controlled), and G (uncontrolled).

- 17 • *Controlled airspace* is airspace of defined dimensions within which Air Traffic Control
18 service is provided. Controlled airspace is categorized into five separate classes; Classes A
19 through E. Controlled airspace supports airport operations and includes Air Traffic Service
20 (ATS) Routes supporting enroute transit from place-to-place.



21 Notes: AGL = Above Ground Level; FL = Flight Level; MSL = Mean Sea Level.
22 Source: FAA 2021c

23 **Figure 3-1. Cross Section of Airspace Classes and Relationships.**

- 1 • *Uncontrolled airspace* is designated as Class G airspace. Within the Continental U.S. and
2 out to 12 NM off-shore, Class G airspace includes all airspace up to 14,500 ft MSL that
3 has not been designated as Class A, B, C, D, or E. Class G airspace has no specific
4 prohibitions associated with its use. Class G airspace is described as uncontrolled because
5 there are no entry requirements and Air Traffic Control service is not guaranteed.

6 Detailed information of each of these airspace classes and the requirements for their use (i.e., pilot
7 qualifications, operating rules, and equipment requirements) can be found in 14 CFR § 91, *General*
8 *Operating and Flight Rules*.

9 **3.2.1.1 Regulatory Framework**

10 The FAA identifies SUA for military and other governmental activities. All SUA is charted and
11 published by the National Aeronautical Charting Office in accordance with FAA JO 7400.2N,
12 *Procedures for Handling Airspace Matters* (FAA 2021a), and other applicable regulations. The FAA
13 administers navigable airspace in the public interest as necessary to ensure its efficient use and the
14 safety of aircraft. The FAA considers multiple, and sometimes competing, demands for aviation
15 airspace in relation to airport operations, ATS Routes (Jet, Victor, and Tango routes), Distance
16 Measuring Equipment (DME) fixes (used for final approach path navigation to airfields), military
17 flight training activities, and other special needs to determine how the National Airspace System can
18 best be structured to address all user requirements. FAA JO 7400.10, *Special Use Airspace*,
19 describing approved SUA is compiled once a year with the exception of temporary SUA and CFAs;
20 the current version, FAA JO 7400.10C (FAA 2021b), was used for this EA. Similarly, descriptions
21 of terminal and enroute airspace area designations and reporting points are published once a year in
22 FAA JO 7400.11, *Airspace Designations and Reporting Points*; the most current version, FAA JO
23 7400.11E, was used for this EA (FAA 2020b).

24 Military Operations Areas (MOAs) and Restricted Areas are both types of SUA that are published
25 annually in FAA JO 7400.10C. Air Traffic Control Assigned Airspaces (ATCAA) are not considered
26 SUA and are not published; rather, they are assigned through a Letter of Agreement between the
27 using agency (MTARNG for this action) and the FAA. ATCAA is generally released by the ARTCC
28 when requested, but can be recalled or modified (i.e., altitude limited) if needed to support transit of
29 civilian aircraft. MOAs and ATCAAs consist of volumes of airspace wherein activities must be
30 confined due to their nature, and limitations may be imposed upon aircraft operations that are not a
31 part of those activities, or both. For example, while in a MOA, military aircraft are permitted to fly
32 randomly and at airspeeds greater than those allowed by civilian aircraft (e.g., greater than 250
33 KIAS). Although pilots of civilian aircraft are advised of military activity in the area, they are not
34 restricted from VFR use in MOAs. However, civilian aircraft cannot use active ATCAAs. MOAs
35 and ATCAAs separate or segregate certain nonhazardous military activities from instrument flight
36 rules (IFR) traffic and identifies for VFR traffic where these activities are conducted. Restricted
37 Areas are similar to MOAs but are designed to restrict civilian aircraft from entering the airspace
38 during hazardous military activity, such as firing of live munitions. The horizontal limits of each
39 Restricted Area, MOA, and ATCAA are defined by boundaries described by geographic coordinates,
40 or other appropriate references, that clearly define their perimeter. Altitude floors and ceilings define
41 the vertical limits of each Restricted Area and MOA/ATCAA expressed as feet AGL, feet MSL, or
42 flight level, depending on the altitude structure. Once published, scheduled periods during which a
43 Restricted Area or MOA is in effect is stated in each designation and can be found in FAA JO

1 7400.10C, *Special Use Airspace* (FAA 2021b). When not needed for military training, the airspace
2 is released to the appropriate ARTCC for their use.

3 CFAs are airspaces designated to contain activities that, if not conducted in a controlled
4 environment, would be hazardous to nonparticipating aircraft. According to the FAA's
5 Aeronautical Information Manual, activities in a CFA are suspended as soon as surveillance
6 facilities such as spotter aircraft, radar, or ground observers indicate nonparticipating aircraft are
7 approaching the area. Though included in the Aeronautical Information Manual as a type of
8 SUA, this type of airspace is not charted and is not defined through the rulemaking process
9 required for other types of airspace. The responsibility lies totally with the CFA user to terminate
10 activities so that there is no impact on aviation. For this reason, nonparticipating aircraft are not
11 required to avoid CFAs, nor are communications or Air Traffic Control separation requirements
12 imposed. Because CFAs are not charted, nonparticipating operators may not be aware of them.

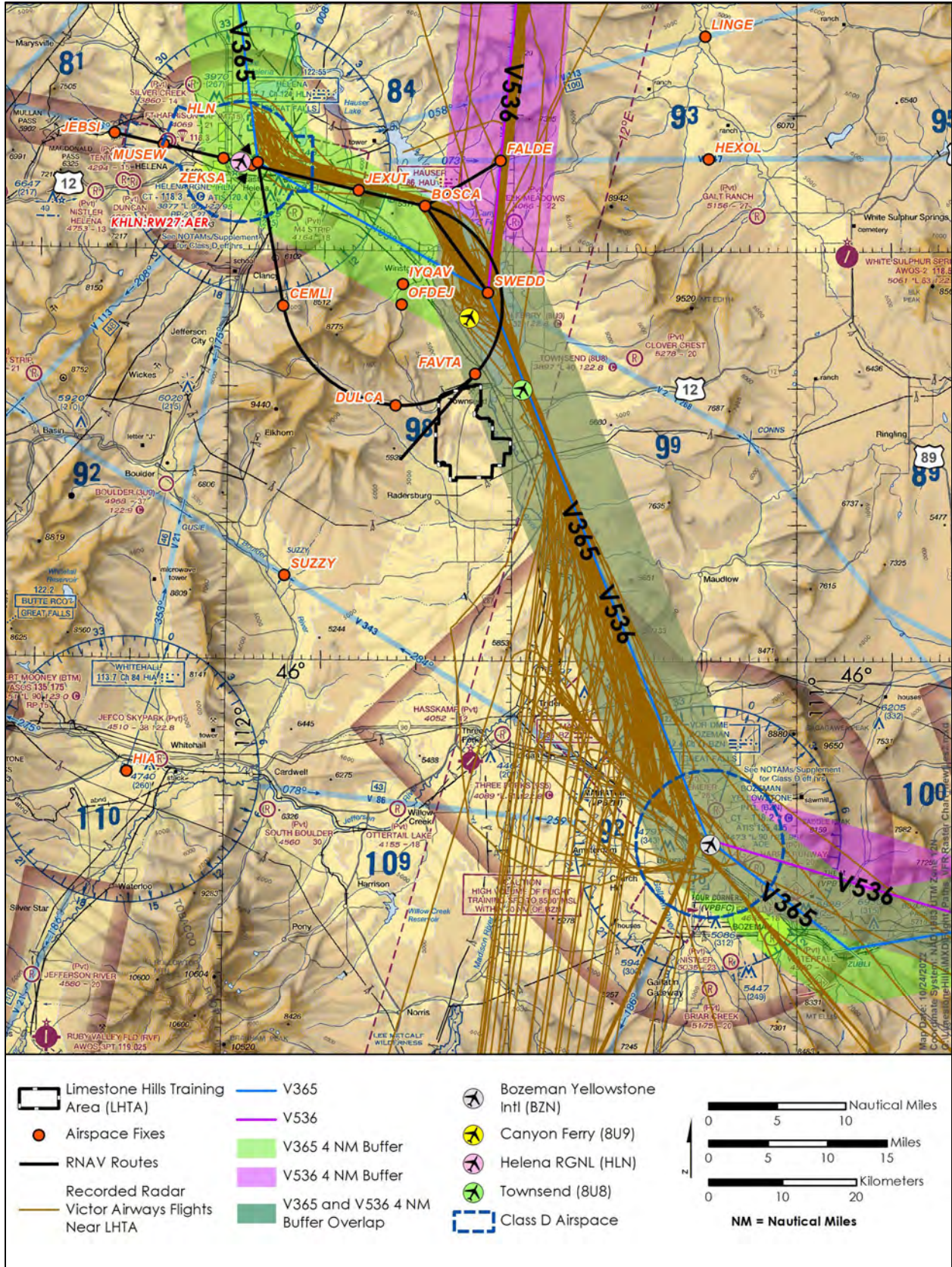
13 **3.2.2 Existing Conditions**

14 The ROI for airspace resources includes the airspace and aircraft operational areas (e.g., LHTA,
15 public and private civilian airports, and ATS routes) underlying or near the proposed SUA R-4601,
16 as depicted in Figure 3-2. Airports include Bozeman Yellowstone International Airport (BZN) 40
17 mi southeast, Helena Regional Airport (HLN) 27 mi northwest, Canyon Ferry Airport (8U9) 5.8 mi
18 north, and Townsend Airport (8U8) 3.6 mi east of LHTA each depicted with associated controlled
19 airspace presented consistent with FAA sectional charts. ATS routes within the ROI include two
20 victor airways transiting between the southeast and north partially overlaying LHTA and two area
21 navigation (RNAV) approaches to HLN that overlay the northeastern most corner of LHTA. Figure
22 3-2 also shows individual aircraft flight paths associated with victor airways and observed flight
23 paths obtained from 2019 radar data. Airspace fixes represent points utilized for the purpose of
24 navigating through the airspace or associated with approaches to airfields. The following subsections
25 describe these airspace components and their existing conditions, which considered the Airspace
26 Analysis report prepared for this EA (HMMH 2002a in EA Technical Study Volume 1).

27 **3.2.2.1 LHTA**

28 Training at the LHTA primarily consists of tank and Bradley Fighting Vehicle maneuvers and
29 weapons firing; hand grenade, detonation, and mortar training; machine gun and small-arms
30 training; and aircraft support training. Aircraft operations at the LHTA include air-to-ground drop
31 zones, helicopter hovering and flight, insertion and extraction exercises, traffic patterns, and
32 external load operations. Military live-fire training is limited to approximately 140 days per year
33 due to the need to minimize disturbances to wintering big game wildlife.

34 As discussed in Section 3.2.1.1, CFAs contain activities that could be hazardous to
35 nonparticipating aircraft if they are not conducted in a controlled setting. Currently, all surface-to-
36 surface and surface-to-air live-fire weapons familiarization and training at the LHTA occurs within
37 a CFA that covers the majority of LHTA and extends slightly to the east and west (see Figure 2-3).



1 **Figure 3-2. Airspace ROI on the Great Falls Sectional Aeronautical Chart and Locations of Victor**
 2 **Airways.**

1 Daily usage for the LHTA CFA may be scheduled over a 22-hour period (8:00 a.m. to 6:00 a.m.
2 local), and the maximum height of projectiles for all surface-fired weapon systems is 4,000 ft AGL.
3 MTARNG has a range tower in place to control operations and, per SOPs, live-fire training requires
4 a designated RSO and a sufficient number of safety observers to cover the entire area, with
5 continuous communications with the Range OIC. A cease-fire would be ordered in the event
6 communications are lost, or if any nonparticipating aircraft approach the CFA during operations (see
7 Section 2.2.4). Weapons system use follows all safety precautions and procedures specified for the
8 operation of the CFA and in the FAA's JO 7400.2N, *Procedures for Handling Airspace Matters*
9 (FAA 2021a). Aircraft utilized in training may include transport of equipment and/or personnel to
10 and from the ranges; however, no aerial gunnery activities (i.e., air-to-ground expenditure of
11 ammunition) are allowed within the CFA. Aircraft training is controlled through constant contact
12 with the range tower, coordination, regulations, SOPs, safety briefings, and inspections.

13 **3.2.2.2 Airfields and Airports**

14 Townsend Airport (8U8) is a public use, non-towered airport jointly owned by Broadwater County
15 and the City of Townsend. It lies 2 mi east of Townsend at an elevation of 3,897 ft MSL and covers
16 125 acres of land. Townsend Airport has one paved runway, Runway 17/35, that is 4,000 ft long,
17 60 ft wide, and oriented north-south. Sixteen single-engine aircraft and one helicopter are based at
18 the Townsend Airport (HMMH 2022a). The Townsend Airport is primarily used for general
19 aviation operations with 4,500 annual operations and occasional MTARNG helicopters accounting
20 for an additional ten operations (HMMH 2022a).

21 Canyon Ferry Airport (8U9) is a public use, non-towered airport owned by Broadwater County. It
22 covers 39 acres of land and lies 7 mi northwest of Townsend. It is located at an elevation of 3,840
23 ft MSL. Canyon Ferry Airport has one gravel runway, Runway 16/34, that is 3,200 ft long and 75
24 ft wide. One single-engine aircraft and one ultra-light aircraft are based at Canyon Ferry Airport
25 generating 650 annual operations. MTARNG helicopter operations generate an additional 650
26 annual operations (HMMH 2022a).

27 Helena Regional Airport (HLN), owned and operated by the Helena Regional Airport Authority, is a
28 towered, public use airport. Its air traffic activity levels warrant an Air Traffic Control Tower with
29 associated Class D airspace. It is located on 1,224 acres approximately 2 mi northeast of the City of
30 Helena, in Lewis & Clark County. The National Plan of Integrated Airport Systems categorizes it as a
31 primary commercial service non-hub airport. It provides regional and national commercial service, as
32 well as general aviation services generating approximately 51,000 annual general aviation operations
33 (HMMH 2022a). Additionally, MTARNG's Army Aviation Support Facility located at Helena
34 Regional Airport includes UH-60 Blackhawk, CH-47 Chinook, and UH-72 Lakota helicopters and C-
35 12 fixed-wing aircraft; C-5, C-17, and C-130 military aircraft also may operate at the airfield. There
36 was a total of 5,300 military operations at the Helena Regional Airport in 2019 (HMMH 2022a).

37 Bozeman Yellowstone International Airport (BZN), owned by the Gallatin Airport Authority, is a
38 towered, public use airport. Its air traffic activity levels warrant an Air Traffic Control Tower with
39 associated Class D airspace. The airport contains 2,481 acres and is located about 7 mi northwest
40 of Bozeman, at an elevation of 4,473 ft MSL. The National Plan of Integrated Airport Systems
41 classifies Bozeman Yellowstone as a small hub, primary commercial service airport. The airport
42 hosts a total of approximately 90,000 annual operations comprised of domestic and international
43 scheduled air carrier, cargo, general aviation (including on-demand air taxi and private aircraft)
44 and military operations (HMMH 2022a).

1 **3.2.2.3 *Controlled Airspace***

2 As shown in Figure 3-2, existing Air Traffic Controlled Airspace designated in the vicinity of the
3 LHTA includes surface Class D airspace surrounding the Helena Regional and Bozeman
4 Yellowstone, which support runway separation services to all aircraft, in-flight separation services
5 to IFR aircraft, and sequencing services to all aircraft. Surface Class E extensions support in-flight
6 separation services to IFR aircraft conducting instrument approaches, and overlying Class E
7 shelves for Helena Regional and Bozeman Yellowstone from 700 ft AGL, similarly supporting
8 aircraft conducting instrument approaches.

9 **3.2.2.4 *Air Traffic System Routes and Airways***

10 Two air traffic system routes, specifically two victor airways (V365 and V536), are located to the
11 east of the proposed Restricted Area within the ROI. Victor airways and their associated controlled
12 airspace provide defined routes to protect users from obstacles and terrain, and to facilitate
13 separation among IFR traffic, which may also be used by VFR traffic. As defined in Section 3.2.1,
14 the FAA specifies two categories of rules for piloting aircraft based upon the source of navigation.
15 VFR relies upon visual references while IFR utilizes aircraft instrumentation, but either sets of
16 rules may be used depending upon aircraft equipment, pilot experience and meteorological
17 conditions. Victor airway buffers typically extend 4 NM on both sides of the centerline. Figure 3-2
18 depicts recorded radar flights along nearby victor airways showing how existing aircraft operate
19 close to the route centerline with none more than 1 mile on either side while in the vicinity of
20 LHTA and none overflying LHTA. The radar dataset studied comprised the month of June 2019,
21 which is the busiest month of the year (HMMH 2022a).

22 **3.2.2.5 *Standard Instrument Approach Procedures***

23 Instrument flight procedures are charted and/or textual descriptions of a course or route to be flown,
24 minimum and/or maximum altitudes to be observed, and similar procedural information that, when
25 followed by pilots, facilitates separation of aircraft from other aircraft and from terrain while
26 operating under IFR. One of these procedures is the Standard Instrument Approach Procedure
27 (SIAP), which is a defined procedure that allows an aircraft under IFR to transition from the enroute
28 flight environment of airways and air routes to the initiation of landing procedures in the terminal
29 environment. Such a procedure consists of defined maneuvers with reference to flight instruments
30 that provide protection from obstacles, providing safe and predictable transition to a point where the
31 runway can be visually acquired, and landing can be completed.

32 RNAV required navigational performance (RNP) Y and the RNAV RNP Z approaches to Runway 27
33 at the Helena Regional Airport represent two SIAPs that lie within the ROI, shown as the black RNAV
34 tracks depicted in Figure 3-2. Both the Y and Z approaches follow the same flight path with the primary
35 difference being the required precision of the RNAV system and the final altitude at which the crew
36 must decide whether to land or forego the landing to fly the missed approach procedure. RNAV is a
37 method of navigation that permits aircraft operation on any desired flight path within the coverage of
38 ground- or space-based navigation aids, or within the limits of the capability of self-contained aids, or
39 a combination of these. RNP is similar to RNAV but requires on-board navigation performance
40 monitoring and alerting capability to ensure that the aircraft stays within a specific containment area.

1 **3.2.2.6 *Observed Flight Routes***

2 In addition to the known air traffic routes, analysis of the radar data showed three common RNAV
3 flight routes crossing the proposed SUA R-4601 overlying the LHTA, as presented in Figure 3-2
4 (HMMH 2022a). One, transiting the LHTA from the southeast to the northwest, is primarily used
5 by flights destined for Glacier Park International Airport, in Kalispell, MT. A second route transits
6 the middle of the LHTA along the east-west axis and is used by aircraft overflying the area, as is
7 a third route that crosses the northernmost tip of the LHTA in a northwest-southeast direction.
8 These routes are not published but appear to be used with enough frequency to warrant discussion
9 regarding the potential effects of the Proposed Action. Additional details depicting these data can
10 be found in the airspace study in EA Technical Study Volume 1 (HMMH 2022a).

11 **3.2.2.7 *Existing Civilian Flight Operations***

12 A study of the FAA’s Performance Data Analysis and Reporting Systems for the month of June in
13 2019, the busiest air traffic month for the region, considered the worst-case estimate of air traffic
14 at risk of impact within 30 NM of the proposed SUA R-4601 (HMMH 2022a). Most of this dataset
15 comprised military traffic (70%), followed by air taxi (13%), and general aviation (17%)
16 operations with Helena Regional Airport and Bozeman Yellowstone International Airport
17 representing frequent originations or destinations.

18 **3.2.3 Environmental Consequences**

19 The Proposed Action addresses the need for the establishment and operation of an AFGSC
20 helicopter aerial gunnery training range and the establishment of SUA R-4601 at LHTA to
21 authorize that type of training within one FDP of Malmstrom AFB, as described in Section 2.0.
22 Historically and on a continuing basis, MTARNG operates at LHTA under a CFA for surface fire
23 weapons training activities. When weapons training operations are occurring, safety BMPs and
24 SOPs are implemented to protect nonparticipating aircraft from these hazardous activities. The
25 following section describes the evaluation criteria considered within this context to examine the
26 Proposed Action for any potential impacts that would occur to the current airspace environment.

27 **3.2.3.1 *Evaluation Criteria***

28 The potential consequences of the Proposed Action on all airspace users were assessed by
29 analyzing the potential effects on (1) public and private airports and associated controlled airspace;
30 (2) IFR and VFR enroute operations; and (3) Air Traffic Control services.

31 **3.2.3.2 *Effects of the Proposed Action Alternatives***

32 Proposed Helicopter Live-Fire Aerial Gunnery Training

33 Establishment of the proposed West AGR would be within the existing duded impact area that
34 includes existing targets. The firing altitude (300 ft AGL), direction (east), and axis (downward to
35 surface targets) and topography would help contain fired rounds within the established range. As
36 described in Section 2.2.2.3, and depicted in Figure 2-2, the WDZ would be contained within the
37 LHTA boundaries and proposed SUA R-4601. The SDZ for the initial weapons familiarization firing
38 at the HARM Pads are also contained within the LHTA and proposed SUA R-4601. The duration of
39 the helicopter day or night training events while at the LHTA would be 2 to 3 hours each, which for
40 the 100 total training events would result in a total of 200 to 300 hours per year. The airfields and
41 airports within the ROI described in Section 3.2.2.2 would not be adversely affected by the operation

1 of the West AGR due to sufficient lateral separation from the LHTA. The West AGR WDZ would be
2 over 25 mi from the busiest airports in the area, Bozeman Yellowstone International and Helena
3 Regional. Much less frequented Townsend and Canyon Ferry Airports are located 3.6 mi and 5.8 mi,
4 respectively, from the LHTA. Given the low number of flights operating at these two airports, and the
5 use of safety BMPs and SOPs described in Section 2.2.4, the operation of the proposed West AGR
6 would not significantly impact nearby airfields and airports. Similarly, the airport associated airspace
7 detailed in Section 3.2.2.3 would not be impacted by operation of the proposed West AGR.

8 ATS routes and airways described in Section 3.2.2.4, specifically V365 and V536, currently
9 overlay the northeastern portion of the LHTA with a minimum enroute altitude of 10,000 ft MSL
10 and minimum obstacle clearance altitude of 9,400 ft MSL for that segment, which do not interfere
11 with the proposed SUA R-4601 ceiling of 9,000 ft MSL. Although aircraft traffic along V365 and
12 V536 may operate as low as 1,200 ft AGL all existing victor airway traffic do not deviate
13 significantly from the route centerline and none overflow LHTA, as shown in Figure 3-2. The
14 proposed WDZ for the West AGR and SDZ for the HARM Pads would not extend to V365/V536.
15 Therefore, operation of the proposed West AGR, in accordance with safety BMPs and SOPs
16 identified in Section 2.2.4, would not impact ATS routes and airways in the ROI. Aircraft traveling
17 on V365 or V536 would not be affected and the proposed West AGR activity would cease in the
18 event these aircraft venture beyond the lateral limits of those airways. Two SIAPs to the Helena
19 Regional Airport cross over the LHTA, both of which transverse the northwestern most corner
20 placing aircraft between 9,000 and 10,000 ft MSL. When aircraft arriving at Helena Regional
21 Airport utilizes these SIAPs, activity at the proposed West AGR would cease until all civilian
22 aircraft have left the area. Priority would be given to nonparticipating aircraft on victor airways or
23 SIAPs in all instances. When the proposed West AGR would be utilized, these routes would not
24 be impacted by its operation.

25 Observed flight routes and existing civilian flight operations in the ROI primarily occur to and from
26 Helena Regional Airport and Bozeman Yellowstone International Airport. Helicopters would be
27 flown at altitudes to avoid and minimize disturbance over noise sensitive areas, which as defined in
28 FAA Order 1050.1F, normally include residential, educational, health, and religious structures and
29 sites, and parks, recreational areas, areas with wilderness characteristics, wildlife refuges, and
30 cultural and historical sites. In accordance with FAA requirements 14 CFR § 91.119 (*Minimum Safe*
31 *Altitudes*) and Advisory Circular 91-36D (*VFR Flight Near Noise-Sensitive Areas*, 17 September
32 2004), helicopters would fly to and from their home base and LHTA at minimum altitudes of: 500
33 ft AGL over non-congested areas; 1,000 ft above the highest obstacle within a 2,000-ft radius over
34 congested areas (e.g., cities, towns, settlements) or groups of people; and a voluntary effort where
35 practical of flying at 2,000 ft AGL over National Parks, National Wildlife Refuges, Waterfowl
36 Production Areas and Wilderness Areas as depicted on FAA sectional charts (see Section 3.5, *Noise*
37 for additional discussion and figures of flight paths and noise sensitive areas). The airspace analysis
38 found that an estimated 24 operations, all general aviation, currently transit the LHTA area at
39 altitudes less than 10,000 ft MSL over a typical year (HMMH 2022a). Operation of the West AGR
40 would not impact these nonparticipating aircraft since surveillance would be conducted and live-fire
41 training would be halted in the event of nonparticipating aircraft approach of the RA and would not
42 resume until any nonparticipating aircraft exit the RA. Because the proposed helicopter flight paths
43 between Malmstrom AFB and LHTA to access the training area, LHTA to Helena Regional Airport
44 for refueling, and Helena Regional Airport back to Malmstrom AFB would occur between 500 to
45 2,000 ft AGL the additional aircraft would not interfere with commercial aircraft or adversely impact
46 airspace resource, which occur at far greater altitudes.

1 Overall, establishment and operation of the proposed West AGR would not significantly impact
2 airspace resources because safety BMPs and SOPs described in Section 2.2.4, which include
3 similar requirements specified in the existing CFA, would be implemented to minimize impacts to
4 nonparticipating aircraft.

5 Proposed Helicopter-Convoy Training

6 The proposed helicopter-convoy training would occur once annually by the 40 HS and 341 SFG.
7 Vehicles would park along a designated portion of road at the LHTA while helicopters would be
8 used to provide overwatch and threat identification. Helicopters would operate at altitudes of 500
9 to 2,000 ft AGL enroute and 50 to 1,500 ft AGL within LHTA.

10 Training duration would be approximately 2 hours and include tactical communication between
11 helicopter pilots and SFG personnel. No helicopter weapons firing would occur, and the SFG
12 would use blanks rather than live rounds. The proposed flight activity would not differ
13 substantially from existing helicopter operations at the LHTA.

14 This annual helicopter training exercise at LHTA and refueling at Helena Regional Airport would
15 not affect airfields or airports in the ROI due to a negligible increase in operations. Neither would
16 the helicopter-convoy training affect the controlled airspace associated with Helena Regional
17 Airport or Bozeman Yellowstone International Airport because training would not occur within
18 these controlled airspaces.

19 The ground vehicle and helicopter operations associated with helicopter-convoy training would
20 not affect ATS routes and airways or SIAPs in the ROI because no live weapons firing would
21 occur and the two helicopters traveling to and from LHTA performing overflight surveillance
22 would generally avoid controlled airspace and would maintain sufficient vertical separation if
23 crossing victor airways while operating under VFR.

24 Observed flight routes and existing civilian flight operations in the ROI would be negligibly
25 affected by the once-a-year helicopter-convoy training due to short duration and infrequent
26 occurrence. Overall, implementation of helicopter-convoy training at, and travel to and from,
27 LHTA would have a less than significant impact on airspace resources.

28 Proposed Establishment of Restricted Area R-4601

29 The establishment of SUA R-4601 is required for both Alternatives 1 and 2 of the Proposed Action.
30 Activation of proposed SUA R-4601 would only occur when proposed aerial gunnery is scheduled.
31 A total of 100 training events (e.g., 50 day, 50 night) are proposed for both Alternatives 1 and 2,
32 each up to 3 hours in duration. Both day and night training events may be scheduled within the
33 same 24-hour period. The number of days and duration per day that the proposed SUA R-4601
34 would be activated would depend on the number of training events scheduled per day. As a worst-
35 case estimate, proposed SUA R-4601 would be activated for 300 hours per year (e.g., 50 days with
36 both day and night training events [50 days x 6 hours], or 100 days with only one training event
37 [100 days x 3 hours]). This represents less than 10% of the 140 days (22 hours per day) potentially
38 available for existing live-fire gunnery training, which is environmentally and seasonally limited
39 at the LHTA. The activation of proposed SUA R-4601 would represent less than 4% of total hours
40 (22 hours x 365 days) available for civil flight operations on an annual basis.

41 The proposed SUA R-4601 would cover the LHTA from the surface to 9,000 ft MSL (approximately
42 4,000 ft AGL) to segregate these operations from nonparticipatory aircraft, which would not be able

1 to enter while the restricted area is active. The proposed SUA R-4601 time of use would be by
2 NOTAM, and would be controlled by the FAA, specifically the Salt Lake City ARTCC. MTARNG
3 would be responsible for scheduling and reporting use of proposed SUA R-4601.

4 Existing flight operations (without gunnery) and ground-based weapons training would continue
5 to operate in accordance with the FAA-authorized LHTA CFA. This existing training occurs over
6 approximately 140 training days per year. The CFA will be active during periods when restricted
7 airspace is not active and live-fire ground-based gunnery is scheduled. When restricted airspace is
8 designated active by NOTAM, the CFA will not be operational.

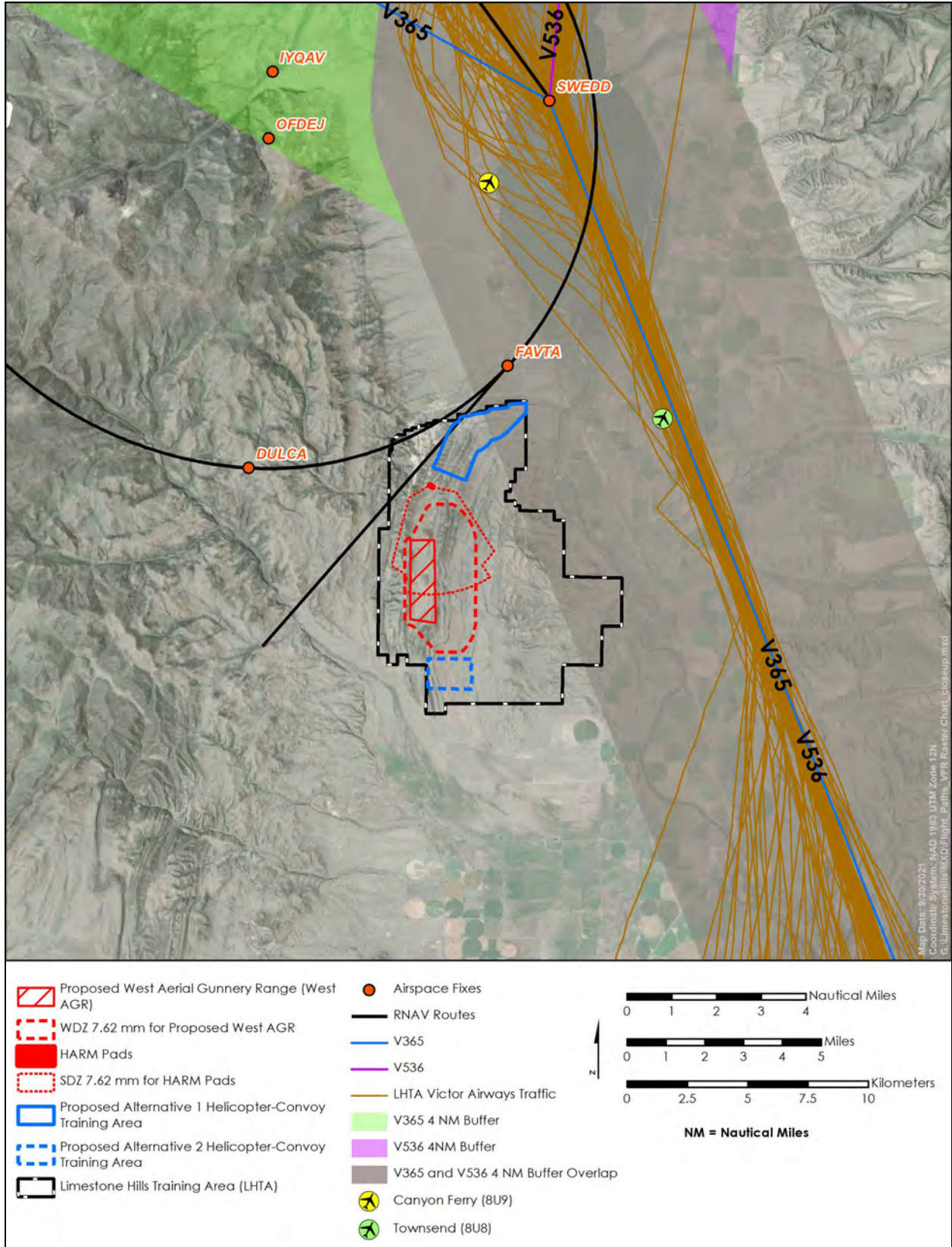
9 For both Alternatives 1 and 2, the establishment of proposed SUA R-4601 would require
10 rulemaking (i.e., for a restricted area) as applicable per requirements in FAA JO 7400.2N and FAA
11 Order 1050.1F. In addition to this EA, as part of the FAA's approval process, potential impacts on
12 civil aviation will be examined in greater depth during their aeronautical study process (FAA JO
13 7400.2N). This EA, the FAA's aeronautical study and public input will be considered by the FAA
14 to make an informed decision regarding the safe and efficient use of the airspace by all users. This
15 process will ensure that no significant impacts occur to airspace management and use.

16 As described in Section 3.2.2.2, airfields and airports in the vicinity of the ROI include Bozeman
17 Yellowstone International Airport, Helena Regional Airport, Townsend Airport, and Canyon Ferry
18 Airport. Controlled airspace comprises Class D and Class E associated with Helena Regional and
19 Bozeman Yellowstone International Airports. As shown in Figure 3-2, none of the airports or
20 controlled airspace located within or near the proposed SUA R-4601 would be adversely affected.

21 ATS routes and airways, specifically V365 and V536, currently overlay the proposed northeastern
22 portion of SUA R-4601 but at greater altitudes than the proposed RA ceiling of 9,000 ft MSL for
23 enroute and obstacle avoidance altitudes of 10,000 and 9,400 ft MSL. Although aircraft traffic along
24 V365 and V 536 may operate as low as 1,200 ft AGL all existing victor airway traffic do not deviate
25 significantly from the route centerline and none overflow LHTA, as shown in Figure 3-3.

26 Two SIAPs (RNAV routes) to the Helena Regional Airport overlay SUA R-4601 above the
27 northwestern most corner where aircraft utilizing those arrival procedures operate at altitudes above
28 the proposed SUA R-4601 ceiling of 9,000 ft MSL, as shown in Figure 3-3. Both RNAV RNP Z
29 and Y for Runway 27 at Helena Regional Airport follow the same flight path, with the primary
30 differences between these SIAPs being the required precision of the RNAV system and the final
31 altitude at which the crew must decide whether to land or to forego the landing and fly the missed
32 approach procedure. None of these ATS routes or airways would be significantly impacted from the
33 establishment of proposed SUA R-4601.

34 Observed flight routes and existing civilian flight operations primarily occur to and from Helena
35 Regional Airport and Bozeman Yellowstone International Airport, as depicted in Figure 3-3. The
36 airspace analysis found that an estimated 24 operations, all general aviation, currently transit the
37 LHTA area at altitudes less than 10,000 ft MSL over a typical year, a portion of which may operate
38 below the SUA R-4601 proposed ceiling of 9,000 ft MSL, that would be barred from entering SUA
39 R-4601 if activated (HMMH 2022a). The proposed SUA R-4601 would be approximately 7 mi in
40 the north-south direction along its longest length requiring nonparticipatory aircraft to either navigate
41 above or around the restricted airspace.



1
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Figure 3-3. LHTA Victor Airways Traffic .

1 No private or public airports, IFR enroute operations, or air traffic control services would be
2 significantly impacted by Proposed Action Alternatives 1 and 2. Existing nonparticipatory civilian
3 flights operating through LHTA would be required to find alternative paths when proposed SUA
4 R-4601 would be activated. Activation of proposed SUA R-4601 would be given by NOTAM to
5 minimize disruption to nonparticipatory aircraft, thus the impacts would be less than significant
6 for both alternatives.

7 **3.2.3.3 Effects of the No Action Alternative**

8 Under the No Action Alternative, the Proposed Action would not occur and baseline conditions
9 would persist. Therefore, there would be no impact to airspace resources or management from the
10 implementation of the No Action Alternative.

11 **3.2.4 Best Management Practices and Standard Operating Procedures**

12 The proposed SUA R-4601 would be established and managed in accordance with FAA JO
13 7400.2N, *Procedures for Handling Airspace Matters*; AR 385-63, *Range Safety*; AR 95-2, *Air*
14 *Traffic Control, Airfield/Heliport, and Airspace Operations*; and a Letter of Agreement between
15 the Salt Lake City ARTCC and The Adjutant General, State of Montana.

16 Helicopter aerial gunnery training would follow pertinent BMPs and SOPs detailed in Section
17 2.2.4, including:

- 18 • No hazardous weapons training would be allowed unless the cloud ceiling is at least 1,000
19 ft above the maximum ordinate altitude within the restricted area, no projectile may enter
20 a cloud formation, and visibility is sufficient to permit visual surveillance extending to a
21 minimum of 5 mi in all directions beyond the restricted area.
- 22 • A RSO must be present at the live-fire training range and a sufficient number of safety
23 observers must be in place to cover the entire surveillance area, which includes the training
24 range and proposed restricted area.
- 25 • Continuous communication must be in effect at all times between the OIC, RSO, safety
26 observers and Range Control Tower, and between the helicopter pilots and Range Control
27 Tower.
- 28 • Hazardous live-fire training will immediately cease at any time communication among the
29 OIC, RSO, safety observers and Range Control Tower is lost, approach of a
30 nonparticipating aircraft, or a vehicle is reported as proceeding past the guard post during
31 scheduled live-fire training.
- 32 • The firing direction and axis for the proposed West AGR will only occur to the east to take
33 advantage of natural terrain and topography, which would contribute to containment of fired
34 ammunition and separation for civilian aircraft and nonparticipating ground personnel.
- 35 • Helicopters would be flown at altitudes to avoid and minimize disturbance over noise
36 sensitive areas, as defined in FAA Order 1050.1F. In accordance with FAA requirements
37 14 CFR § 91.119 (Minimum Safe Altitudes) and Advisory Circular 91-36D (Visual Flight
38 Rules [VFR] Flight Near Noise-Sensitive Areas, 17 September 2004), helicopters would
39 fly to and from their home base and LHTA at minimum altitudes of: 500 ft Above Ground
40 Level (AGL) over non-congested areas; 1,000 ft above the highest obstacle within a 2,000-
41 ft radius over congested areas (e.g., cities, towns, settlements) or groups of people; and a
42 voluntary effort where practical of flying at 2,000 ft AGL over National Parks, National

1 Wildlife Refuges, Waterfowl Production Areas and Wilderness Areas as depicted on FAA
2 sectional charts.

3 The helicopter aerial gunnery training activation of proposed SUA R-4601, an estimated 200 to
4 300 hours per year (less than 4% of the time), would be a less than significant impact to airspace
5 operations and would not require mitigation.

6 **3.3 Land Use**

7 **3.3.1 Definition of Resource**

8 CEQ Regulations (40 CFR § 1502.16(a)(5)) require the assessment of the potential conflicts of the
9 Proposed Action with the objectives of federal, regional, state, local and Tribal land use plans,
10 policies, and controls for the area concerned. Regional and local land use planning is utilized to
11 ensure the compatibility of adjacent properties and orderly growth to obtain the most effective and
12 efficient use of real properties. It is DoD policy to “promote long-term compatible land use on and
13 in the vicinity of air installations.” Land use is regulated through management plans, policies,
14 regulations, and ordinances (i.e., zoning) that determine the type and extent of uses allowable in
15 specific areas and to protect specially designated or environmentally sensitive areas.

16 The public lands withdrawn and reserved for military use at LHTA were subject to certain limitations
17 and restrictions (National Defense Authorization Act for Fiscal Year 2014, Pub. L. 113-66) regarding
18 coordination of defense-related uses with mining and grazing permits or leases managed by the BLM.
19 Besides military training, land uses that continue under terms of the withdrawal include state and
20 private property ownership, livestock grazing, active mining operations, public access, limited
21 recreation, invasive weed and pest control, and wildland fire management.

22 Some of the underlying laws that drive land use management at LHTA include:

- 23 • Sikes Act (16 U.S.C. § 670 et. seq.);
- 24 • Federal Land Policy and Management Act (43 U.S.C. § 1701 *et seq.*, as amended, for uses
25 whose management is retained by the BLM); and
- 26 • Federal Aviation Act (49 U.S.C. § 40103 Sovereignty and Use of Airspace)

27 BLM grazing allotments are provided standards and guidelines by 43 CFR § 4180.1 Fundamentals
28 of Rangeland Health. Several plans and policies affect land use at the LHTA including, but not
29 limited to:

- 30 • 2018 Implementation Agreement for coordinating the joint and compatible use of the
31 LHTA (DARNG et al. 2018);
- 32 • Fort William Henry Harrison Real Property Master Plan (MTARNG 2018, 2020a);
- 33 • ICRMP (MTARNG 2020b) and INRMP (MTARNG 2021a);
- 34 • Integrated Wildland Fire Management Plan [IWFMP] (MTARNG 2020d);
- 35 • MTARNG Integrated Pest Management Plan (as referenced in MTARNG 2021a); and
- 36 • MTARNG Statewide Operational Noise Management Plan (as referenced in Matrix
37 Design Group 2014).

38 State and local plans and policies that guide land use in the region include:

- 1 • Montana zoning regulations;
- 2 • Montana Subdivision and Platting Act (Montana Code Annotated 2019 [MCA] 76-3-101
- 3 *et seq.*);
- 4 • Broadwater 2020 Growth Policy Update (Broadwater County 2020);
- 5 • Broadwater County’s Code to Enhance the Quality of Life in the New West (Broadwater
- 6 County 2010);
- 7 • Broadwater County Subdivision Regulations (Broadwater County 2012); and
- 8 • Lewis and Clark County Growth Policy (Lewis & Clark County 2016).

9 **3.3.2 Existing Conditions**

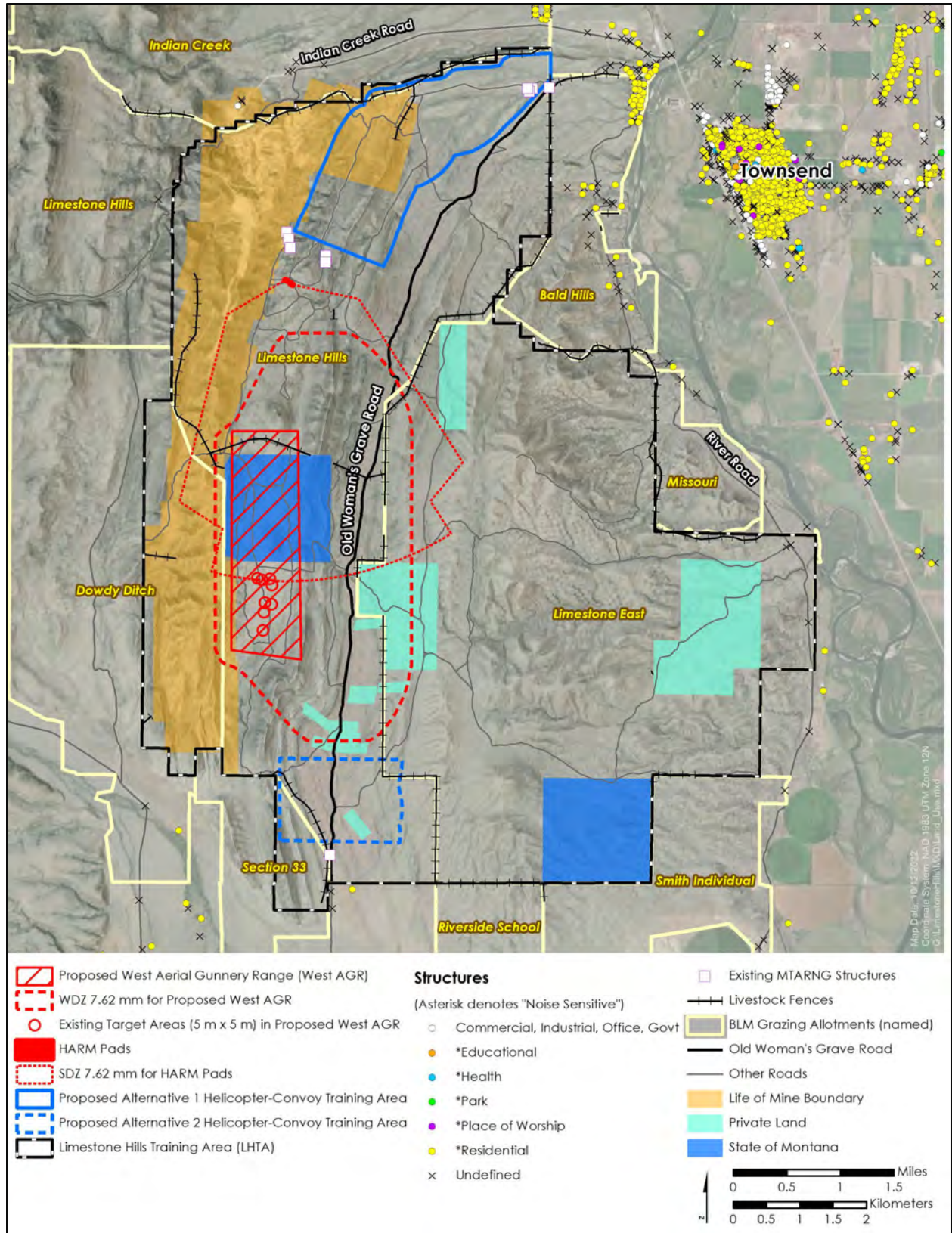
10 The ROI for land use includes lands within the LHTA, and up to 1 mi outside the boundary. This
11 reaches the boundary of the City of Townsend and includes the Missouri River to the east, and to the
12 west nearly reaches the Elkhorn Mountains area of the Helena National Forest. It also includes the
13 vertical limits of the proposed SUA R-4601. The ROI does not include the flight path between LHTA
14 and Helena, which is part of the baseline conditions for helicopters conducting existing training at
15 the LHTA. This flight path generally follows the alignment of State Highway 287 and is within the
16 Military Overflight Awareness Area between Helena and LHTA identified in the Joint Land Use
17 Study (Matrix Design Group 2014). The ROI also does not include the helicopter flight paths
18 between Malmstrom AFB and LHTA or between Helena and Malmstrom AFB.

19 **3.3.2.1 Regional Setting**

20 Land use adjacent to the LHTA consists of low-density residential housing, ranches, mining
21 operations, and public land managed by the BLM and State of Montana (Figure 3-4). Residential
22 development is greatest to the east of the LHTA with homes along River Road, mainly near the
23 north and northeastern boundaries; development is sparse along the other boundaries.

24 Many tracts of private land along LHTA’s northern and northeastern boundary have changed
25 ownership from large ranches, controlled by only a few owners, to numerous, individually-owned,
26 smaller parcels (MTARNG 2021a). The Broadwater County Growth Policy Update (Broadwater
27 County 2020) notes that, while Broadwater County is expected to maintain its rural nature, its
28 location between two of the fastest growing areas of the state—Bozeman and Helena—will
29 continue to attract new residents and the building of new homes.

30 There are no federal or state designated “Natural Areas” near the LHTA. Nevertheless, relatively
31 undeveloped natural lands are comparatively plentiful in the vicinity. The Canyon Ferry Wildlife
32 Management Area is administered by the Bureau of Reclamation. Canyon Ferry Lake, a reservoir
33 on the Missouri River, is located 2 mi northeast of the LHTA. The USFS’s Elkhorn Wildlife
34 Management Unit is within the Elkhorn Mountains to the west and northwest. The mountains are
35 entirely contained within Hunting District 380. A major focus of the work in the Elkhorns today
36 is to manage livestock to expedite recovery from past intensive grazing (USFS 2021). The LHTA
37 occurs within the Elkhorns Cooperative Management Unit, which is managed (as described in
38 Section 2.0) under an interagency MOU (USFS 2020) between the MTFWP, BLM, NRCS, and
39 USFS Helena-Lewis and Clark and Beaverhead-Deerlodge National Forests.



1
 2 Source: MTARNG GIS unpublished, Montana State Library (2021) GIS for Structures.

3 **Figure 3-4. Land Use in the Vicinity of the LHTA.**

1 The land that makes up LHTA is owned by several entities as shown in Table 3-1. Approximately
 2 18,650 acres are federally administered land (Army and BLM) and approximately 2,650 acres are
 3 state-administered and private land. The State of Montana lands are used for military training under
 4 lease agreements with the Montana Department of Military Affairs, and are managed according to
 5 the details of the lease agreements regarding noxious weeds, land use, and grazing. There also are
 6 agreements between the Montana Department of Military Affairs and private landowners, though no
 7 military training occurs on private land (MTARNG 2014, 2021a). Most of the installation consists
 8 of undeveloped natural areas. A few residences are located along River Road along the eastern
 9 boundary of the LHTA (see Figure 3-4).

10 **Table 3-1. LHTA Land Ownership (Acres, Approximate).**

Owner	Acres	Percent of Total Acres
U.S. Department of the Army (BLM manages and administers permits, authorizations, and leases for mining and grazing)	18,650	87.6
State of Montana	1,280	6.0
Private	1,370	6.4
Total	21,300	100

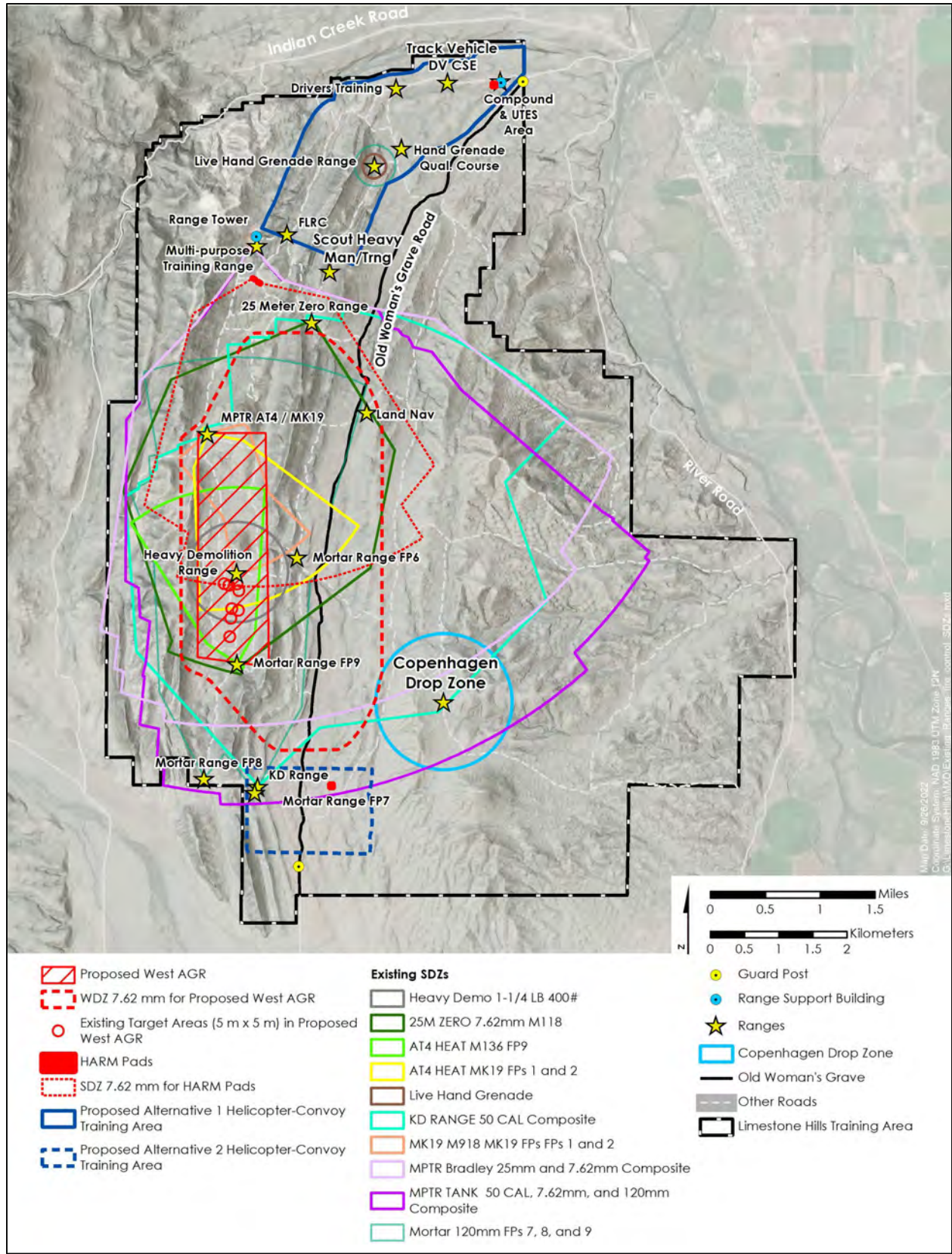
11 Source: MTARNG 2020a.

12 Broadwater County maintains OWG Road, River Road, and Indian Creek Road on the LHTA. The
 13 County also has jurisdiction over private property development within the LHTA (MTARNG and
 14 BLM 2008). The LHTA does not fall under local zoning ordinances. The only areas zoned in
 15 Broadwater County are in the City of Townsend (MTARNG and BLM 2008).

16 **3.3.2.2 Military Land Uses**

17 Fort Harrison serves as the headquarters and the LHTA serves as a training installation for the
 18 MTARNG. The LHTA is used for military exercises approximately 140 days per year out of a 6.5-
 19 month training period (MTARNG and BLM 2008). The LHTA is primarily used for tank and
 20 Bradley Fighting Vehicle maneuvers and weapons firing and mortar training. Other uses include
 21 sub-caliber artillery firing, machine gun firing, small-arms firing, and small unit tactical problems
 22 training. Maneuver areas can accommodate two company-sized units. Helicopter operations
 23 include air-to-ground drop zones, low-level and nap-of-the-earth flying (very low altitude to avoid
 24 enemy detection and attack), insertion and extraction, hovering, traffic patterns, and external load
 25 operations. There are multiple SDZs associated with ground weapons firing or demolition
 26 activities, as shown in Figure 3-5; in SDZ overlap areas, activities are scheduled to avoid
 27 occupying areas at the same time. Existing ground-based surface-to-surface and surface-to-air
 28 weapons training (e.g., Bradley fighting vehicles, hand grenades, rifles, machine guns, mortars,
 29 etc.), aircraft airdrops of equipment, and helicopter training (without gunnery) is conducted in
 30 accordance with an FAA-authorized CFA (Figure 3-5).

31 The area west of OWG Road is closed to public access due to UXO and training activities; the area
 32 east of this road is sometimes referred to as the “nonclosure area” (MTARNG and BLM 2008).
 33 Guard shacks are positioned at the north and south ends of OWG Road to control public access
 34 during military training.



1
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Figure 3-5. Military Training Ranges and SDZs at LHTA.

1 Military training, since the 1950s, has resulted in UXO contamination, particularly within the
2 interior 5,000-acre historic impact area, although UXO has been recovered outside that area
3 (MTARNG 2014). Approximately 10% of the impacted lands are subject to annual UXO removal.
4 Complete removal of UXO is required prior to release for mining; all zones in Graymont’s active
5 mining area were previously cleared of UXO and ongoing removal continues in the “life of mine”
6 claim boundary (see Figure 3-4).

7 **3.3.2.3 Mining**

8 The Graymont Indian Creek plant and limestone quarry actively extract and process limestone along
9 the western border of the LHTA. Figure 3-4 shows the boundary of the Graymont “life of mine” area.
10 In accordance with standard SOPs (see Section 2.2.4, *Best Management Practices and Standard*
11 *Operating Procedures*), military training, including helicopter training flights, avoid Graymont’s
12 Indian Creek plant and mining operations. The military training schedule and Graymont’s operations
13 are closely coordinated each year in accordance with an Implementation Agreement (DARNG et al.
14 2018), as described in Section 1.0. This Agreement sets up an annual coordination meeting with an
15 established agenda for the parties to finalize a joint-use calendar to coordinate and deconflict live-fire
16 training, UXO clearance, and mining activities. Day-to-day joint-use procedures are agreed to such
17 as routine monitoring of the Range Control radio network; notification of certain activities related to
18 safety and road access; and provision for as-needed meetings.

19 There are approximately 185 acres of patent mining claims located along the southern part of OWG
20 Road, small parcels identified as private land in the southern portion of the WDZ and Alternative
21 2 helicopter-convoy training area (see Figure 3-4). None of these mine claims are currently being
22 worked.

23 **3.3.2.4 Livestock Grazing**

24 The BLM retained management of grazing resources for the lands withdrawn and reserved. As
25 with mining, the military training schedule and all live-fire activities are scheduled and coordinated
26 with the BLM, including its allotment permittees, by way of a joint-use calendar developed at an
27 annual meeting under the Implementation Agreement (DARNG et al. 2018).

28 The BLM will continue to administer grazing leases for the foreseeable future. The BLM grazing
29 permit system recognizes priority in occupancy and allows grazing access under terms and
30 conditions for specific parcels to remain with individuals and ranches as long as permit conditions
31 are met; most permits are renewable and valid for 10 years. Allotment Management Plans specific
32 to each permit describe the allowable class of livestock (e.g., sheep, cattle), intensity, duration, and
33 timing of grazing.

34 The BLM monitors rangeland health based on BLM regulations. Currently permitted among the
35 allotments are 27 cattle (Dowdy Ditch), 1,200 sheep (Limestone East), 484 cattle (Limestone
36 Hills), and one cattle unit (Section 33) (see Figure 3-4). Certain tracts of privately-owned land
37 located east of OWG Road and embedded within the allotments are used for livestock grazing.
38 The MTARNG currently has leases with the State and private landowners for the lands located
39 inside the boundaries of LHTA, and grazing is an allowed use (Matrix Design Group 2014).

40 The Limestone Hills Allotment has the most acreage within the area of the Proposed Action, with
41 13,090 acres allotted for cattle from June 1 through September 30, at a stocking rate of about 7
42 acres per adult cow per month. It is managed via a rest-rotation system of six pastures on a schedule

1 defined in the Allotment Management Plan. Cattle are owned by multiple operators under the same
2 permit, who routinely stock below their allotted maximum capacity (578 Animal Unit Months
3 have been relinquished and are unallotted [BLM 2022]). Limestone East is 7,896 acres allotted for
4 sheep seasonally from November 1 through March 4 at a stocking rate of about 10 acres per adult
5 sheep per month.

6 BLM grazing allotments are routinely evaluated as part of a required land health assessment conducted
7 by a BLM team. Achieving or making significant progress towards standards and guidelines is required
8 of all uses of public land as stated in 43 CFR § 4180.1. Soil quality, erosion, deposition, water quality,
9 hydrologic function, vegetation condition, and biotic community integrity are factors considered as to
10 whether they meet standards for Western Montana for achieving and maintaining a healthy, properly
11 functioning ecosystem within the historic and natural range of variability for long-term sustainable use.
12 The pastures of the Limestone Hills Allotment on LHTA were rated as meeting standards for upland
13 health; riparian health; air quality; and biodiversity (BLM 2022). Forestry standards were not met due
14 to juniper encroachment replacing small Douglas fir, weediness, and stands with missing gaps. Biotic
15 Integrity was rated as slightly to moderately impacted in both allotments due to juniper encroachment
16 and due to weeds, such as knapweed, toadflax, and cheatgrass. Montana Department of
17 Environmental Quality (MDEQ) standards were not achieved due to mining-related chemical
18 impairments (BLM 2022). A total of 13 riparian reaches and springs were evaluated (one in Limestone
19 Hills East). Nine of these were rated in Proper Functioning Condition; two were rated as At Risk but
20 improving; and one was rated At Risk due to road adjacency. Abigail Springs was rated At Risk with
21 a downward trend due to inadequate maintenance related to the presence of the bombing range.

22 **3.3.2.5 Public Access**

23 The County-maintained OWG Road, River Road, and Indian Creek Road provide public access around
24 and through the LHTA. OWG Road is used by civilians traveling between areas north and south of
25 LHTA, including ranchers to gain access to areas of LHTA where their livestock graze. In accordance
26 with LHTA SOPs, guards are posted at both ends of OWG Road to inform the public when live-fire
27 training is in effect and access must be controlled (see Section 2.2.4, *Best Management Practices and*
28 *Standard Operating Procedures*). While private lands located within the LHTA are not used for
29 military training (MTARNG 2021a), if military activities caused damage to private property, the
30 landowner would be reimbursed (Matrix Design Group 2014). Although recreation is not managed by
31 MTARNG, public use of lands east of OWG Road for recreation is allowed similar to when lands were
32 managed by the BLM prior to the land withdrawal legislation. Recreation use may include hunting,
33 hiking, horseback riding, mountain biking, and use of motorcycles and vehicles on existing roads (no
34 off-road vehicle use is allowed) (MTARNG and BLM 2008). Currently, there is limited recreation use
35 on the LHTA east of OWG Road (MTARNG 2021b). Public use and access of LHTA may occur
36 without the Public realizing it since portions of LHTA are not fenced, nor are signs posted around its
37 entire perimeter (Matrix Design Group 2014). The BLM, USFS, and County coordinate public access
38 in lands surrounding LHTA.

39 **3.3.2.6 Wildland Fire Management**

40 Military training, especially in the dry summer months, may be restricted due to elevated fire risk.
41 In accordance with MTARNG Range Operation SOPs, fire suppression vehicles, equipment and
42 trained personnel are on hand during live-fire training at the LHTA. MTARNG personnel are
43 responsible for detecting and suppressing fires that occur during training exercises. On-site
44 firefighting equipment for initial attack is described in Section 2.2.1.3, *Operations and*

1 *Maintenance*, along with procedures for halting training and summoning backup support. Fires that
2 ignite during training are suppressed in accordance with the 2006 LHTA Wildfire Suppression Plan,
3 and the IWFMP (MTARNG 2020d). The LHTA Wildland Fire Standard Operations Guidelines
4 outline an established fire season between 01 May and 30 September each year. During this time
5 the MTARNG notifies the Helena Interagency Dispatch Center in advance of all live-fire training
6 exercises. All live-fire training complies with the wildfire hazard rating system used by the Helena-
7 Lewis and Clark National Forest, which systematically and progressively restricts live-fire training
8 and other non-military activities based on the weather-related potential for wildfires.

9 An approximate 5.2-mi firebreak is maintained around the duded impact area where the proposed
10 West AGR will be located. Firefighters do not enter the duded impact area due to UXO safety
11 concerns; instead fire attack/suppression is from the firebreak perimeter road. This firebreak is
12 shown on Figure 3-6, along with the record and footprint of fires between 2000-2015; no
13 substantial fires have been reported since 2015. Existing firebreak maintenance includes annual
14 herbicide treatments using Integrated Training Area Management (ITAM) and Range Operations
15 resources. Fire management strategies planned through the INRMP and IWFMP focus on
16 promoting vegetation structure and fuel conditions that are fire-resilient, and that do not contribute
17 to severe fire conditions, the need for new firebreaks, and fuel reduction by mowing.

18 The INRMP (MTARNG 2021a) identifies objectives to: a) finalize the draft IWFMP, b) maintain
19 existing fire breaks with total vegetation control while preventing erosion issues and manage
20 cheatgrass and other fine fuels on active firing ranges, and c) to increase the firebreak buffer
21 through vegetation thinning and removal. Collaboration with Training Command and USFS in fire
22 management is part of the execution strategy for achieving these objectives.

23 As identified in the IWFMP (MTARNG 2020d), measures to minimize post-fire effects to natural
24 resources are taken after an incident. For example, erosion control and invasive plant species
25 control, including reseeding and pesticide application, if necessary.

26 **3.3.2.7 Weed Control Management**

27 Routine monitoring and some focused assessments conducted by both MTARNG and BLM have
28 reported on the status of noxious and invasive weeds over the years (MTARNG 2021a; BLM 2022).
29 Under the INRMP, noxious weed inventory and control are scheduled annually and sometimes
30 more frequently (MTARNG 2021a). Many of the targeted weeds are perennial, such as spotted
31 knapweed (*Centaurea maculosa*), whitetop (*Cardaria draba*), leafy spurge (*Euphorbia esula*), and
32 Russian olive (*Elaeagnus angustifolia*); however, certain annual weedy species of importance at
33 the regional level are independently mapped using remote sensing techniques. Cheatgrass (*Bromus*
34 *tectorum*) is an annual invasive grass and fits in this category. It was present on 60% of the sites
35 monitored on the LHTA in 2012 (AEM Group 2022). Figure 3-7 displays the recent condition
36 (2016-2018) of annual herbaceous weeds, presumed to be mostly annual grasses such as cheatgrass.
37 This assessment was based on a regional project commissioned by the Western Governors
38 Association and is based on remote imagery combined with some national ground-truthed datasets
39 (Maestas et al. 2020).

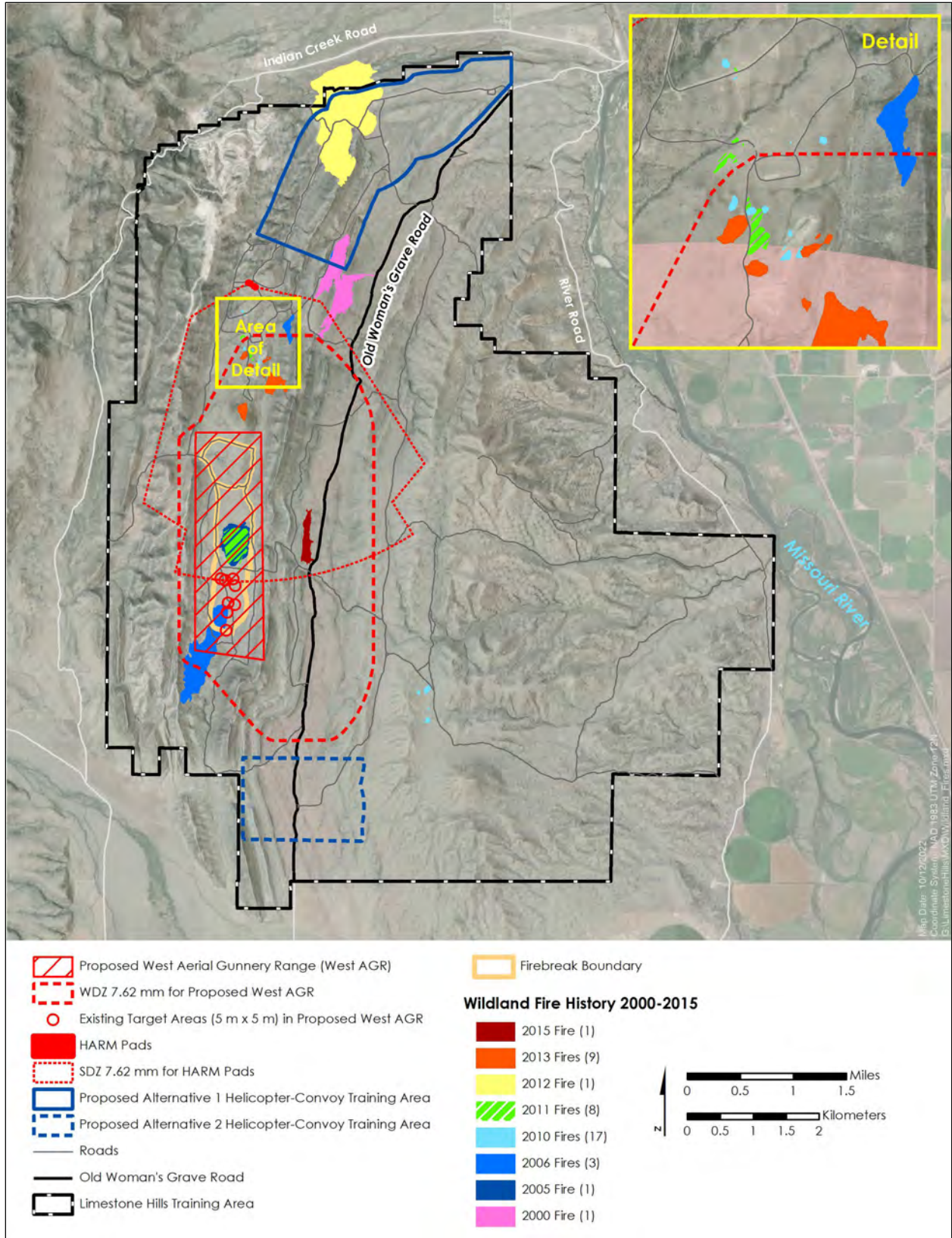
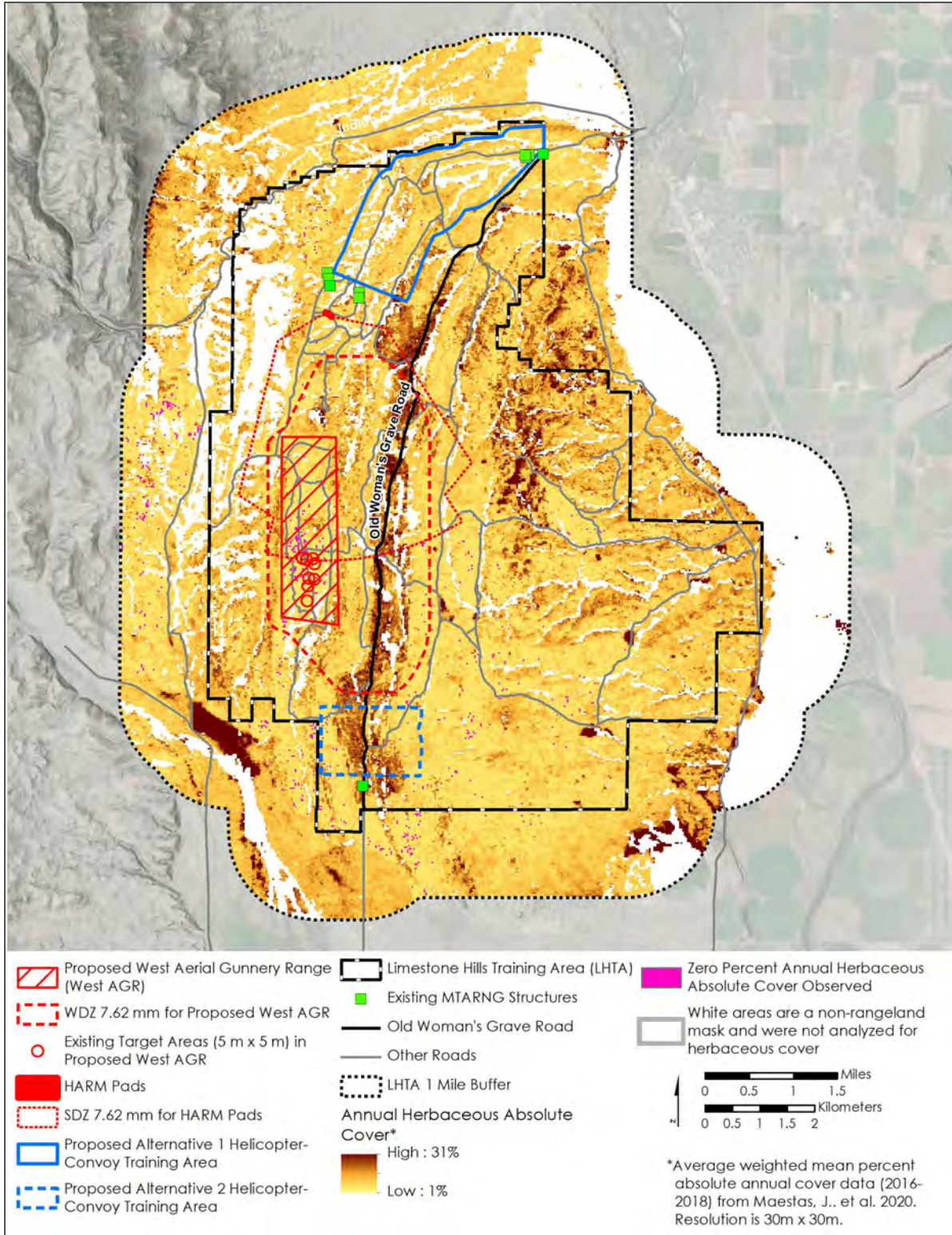


Figure 3-6. Wildland Fire History in the Vicinity of LHTA.

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 2



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Note: A 30-meter pixel was used to combine datasets of annual herbaceous species including the Rangeland Analysis Platform (Jones et al. 2018), USGS Harmonized Landsat and Sentinel (Pastick et al. 2020, Pastick et al. [in prep]), and USGS National Land Cover Database (Rigge et al. 2020). These three datasets are combined using a weighted mean approach to generate the final annual herbaceous mean cover product (Jeffries and Finn 2019).

6
7
Figure 3-7. Estimated Distribution of Cheatgrass and Other Invasive Annual Weeds in 2016-2018, Based on Maestas et al. (2020).

1 The INRMP (MTARNG 2021a) currently identifies herbicide spray, seeding, and release of
2 biocontrols (in the case of spotted knapweed) for weed control. The INRMP prioritizes projects that:
3 (1) promote vegetative structure and fuel conditions that are fire-resilient and do not contribute to
4 severe fire conditions; (2) update the IWFMP to reflect goals of the INRMP; and (3) use herbicides
5 and reseeded to increase successful, sustainable control and management of cheatgrass on LHTA.
6 A project is proposed in 2022 to map, treat, and rehabilitate cheatgrass infestation areas to enhance
7 range resilience, and ensure mission continuity. Controlling the spread of cheatgrass is important
8 since it has been shown to increase fire frequency, creating a positive feedback loop that promotes
9 non-native species at the expense of recovering native vegetation and wildlife.

10 Allotment Management Plans are another tool for correcting invasive weed problems, in
11 collaboration with the BLM and livestock permittees. The Montana Weed Management Plan is a
12 tool that facilitates private, county, state, and federal weed management efforts in the state. The
13 Statewide Integrated Roadside Vegetation Management Plan coordinates ecologically-based
14 integrated weed management strategies on roadsides in support of national, state, city, and county
15 roadside vegetation management objectives.

16 **3.3.3 Environmental Consequences**

17 **3.3.3.1 Evaluation Criteria**

18 The significance of land use impacts is based on whether the Proposed Action: conflicts with
19 established land uses in the area; disrupts or divides established land use configurations; represents
20 a substantial change in existing land uses; or is inconsistent with adopted land use plans. Land use
21 impacts would be significant if the proposed helicopter gunnery training and establishment of a
22 SUA would preclude the viability of other existing LHTA land uses, reconfigure or substantially
23 change military, mining, grazing, or public uses, or be inconsistent with approved agency or
24 government plans. Considerations include the existing land use of the project area, the proximity
25 and classification of adjacent land use types, and the duration and permanence of the activities
26 associated with an action.

27 **3.3.3.2 Effects of the Proposed Action Alternatives**

28 Proposed Helicopter Gunnery Training

29 The following effects would be the same under Alternatives 1 and 2. There would be no effect on
30 land ownership or land use from the Proposed Action. The West AGR and the HARM Pads occur
31 within existing training ranges and the modeled SDZ and WDZ for the 7.62 mm rounds would be
32 contained within the boundaries of the LHTA and are of similar extent as SDZs associated with
33 existing training (see Figure 3-5). While the WDZ for the West AGR and SDZ for the HARM
34 Pads overlap State of Montana lands within existing training ranges, additional munition debris or
35 ricochet from gunnery training would be expected to be limited due to the firing direction into the
36 West AGR being to the east and away from the state lands. The terrain and topography also
37 provides screening between the state lands and the West AGR and HARM Pads firing directions.
38 Terrain and topography also will help contain munition debris and provide screening between the
39 West AGR, HARM Pads, OWG Road, and private lands east of this road.

40 Helicopter aerial gunnery training will be scheduled during the 140 days of live-fire training that
41 occurs under existing conditions. Existing BMPs and SOPs will be used to ensure the safety of
42 persons traveling on OWG Road (see Section 2.2.4).

1 Effects on Graymont’s mining activity are expected to be less than significant with existing BMPs
2 and SOPs (Section 2.2.4). The firing direction of the proposed West AGR is to the east and at the
3 HARM Pads is to the southeast, both of which are away from the mine boundary. Although there is
4 overlap between the HARM Pads SDZ and West AGR WDZ with the “life of mine” boundary,
5 terrain and the steep-slope topography provide 400 to 600 ft of vertical separation between the east
6 side of the “life of mine” boundary and the HARM Pads and West AGR (see topography on Figure
7 3-14 in Section 3.6, *Earth Resources*). Per existing SOPs, helicopters are restricted from flying over
8 the mine. Additionally, helicopter aerial gunnery training would be scheduled in the Range Facility
9 Management Support System using the existing Fort Harrison SOPs, and there would be no change
10 to the ongoing meetings and coordination that occur between MTARNG, BLM, and Graymont in
11 accordance with the Implementation Agreement (DARNG et al. 2018) to deconflict military training
12 with mining operations.

13 Effects on permitted livestock grazing are also expected to be less than significant with existing BMPs
14 and SOPs (Section 2.2.4). The new helicopter gunnery training would be scheduled using the existing
15 Fort Harrison SOPs, and there would be no change to the ongoing annual coordination meeting that
16 occurs between MTARNG, BLM and permitted grazing allotment holders consistent with the
17 Implementation Agreement (DARNG et al. 2018) to deconflict military training with livestock
18 grazing. In addition, helicopter pilots would conduct an initial reconnaissance and range clearing
19 maneuver to ensure the area is clear of grazing livestock prior to commencing gunnery training.

20 There may be an increase in fire risk associated with the proposed helicopter live-fire gunnery
21 training; however, effects would be expected to be less than significant per existing BMPs and
22 SOPs (Section 2.2.4). These include avoidance of live-fire gunnery during times of extreme fire
23 hazard, restriction of use of tracer rounds during times of elevated fire risk, and requirement for
24 firefighting equipment and personnel to be on hand to suppress range fires that may occur.
25 Additionally, all helicopter gunnery will use weapons outfitted with brass catchers to reduce
26 potential range fires, and helicopter pilots will conduct a range clearing maneuver at the end of
27 gunnery training to check for smoke or fire and report to Range Control prior to obtaining clearance
28 to depart the area. In the event of reportable smoke or fire, Range Control would initiate fire
29 suppression response, as warranted. Furthermore, the INRMP (MTARNG 2021a) identifies
30 activities for maintaining existing fire breaks, including total vegetation control while preventing
31 erosion issues, managing cheatgrass and other fine fuels on active firing ranges, and to increase the
32 firebreak buffer through vegetation thinning and removal.

33 Proposed Helicopter-Convoy Training

34 This training activity would occur once annually by the 40 HS and 341 SFG and include use of up to
35 15 vehicles and two helicopters. Vehicles would park along a designated portion of road at the LHTA
36 and up to 30 SFG personnel would conduct training within an approximate 3,280-ft area on either side
37 of the roadway. There would be no aerial gunnery or live weapons firing with this activity.

38 The effects of this training would be similar under both Alternatives 1 and 2, only differing in the
39 location where the training would occur. Helicopter-convoy training would have no effect on land
40 ownership, established land use configurations, land use, or adopted land use plans.

41 Effects on livestock grazing would be less than significant for both Alternatives 1 and 2 with
42 existing BMPs and SOPs (Section 2.2.4) using Fort Harrison’s SOPs for scheduling training, and
43 the annual meeting held between MTARNG, BLM and permitted grazing allotment holders to

1 deconflict military training with livestock grazing consistent with the Implementation Agreement
2 (DARNG et al. 2018).

3 Alternative 1, located along Blue Route Road, would include helicopter flights in the vicinity of
4 Graymont's mining activities, but would avoid overflight of Graymont's facilities and active
5 mining areas consistent with existing BMPs and SOPs (Section 2.2.4). The annual training would
6 be scheduled in the Range Facility Management Support System and this training would be
7 considered during the ongoing coordination that occurs between MTARNG, BLM, and Graymont
8 consistent with the Implementation Agreement (DARNG et al. 2018) to deconflict military training
9 with mining operations. Alternative 2 helicopter flights would be more than 4 miles from
10 Graymont's mining activities. With both Alternatives 1 and 2, effects of helicopter training flights
11 on mining activities would be less than significant.

12 The ground-based training component has the potential to indirectly promote weeds and erosion;
13 however, effects would be expected to be less than significant with both Alternatives 1 and 2 due
14 to the low intensity and short duration of the 341 SFGs training. Alternative 2 training would be
15 located adjacent to OWG Road, which is a county public road. A MOU between MTARNG and
16 Broadwater County describes SOPs to protect travelers wishing to use OWG Road during live-fire
17 gunnery training (Section 2.2.4). The MOU does not cover helicopter-convoy training over and
18 along OWG Road. While effects of helicopter-convoy training on land use would be less than
19 significant, conducting this training along OWG Road may constrain (e.g., modify, delay) training
20 activities or require a separate MOU with the County. Alternative 1 training would not have a
21 similar constraint because Blue Route Road is not a public road, and the public would not be
22 allowed on the road during scheduled training.

23 The Alternative 2 training location for ground personnel includes a private mining claim to the
24 east of OWG Road (see Figure 3-4). Although no mining occurs in this area under existing
25 conditions, there is uncertainty as to whether this location may become constrained in the future
26 by this potential land use. The location of Alternative 1 helicopter-convoy training does not include
27 any potential private land use constraints.

28 Proposed Establishment of Restricted Area R-4601

29 Establishment and operation of the proposed SUA would not require any change to the existing
30 land uses or land use policies pertinent to the LHTA. The establishment of proposed SUA R-4601
31 would benefit military land use at the LHTA by including the capability for helicopter aerial
32 gunnery training that would serve essential training needs of the 40 HS, 341 SFG, and other DoD
33 users such as MTARNG's 1-189 GSAB.

34 The establishment of SUA R-4601 is required for both Alternatives 1 and 2 of the Proposed Action.
35 The land use effects of the establishment of proposed SUA R-4601 are the same as the effects of
36 the Proposed Action alternatives as described previously.

37 **3.3.3.3 *Effects of the No Action Alternative***

38 Under the No Action Alternative, the Proposed Action would not occur. Baseline conditions would
39 persist and there would be no impact to land uses or management from the implementation of the
40 No Action Alternative.

3.3.4 Best Management Practices and Standard Operating Procedures

- The proposed establishment and operation of the West AGR, helicopter-convoy training, and the proposed establishment of R-4601 would not result in significant impacts s; therefore, no mitigation is required. Existing SOPs and BMPs (see Section 2.2.4) would reduce the effects of either Alternative 1 or 2 on existing land policies and procedures, especially those listed below. Use of the existing training areas avoids and minimizes impacts associated with establishment and operation of a new gunnery range.
- The firing direction and axis for the proposed West AGR were sited to take advantage of natural terrain and topography to help contain fired ammunition and separation for nonparticipating ground personnel and environmental constraints.
- Aerial gunnery training would be scheduled in the Range Facility Management Support System using the existing Fort Harrison SOPs and would be considered in accordance with existing joint-use and safety procedures to deconflict military training with permitted mining and grazing within the LHTA (DARNG et al. 2018).
- Aerial gunnery training would avoid overflight of Graymont’s facilities and active mining areas.
- Vehicles will avoid driving on road shoulders and no off-road vehicle use is allowed.
- Prior to helicopter aerial gunnery, pilots will conduct a range clearing maneuver over the entire West AGR WDZ to ensure the area is clear of civilian and nonparticipating aircraft, vehicles and persons on the ground, grazing livestock, and big game wildlife.
- Fire risk during aerial gunnery training would be minimized by using weapons outfitted with brass catchers. Firefighting equipment and personnel will be on hand to suppress range fires that may occur, and helicopter pilots would conduct a range clearance maneuver to check for fire or smoke and notify Range Control of the need to initiate fire suppression, as warranted. Most fires ignited in the proposed West AGR would be inside the Off-Limits Impact Area (duded range). Firefighters will not enter the Off-Limits Area, and only suppress fires from the firebreak perimeter road.
- Public access will be controlled by posted guards at both ends of OWG Road to inform the public of live-fire training. A MOU between MTARNG and Broadwater County, MT (15 March 2022), documents the SOPs to protect travelers on OWG Road when live-fire training events are occurring because SDZs extend over OWG Road. The same or similar SOPs would apply to the proposed aerial gunnery training because the WDZ would extend over OWG Road.

3.4 Air Quality and Climate Change

3.4.1 Definition of Resource

Air quality is a measure of how suitable the atmosphere is to support life. Air quality is described in terms of the type and concentration of air pollutants present in the ambient atmosphere. This section summarizes the relevant federal and state air quality regulations that define the air pollutants of concern and the thresholds and criteria used for these pollutants to characterize ambient air quality and determine significance of air quality impacts. This analysis considers the results of the Air Quality Technical Report (Ramboll 2022 in EA Technical Study Volume 1).

1 Climate describes the long-term weather conditions of a region. Variations in average weather
2 conditions that persist for multiple decades or longer are referred to as climate change (DoD 2021).
3 Greenhouse gases (GHGs) such as carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O)
4 warm the earth by absorbing energy and trapping heat in the atmosphere. In general, GHGs are
5 generated from both natural sources (e.g., volcanoes and biological processes) and through human
6 (anthropogenic) activities such as the burning of fossil fuels and land use changes. Because
7 emissions of CO₂, CH₄, N₂O and other GHGs result in different levels of warming, GHG emissions
8 are often converted into carbon dioxide equivalent (CO₂e) emissions to account for differences in
9 their global warming potential.

10 **3.4.1.1 Air Quality Regulation**

11 Under the CAA (42 U.S.C. § 7401 *et seq.*), the U.S. Environmental Protection Agency (EPA)
12 established the National Ambient Air Quality Standards (NAAQS) for six criteria air pollutants
13 that are known to be harmful to public health and the environment: carbon monoxide (CO), lead
14 (Pb), ozone (O₃), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and particulate matter (PM). The
15 NAAQS for PM are defined separately for particulate matter of 2.5 micrometers in diameter or
16 less (PM_{2.5}) and particulate matter of 10 micrometers in diameter or less (PM₁₀).

17 The NAAQS are meant to represent the maximum concentrations of these pollutants in the ambient
18 atmosphere that are considered safe for public health and the environment. The EPA and MDEQ
19 oversee the designation of the air quality status of geographic areas of Montana in relation to the
20 NAAQS. Using ambient air monitoring data and other information, areas are designated as
21 attainment, nonattainment, maintenance, or unclassified. Areas designated as attainment have
22 demonstrated compliance with NAAQS, while areas designated as nonattainment exceed the
23 NAAQS.

24 The CAA also establishes New Source Performance Standards and National Emissions Standards
25 for Hazardous Air Pollutants for specific stationary source categories. National Emissions Standards
26 for Hazardous Air Pollutants include stationary source standards for 187 hazard air pollutants which
27 the EPA identified as having potential to cause cancer and other serious adverse health effects on
28 humans. The activities of the Proposed Action alternatives do not meet the definition of any of the
29 regulated source categories or activities, and thus are not subject to New Source Performance
30 Standards or National Emissions Standards for Hazardous Air Pollutants.

31 Conformity Rules apply to federal actions in nonattainment and maintenance areas to ensure that the
32 action meets the requirements of the State Implementation Plan and to prevent the action from
33 causing or contributing to a violation of the NAAQS. However, Conformity Rules do not apply
34 because the LHTA is in Broadwater County, which is designated as attainment for all NAAQS.

35 The EIAP (32 CFR § 989) is the USAF's implementation tool for NEPA and a framework for
36 complying with the requirements of NEPA and CEQ. The Air Quality EIAP process proceeds
37 through three levels of assessment based on whether the air emissions exceed significance
38 thresholds: an Exempt Action Screening (Level I), an Air Quality Quantitative Assessment (Level
39 II), and if required, an Advanced Air Quality Assessment (Level III) (USAF, 2019a).

40 **3.4.1.2 Climate-related Greenhouse Gas Regulation and Executive Orders**

41 The Mandatory Greenhouse Gas Reporting Rule (40 CFR Part 98) requires that large GHG
42 emissions sources (stationary sources with 25,000 metric tons of CO₂e per year), fuel and industrial

1 gas providers, and CO₂ injection sites provide an annual GHG report to the EPA (EPA 2021a).
2 Stationary fuel combustion sources are the only USAF source category that are potentially subject
3 to the rule (USAF 2019a).

4 EO 13990 (86 FR 7037) titled “Protecting Public Health and the Environment and Restoring
5 Science to Tackle the Climate Crisis”, and EO 14008 (86 FR 7619), titled “Tackling the Climate
6 Crisis at Home and Abroad,” were both signed by President Biden in January of 2021. As the
7 LHTA EA analysis was initiated prior to the signing of EO 13990 and EO 14008, it is not required
8 to comply with the orders. Nonetheless these EOs are presented and discussed for background
9 information and the findings of the DoD Climate Risk Report prepared under EO 14008 are
10 summarized in the Air Quality Technical Report (Ramboll 2022).

11 **3.4.2 Existing Conditions**

12 **3.4.2.1 Local Air Quality**

13 All of Broadwater County (including the LHTA) is designated as in-attainment with the NAAQS.
14 Per 40 CFR § 81.169, Broadwater County is located within the Helena Intrastate Air Quality Control
15 Region. All current nonattainment areas in Montana are more than 100 mi away from the LHTA.

16 **3.4.2.2 Existing Emissions**

17 According to the LHTA Land Withdrawal Legislative EIS, existing activities at the LHTA are not
18 major sources of air emissions as defined by the EPA or MDEQ, and air emissions sources are
19 generally limited to minor point sources and mobile sources (MTARNG and BLM 2008). Minor
20 point sources at the LHTA include such things as personal heaters, cooking facilities, water
21 heaters, and generators. Mobile sources at the LHTA include those used in and to support training
22 activities, most of which are diesel powered. There are also fugitive emissions from fuel storage
23 tanks. The total emissions at the LHTA from all regulated sources do not exceed the major source
24 thresholds for any listed air pollutant, and thus the facility is not required to have an air permit for
25 its operations (MTARNG and BLM 2008).

26 The LHTA is not currently required to report its GHG emissions to the EPA, and the activities of
27 the Proposed Action are limited to mobile sources and munitions usage that are not subject to GHG
28 reporting. Malmstrom AFB reported annual GHG emissions from 2010 through 2015, but
29 discontinued reporting after its total emission of GHGs remained below 25,000 metric tons of CO₂
30 equivalents for five years.⁴

31 **3.4.2.3 Regional Climate**

32 Based on meteorological monitoring data from the City of Townsend (National Climate Data
33 Center Station No. USC00248324), which is located a few miles east of the LHTA, the region has
34 an annual average temperature of 44.9 degrees Fahrenheit (°F) that ranges from 23.8°F in January
35 to 67.5°F in July (Ramboll 2022 in EA Technical Study Report Volume 1). Total precipitation in
36 the region averages 10.6 inches per year with highest monthly precipitation totals occurring in
37 May (1.8 inches) and June (2.5 inches). The prevailing wind direction is from the west with an
38 annual average wind speed of 7.7 miles per hour based on data for Helena from the Western
39 Regional Climate Center (2021).

⁴ As reported in the EPA’s Facility Level Information on Greenhouse Gases Tool at <https://ghgdata.epa.gov/>.

1 **3.4.2.4 Climate Change**

2 The Intergovernmental Panel on Climate Change (Intergovernmental Panel on Climate Change
3 2021) has concluded that “human influence has warmed the climate at a rate that is unprecedented
4 in at least the last 2,000 years,” and that climate change is already affecting every inhabited region
5 across the globe. This includes increases in the frequency and intensity of heatwaves, heavy
6 precipitation events, and droughts in many regions (Intergovernmental Panel on Climate Change
7 2021). In Montana, temperatures have risen by nearly 2.5°F since the beginning of the twentieth
8 century, which is higher than the warming of the contiguous U.S. as a whole, and this warming is
9 projected to continue (National Oceanic and Atmospheric Administration [NOAA] 2022).

10 **3.4.3 Environmental Consequences**

11 The Proposed Action would result in new helicopter aerial gunnery training activity within the LHTA.
12 Emission sources during these training activities would include: fuel combustion from aircraft and
13 wheeled vehicles, associated fugitive dust from road travel, and emissions from ammunition usage.

14 **3.4.3.1 Evaluation Criteria**

15 The potential air quality impacts from the Proposed Action were determined in accordance with
16 the guidance of the Air Quality EIAP (USAF 2019a). Aircraft and personnel emissions were
17 quantified using the latest version of the Air Conformity Applicability Model (ACAM; v5.0.17b).
18 Emissions from munitions usage and on-road vehicles from the integrated helicopter-convoy
19 training were estimated using EPA emission factors as these source types are not within ACAM.
20 In absence of other emission data, ACAM defaults were used. A detailed description of the
21 methods and input data used is provided in the Air Quality Technical Report for this project
22 (Ramboll 2022 in EA Technical Study Volume 1).

23 A Level II assessment was determined to be appropriate for the Proposed Action. None of the
24 activities in Alternatives 1 and 2 would occur under the No Action Alternative, and thus all of the
25 emissions are ‘added’ and none are ‘removed’ in the calculation of net emissions, as described in
26 the Air Quality EIAP guide (USAF 2019a).

27 The total emissions from the Proposed Action were then compared to significance criteria. In areas
28 that are in full attainment for the NAAQS, the Air Quality EIAP guidance only addresses NEPA
29 requirements (and not General Conformity), however there are no NEPA thresholds for a Level II
30 assessment, so the General Conformity Thresholds (de minimis emission thresholds) are to be used as
31 significance indicators (USAF 2019a).

32 **3.4.3.2 Effects of the Proposed Action Alternatives**

33 As described previously, there are no significance criteria for GHGs, and instead the EIAP requires
34 a relative comparison of GHG emissions across alternatives. In this case, the potential GHG
35 emissions for Alternatives 1 and 2 are the same and were compared to the No Action Alternative,
36 in which there would be no additional GHG emissions. Table 3-2 presents the results of the ACAM
37 analyses for the different elements of the Proposed Action compared to the de minimis emission
38 thresholds for the NAAQS. The emissions associated with the different elements of the Proposed
39 Action are summarized below.

1 **Table 3-2. Emissions from the Proposed Action Compared to De Minimis Levels (Tons/Year).**

Emitted Pollutant	*NO _x	CO	*VOC	*SO _x	*PM10	*PM2.5	Pb	NH ₃	*CO _{2e}
	De Minimis Levels (tons/year)								
	100	100	100	100	100	100	25	100	N/A
Emissions from Support Personnel									
Vehicles	0.16	2.03	0.18	<0.01	<0.01	<0.01	0	0.01	160.5
Emissions from Aerial Gunnery Training									
UH-1N	0.12	1.02	0.94	0.02	0.01	0.01	0	0	71.4
MH-139	0.13	1.2	0.35	0.03	0.02	0.01	0	0	80.6
UH-60	0.21	1.11	0.27	0.04	0.02	0.02	0	0	133.0
CH-47	0.85	0.37	0.03	0.08	0.12	0.11	0	0	257.0
Emissions from Ammunition Usage by Aircraft (tons/year)									
UH-1N, MH-139	0.01	0.72	N/A ^c	N/A ^c	0.01	0.01	<0.01	N/A ^c	0.52
UH-60	0.01	0.45	N/A ^c	N/A ^c	0.01	0.01	<0.01	N/A ^c	0.33
CH-47	0.01	0.72	N/A ^c	N/A ^c	0.01	0.01	<0.01	N/A ^c	0.52
Emissions from Helicopter-Convoy Training									
Vehicle Exhaust	0.3	0.06	0.02	0.02	0.02	0.03	0	0	10.98
Fugitive Dust	0	0	0	0	0.03	<0.01	0	0	0
Aircraft	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	0	0	0.90
Total	1.78	6.97	1.80	0.20	0.24	0.19	0.01	0.01	715.23

2 Source: Ramboll 2021, see EA Technical Study Volume 1.

3 Notes: * General Conformity provides different de minimis levels for maintenance and nonattainment areas; the de minimis
4 emission level for maintenance areas.

5 The EPA does not provide emission factors for SO₂, VOC, and N₂O for ammunition usage.

6 Proposed Helicopter Gunnery Training

7 The proposed West AGR is located entirely within existing training ranges. The proposed
8 helicopter aerial gunnery training includes up to 100 new training events per year at the AGR,
9 requiring two helicopters during each training event and up to 14 personnel to support range
10 operations. All helicopters would land at the existing HARM Pads for a few minutes to perform
11 surface-to-surface weapons familiarization while on the ground with engines off at the MPTR
12 before performing aerial gunnery training at the West AGR; refueling at Helena Regional Airport
13 would occur if more than one training event (e.g., day, night) occurred on the same day. Aircrews
14 will fire weapons at existing ground targets within the duded impact area and there is no expected
15 increase in the frequency of target replacement due to activity of the Proposed Action.

16 There would be no change in the frequency of current UXO range clearance activities associated
17 with aerial gunnery operations. Air emission sources during these training activities would result
18 from aircraft fuel combustion, fugitive dust, and firing of approximately 780,000 rounds of
19 ammunition per year. Calculated emissions under both action alternatives (Alternatives 1 and 2)
20 would be below relevant thresholds (see Table 3-2); therefore, helicopter aerial gunnery effects on
21 air quality would be less than significant.

22 Proposed Helicopter-Convoy Training

23 The proposed training activity would occur once annually by the 40 HS and 341 SFG and include use
24 of up to 15 vehicles and two helicopters. Air emission sources during the proposed training activities

1 would include aircraft fuel combustion, vehicle fuel combustion, and fugitive dust. Calculated
2 emissions under both action alternatives would be below relevant thresholds (see Table 3-2); therefore,
3 effects from helicopter-convoy training on air quality would be less than significant.

4 Proposed Establishment of Restricted Area R-4601

5 The establishment of SUA R-4601 is required for both Alternatives 1 and 2 of the Proposed Action.
6 The air quality effects of the establishment of SUA R-4601 are the same as the effects of the
7 Proposed Action alternatives as described previously.

8 **3.4.3.3 *Effects of the No Action Alternative***

9 Under the No Action Alternative, the Proposed Action would not occur. Thus, there would be no
10 additional emissions or impacts to air quality or GHGs at the LHTA. All of Broadwater County
11 (including the LHTA) is designated as in-attainment with respect to NAAQS and this would be
12 expected to persist in the foreseeable future.

13 **3.4.4 Best Management Practices and Standard Operating Procedures**

14 The proposed establishment and operation the West AGR, helicopter-convoy training, and the
15 proposed establishment of SUA R-4601 would not result in significant impacts to air quality;
16 therefore, no mitigation is required. Existing SOPs and BMPs (see Section 2.2.4) would reduce the
17 effects of either alternative on air quality, especially those listed below.

- 18 • Reduce fugitive dust production by driving vehicles on established roads; no off-road
19 vehicle use would be allowed for helicopter-convoy training.
- 20 • Fire risk during helicopter gunnery training would be minimized by using weapons
21 outfitted with brass catchers. Firefighting equipment and personnel will be on hand to
22 suppress range fires that may occur, and helicopter pilots would conduct a range clearance
23 maneuver to check for fire or smoke and notify Range Control of the need to initiate fire
24 suppression, as warranted.

25 Additional BMP and SOP Considerations

26 Applicable BMPs for reducing emissions that affect air quality include:

- 27 1. Maintain vehicles to minimize fuel leakage and to reduce excessive burning of oil.

28 **3.5 Noise**

29 **3.5.1 Definition of Resource**

30 Noise is considered unwanted sound that interferes with normal activities or otherwise diminishes the
31 quality of the environment; noise may be intermittent or continuous, steady, or impulsive. It may also
32 be stationary or transient. Stationary sources are normally related to specific land uses (e.g., an
33 amusement park or industrial plants). Transient noise sources move through the environment, either
34 along relatively established paths (e.g., highways, railroads, and aircraft flight tracks around airports),
35 or randomly. There is wide diversity in responses to noise that not only vary according to the type of
36 noise and the characteristics of the source (e.g., an aircraft), but also according to the sensitivity and
37 expectations of the receptor (e.g., a person or animal), the time of day, and the distance between the
38 noise source and the receptor. Noise-sensitive receptors represent locations where human activities are

1 sensitive to external noise. These types of uses include but are not limited to high-density residential
2 areas, hospitals, schools, childcare facilities, or places of worship.

3 The physical characteristics of noise and/or sound include its intensity, frequency, and duration.
4 Sound is created by acoustic energy, which produces minute pressure waves that travel through a
5 medium, like air, and are sensed by the eardrum. As the acoustic energy increases, the intensity or
6 amplitude of these pressure waves increase, and the ear senses louder noise. The unit used to measure
7 the intensity of sound is the decibel (dB). Sound intensity varies widely (from a soft whisper to a jet
8 engine) and human hearing ranges from 0 dB (barely audible) to 120 dB, where physical discomfort
9 is caused by the sound.

10 The frequency of sound is measured in cycles per second, or hertz (Hz). This measurement reflects
11 the number of times per second the air vibrates from the acoustic energy. Low frequency sounds
12 are heard as rumbles or roars, and high frequency sounds are heard as screeches. Sound
13 measurement is further refined through the use of “weighting.” The average human ear can detect
14 sounds that range in frequency from about 20 Hz to 20,000 Hz. However, not all sounds throughout
15 this range are heard equally well. Because the human ear is most sensitive to frequencies in the
16 1,000 to 4,000 Hz range, sound meters may be calibrated to emphasize frequencies in this range.
17 Sounds measured with these instruments are termed “A-weighted,” and are indicated in terms of
18 A-weighted dB. A-weighting simply accounts for the frequency sensitivity of the human ear. The
19 dB is also appropriate for measuring continuous sounds. Because the use of A-weighting is
20 understood, the “A-weighted” is omitted and the unit dB used. Unless otherwise stated, dB units
21 refer to A-weighted sound levels. “C-weighting” (dBC) is typically applied to impulsive sounds
22 such as a sonic boom or ordnance detonation.

23 The duration of a noise event and the number of times noise events occur are also important
24 considerations in assessing noise impacts. As a basis for comparison when noise levels are
25 considered, it is useful to note that at a distance of about 3 ft, noise from normal human speech
26 ranges from 63 to 65 dB, operating kitchen appliances (i.e., blender or food processor) range from
27 about 83 to 88 dB, and a rock concert approaches 110 dB.

28 Federal, state, and local governments regulate noise to prevent noise sources from affecting noise-
29 sensitive areas, such as residences, hospitals, and schools, and to protect human health and welfare.
30 Federal agencies, such as the Department of Housing and Urban Development, have established
31 health-based maximum noise exposure recommendations. Local agencies, including cities and
32 counties, are responsible for defining and enforcing land use compatibility in various noise
33 environments.

34 MTARNG Noise Management

35 The Joint Force Headquarters Public Affairs Office located at Fort Harrison is responsible for
36 community relations, media relations, and internal information for the MTARNG. This designates
37 the Public Affairs Office as the primary office for addressing noise and vibration complaints
38 received from military training operations. The Environmental Office is responsible for annual
39 data call reporting on the number of noise complaints received (MTARNG 2021b).

40 Public outreach efforts include press releases and information pieces to local media outlets, along with
41 social media feeds (Facebook and Twitter) maintained by the Public Affairs Office. Public notices
42 include advanced information about training exercises or special training events (live-fire and/or

1 aviation activities, etc.) which are expected to generate higher-than-normal noise levels off post
2 (MTARNG 2021b).

3 Wildlife and Domesticated Animals Noise Effects

4 Hearing is critical to an animal's ability to react, compete, reproduce, hunt, forage, and survive in
5 its environment. The ability to hear sounds and noise, and to communicate, assist wildlife in
6 maintaining group cohesiveness and survivorship. Social species communicate for calls of
7 warning, territorial defense, during courtship, and other reasons that are subsequently related to an
8 individual's or group's cohesiveness and responsiveness.

9 Many scientific studies have investigated the effects of aircraft noise on wildlife, and some have
10 focused on wildlife "flight" due to noise. Wildlife responses to aircraft are influenced by many
11 variables, including size, speed, proximity (both height above the ground and distance), engine
12 noise, color, flight profile, and radiated noise. The type of aircraft (e.g., jet vs. helicopter) and type
13 of flight mission may also produce different levels of disturbance, with varying animal responses
14 (Smith et al. 1988). It is difficult, therefore, to generalize wildlife responses to noise disturbances
15 across all species.

16 Domesticated animal species differ in their responses to noise with the effects classified as
17 primary, secondary, and tertiary. Primary effects are direct, physiological changes to the auditory
18 system, and most likely include the masking of auditory signals. Masking is defined as the inability
19 of an individual to hear important environmental signals that may arise from mates, predators, or
20 prey. Secondary effects may include non-auditory effects such as stress and hypertension;
21 behavioral modifications; interference with mating or reproduction; and impaired ability to obtain
22 adequate food, cover, or water. Tertiary effects are the direct result of primary and secondary
23 effects, and include population decline and habitat loss (Smith et al. 1988).

24 Although some studies report that the effects of aircraft noise on domestic animals is inconclusive,
25 a majority of the literature reviewed indicates that domestic animals exhibit some behavioral
26 responses to military overflights but generally seem to habituate to the disturbances over a period
27 of time. Mammals in particular appear to react to noise at sound levels higher than 90 dB, with
28 responses including the startle response, freezing, and fleeing from the sound source. Many studies
29 on domestic animals suggest that some species appear to acclimate to some forms of sound
30 disturbance (Manci et al. 1988). Some studies have reported such primary and secondary effects
31 as reduced milk production and rate of milk release, increased glucose concentrations, decreased
32 levels of hemoglobin, increased heart rate, and a reduction in thyroid activity. These latter effects
33 appear to represent a small percentage of the findings occurring in the existing literature.

34 *Cattle*

35 In response to concerns about overflight effects on pregnant cattle, milk production, and cattle
36 safety, the USAF prepared a handbook for environmental protection that summarized the literature
37 on the impacts of low-altitude flights on livestock (and poultry) and includes specific case studies
38 conducted in numerous airspaces across the country. Adverse effects have been found in a few
39 studies but have not been reproduced in other similar studies. In a report to U.S. Congress, the
40 USFS concluded that "evidence both from field studies of wild ungulates and laboratory studies
41 of domestic stock indicate that the risks of damage are small (from aircraft approaches of 50-100
42 meters), as animals take care not to damage themselves (USFS 1992). If animals are overflown by
43 aircraft at altitudes of 50-100 meters, there is no evidence that mothers and young are separated,

1 that animals collide with obstructions (unless confined) or that they traverse dangerous ground at
2 too high a rate.” These varied study results suggest that, although the confining of cattle could
3 magnify animal response to aircraft overflight, there is no proven cause and effect link between
4 startling cattle from aircraft overflights and abortion rates or lower milk production.

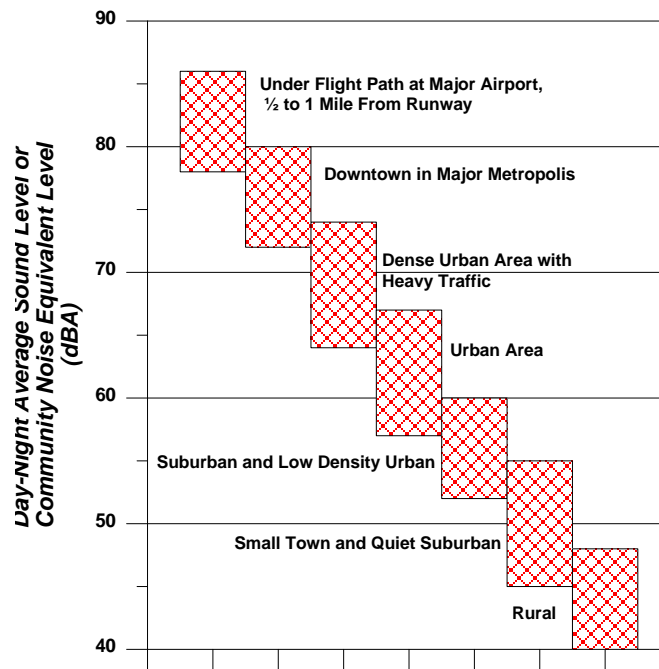
5 Noise Metrics

6 The word “metric” is used to describe a standard of measurement. Many different types of noise
7 metrics have been developed by researchers attempting to represent the effects of environmental
8 noise. Each metric used in environmental noise analysis has a different physical meaning or
9 interpretation. The primary metrics supporting the assessment of noise from aircraft operations
10 within this EA are the Day-Night Average Sound Level (DNL), Onset-Rate Adjusted Day-Night
11 Average Sound Level (L_{dnmr}), Maximum Sound Level, Sound Exposure Level, and C-weighted
12 DNL (CDNL). Each metric is briefly discussed below.

13 *Day-Night Average Sound Level*

14 DNL is a cumulative metric that represents the equivalent continuous sound pressure level over a
15 24-hour period to account for all noise events with a night-time noise adjustment. To account for
16 our increased sensitivity to noise at night, DNL applies a 10 dB penalty to events during the night-
17 time period, defined as 10:00 p.m. to 7:00 a.m.

18 For airports and military airfields outside of California, DNL represents the average sound level
19 for annual average daily aircraft events. Figure 3-8 shows the ranges of DNL that occur in various
20 types of communities. Under a flight path at a major airport the DNL may exceed 80 dB, while
21 rural areas may experience a DNL less than 45 dB.



Source: DOD 1978.

22
23 **Figure 3-8. Typical DNL Ranges in Various Types of Communities.**

1 Military aircraft utilizing SUAs, such as Military Training Routes, MOAs, and Restricted
2 Areas/Restricted Ranges, generate a noise environment that is somewhat different from that around
3 airfields. Rather than regularly occurring operations like at airfields, activity in SUAs is highly
4 sporadic. Monthly variation in operations described in the Proposed Action of this EA will be
5 significant, since the proposed operations are exercise-based and will involve periods of inactivity
6 interspersed with periods of greater activity. Individual military overflight events also differ from
7 typical community noise events in that noise from a low-altitude, high-air-speed flyover can have
8 a rather sudden onset.

9 *Onset-Rate Adjusted Day-Night Average Sound Level*

10 Based upon DNL, the L_{dnmr} average operations over a busy month, versus an average annual day,
11 is adjusted for the onset-rate of the noise to account for the “surprise factor” while maintaining the
12 same night-time penalty as DNL. L_{dnmr} is the DoD standard for modeling cumulative noise
13 exposure and assessing community noise impacts in airspace due to subsonic operations and are
14 presented in this EA to meet DoD requirements. Additionally, since DNL is the FAA’s standard
15 for modeling the cumulative noise exposure and assessing community noise impacts, the noise
16 exposure in this EA is also reported in DNL to meet FAA requirements as a cooperating agency.

17 Note that “day time” and “night time” in calculation of DNL and L_{dnmr} are sometimes referred to as
18 “acoustic day” and “acoustic night” and always correspond to the time periods given above. This is
19 often different than the “day” and “night” used commonly in military aviation, which are directly
20 related to the times of sunrise and sunset and vary throughout the year with the seasonal changes.

21 *C-Weighted Day-Night Average Sound Level*

22 Supersonic noise or ordnance is described using C-weighted DNL, or CDNL. This metric captures
23 the impulsive characteristics of supersonic noise in a day-night average.

24 *Peak Sound Level Under Unfavorable Weather Conditions (PK15(met))*

25 PK 15(met) is the calculated peak noise level, without frequency weighting, expected to be
26 exceeded by 15% of all events that might occur. The ‘met’ accounts for statistical variation in
27 received single-event peak noise level due to weather. If multiple weapon types are fired from one
28 location, or multiple firing locations, the single-event level used should be the loudest level that
29 occurs at each receiver location.

30 Additional details of noise modeling used in this analysis can be found in the Noise Model
31 Operational Data Documentation prepared for this EA (HMMH 2022b in EA Technical Study
32 Volume 1).

33 Army Land Use Planning Guidelines

34 Since the ARNG does not prescribe noise limits for land use planning recommendations, this
35 section presents the Army guidelines for reference. Table 3-3 provides land use recommendations
36 based on noise source types and noise zone limits (AR 200-1). There are often existing “noise-
37 sensitive” land uses defined as non-conforming within a noise zone. These are typically defined
38 as, but not limited to, high-density residential areas, hospitals, schools, childcare facilities, or
39 places of worship.

1 **Table 3-3. Army Noise Limits for Noise Zones and Land Use Planning Recommendations.**

Noise Zone	Noise Limits			Noise-Sensitive Land Use
	Aviation ADNL (dB)	Impulsive CDNL (dB)	Small Arms dB Peak	
Land Use Planning Zone	60-65	57-62	N/A	Generally Compatible
I	<65	<62	<87	Generally Compatible
II	65-75	62-70	87-104	Generally Not Compatible
III	>75	>70	>104	Not Compatible

2 Source: AR 200-1 (Army 2007)

3 Note: ADNL = A-weighted Day-Night Level; CDNL = C-weighted Day-Night Level.

4 **3.5.2 Existing Conditions**

5 The LHTA currently accommodates both small and large caliber weapons live firing at several
6 ranges and individual firing points clustered in and around the impact area on the western half of
7 the training area. Training may include tactical small unit and collective training, tank maneuvers
8 and weapons firing, mortar training, sub-caliber artillery firing, and aerial navigation routes
9 (MTARNG 2021b). Helicopter operations include low-level and nap-of-the-earth flying, insertion
10 and extraction, hovering, traffic patterns, and external load operations (MTARNG 2021b). Other
11 training sites on LHTA include troop land navigation course, field leadership reaction course, and
12 multiple bivouacs (temporary camps used by soldiers) (MTARNG 2021b).

13 Under baseline conditions, 833 annual helicopter sorties occur at LHTA with approximately two
14 thirds due to the UH-60, as detailed in Table 3-4. In this context a sortie is defined as beginning
15 with a single aircraft taking off to perform a single or multiple activities and then landing to
16 conclude the flight. Helicopters may make multiple brief touchdowns in the middle of the sortie
17 while operating in the LHTA.

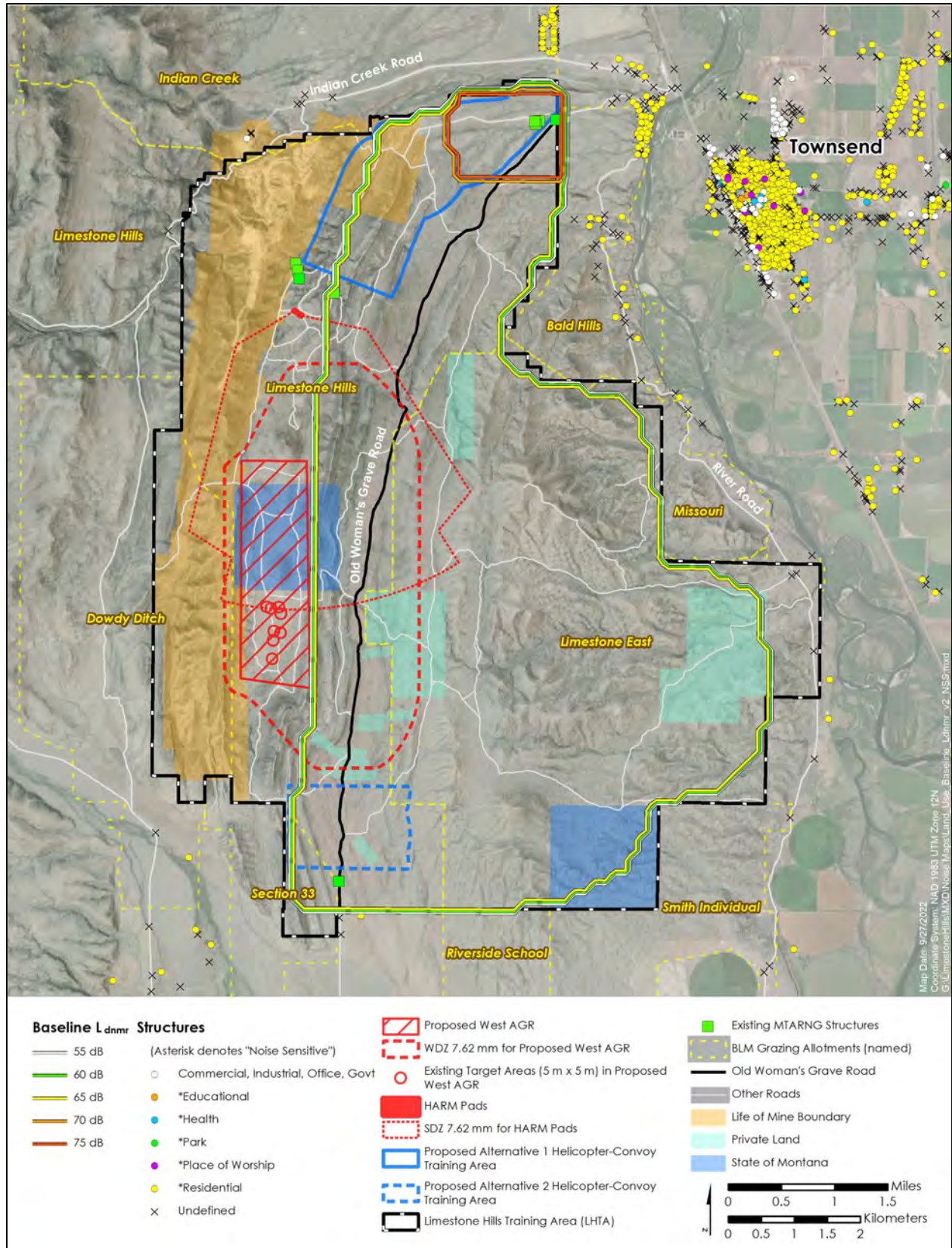
18 **Table 3-4. Existing Helicopter Sorties at LHTA under Baseline Conditions.**

User, Airframe	Existing Helicopter Sorties		
	Day	Night	Total
MTARNG, CH-47	177	31	208
MTARNG, UH-60	474	84	558
MTARNG, UH-72	57	10	67
Total	708	125	833

19 **3.5.2.1 Noise Exposure**

20 Aircraft

21 The noise contours for aircraft operations within the LHTA under baseline conditions are shown
22 in Figure 3-9. The 65 dB L_{dnmr} contour is the upper threshold for Noise Zone I where noise-
23 sensitive land uses are generally compatible, and is largely confined within the LHTA along the
24 east, northeast, and southeast boundaries; the 65 dB contour does not extend to the west boundary.
25 The 65 dB L_{dnmr} contour does extend off-site along the northeast corner by approximately 225 ft,
26 and in a localized area to the east by approximately 400 ft.



1
 2
 3

Figure 3-9. Baseline L_{dnmr} Noise Contours for Aircraft Operations with Existing Land Use at LHTA.

1 Figure 3-9 and additional aerial imagery analysis confirmed that no residences are located with the
2 65 dB L_{dnmr} and the nearest residence is approximately 200 ft south outside the LHTA boundary.
3 Existing L_{dnmr} at residences adjacent the LHTA range from the non-military ambient noise up to
4 55 dB. Land use within the 65 dB L_{dnmr} contour primarily comprises BLM grazing allotments with
5 portions of land owned by the State of Montana and private land. The 65 dB L_{dnmr} contour is
6 completely contained within a single U.S. Census block (300070002001) corresponding to a
7 population density of 1.25 people per square mile (U.S. Census Bureau 2020a) (Figure C.1-1,
8 Appendix C). Since no residential areas or other noise-sensitive land uses exists within Noise Zone
9 I (65 dB L_{dnmr}) current land use in and around LHTA is considered “generally compatible” per
10 Army Land Use Guidelines (Army 2007).

11 Helicopters currently ingress and egress LHTA from the north with an L_{dnmr} of 48 dB in these
12 areas (HMMH 2022b). This ingress area is also completely inside of the same census block with
13 a population density of 1.25 people per square mile (U.S. Census Bureau 2010a). MTARNG flight
14 regulations require helicopters to maintain at least 500 ft AGL over unpopulated areas and at least
15 1,000 ft AGL over congested areas. Additionally, all aircraft are instructed to avoid overflight of
16 the City of Townsend and also maintain a reasonable lateral separation from the Graymont plant
17 located in the northwest portion of the installation for safety reasons (MTARNG 2021b). Existing
18 L_{dnmr} at noise-sensitive receptors (residences) along this ingress area north of LHTA ranges from
19 non-military ambient noise levels to 48 dB. Without existing military aircraft operations along the
20 proposed routes between Malmstrom AFB to LHTA or Helena to Malmstrom AFB, baseline noise
21 levels cannot be calculated with the same military aircraft noise software (Noisemap) and ambient
22 noise measurement are not readily available.

23 The National Parks Service has monitored noise levels at various national parklands throughout
24 the U.S. One such study with a similar wilderness area and lack of development captured ambient
25 data at Grand Portage National Monument Park in Colorado resulting in calculated DNL at 37 dB.
26 For the purposes of impact analysis to the Gates of the Mountains Wilderness area and
27 undeveloped or rural areas under the proposed routes are estimated at the same 37 dB DNL for
28 existing conditions, which provides a conservative or low existing level for assessment.

29 FAA regulations specify the use of DNL for impact analysis, additional analysis has been
30 performed using the same busiest month operations, but instead calculated for the DNL metric.
31 Figure C.2-1 in Appendix C.2 presents the baseline DNL contours in the same 5 dB increments
32 overlaid on the 2010 census data. In this case the DNL contours are nearly identical to the L_{dnmr} in
33 Figure 3-9 because both rely on the same busiest month operations and the onset-rate for slower
34 moving helicopter type operations provide little to no onset-rate adjustment applicable to L_{dnmr} ,
35 which is the main difference between the two metrics. Consistent with L_{dnmr} , no existing noise-
36 sensitive land uses are exposed to 65 dB DNL under the baseline conditions and nearest noise-
37 sensitive receptors (residences) adjacent the LHTA are exposed to DNL <55 dB, and those along
38 the ingress area north of LHTA to DNL <48 dB. (Figures of DNL overlaid on land use follow
39 those overlaid on census block data in Appendix C.2.)

40 Small Arms Weapons Noise

41 Noise due to existing small arms weapons utilized at LHTA (rifles, machine guns, pistols, and
42 shotguns) have been computed and plotted for existing conditions in the recent Installation
43 Compatible Use Zone Study (MTARNG 2021b). Figure C.3-1 in Appendix C.3 presents the
44 resulting Noise Zones II and III for contours from PK15(met) of 87 to 104 peak decibel levels

1 (dBP). Zone III extends beyond the southwest boundary approximately 1,300 ft from Range 135
2 (RG135). This area totals 29 acres of open grasslands. There are no noise-sensitive land uses in
3 this area. Zone II extends beyond the boundary to the northwest, west, and southwest between 0.7
4 to 1.2 mi, as well as approximately 430 ft beyond the east boundary. Land use in Zone II off-site
5 is primarily BLM grazing allotments and the “life of mine” area associated with Graymont’s
6 mining claim. Although individual residences do occur in low densities southwest of LHTA,
7 available aerial imagery shows few, if any, sensitive land uses contained within the Zone II from
8 small-arms activity. Zone II does not extend far enough north to include the cantonment area. The
9 majority of the private in-holding areas within LHTA, just east of the ranges, are contained within
10 the noise zones. There are no sensitive land uses in these areas.

11 Large Caliber and Demolition Charge Weapons Noise

12 Noise due to existing large caliber weapons includes 20 mm or greater, and any weapon that
13 contains explosive charges, including demolition charges, has been analyzed in the recent
14 Installation Compatible Use Zone Study for baseline conditions (MTARNG 2021b). Figure C.3-2
15 in Appendix C.3 presents the noise zones corresponding to CDNL of 57 to 70 dBC. The irregular
16 shapes reflect the effects of varying terrain on noise propagation. The mountainous areas just east
17 and west of the range complex and impact area provide significant attenuation of sound from live-
18 fire activities in these areas, which contains the noise zones with the installation boundary except
19 for one area in the southwest corner. In this area, Zone II and the Land Use Planning Zone extend
20 beyond the boundary approximately 330 ft and 1,230 ft, respectively, due to firing points at the
21 Mortar Range (R106). The noise zones do not extend into the cantonment area or contain any
22 noise-sensitive land uses.

23 **3.5.3 Environmental Consequences**

24 **3.5.3.1 Evaluation Criteria**

25 The following sections consider two alternatives of the Proposed Action relative to the
26 Baseline/No Action Alternative:

- 27 • Proposed Alternative 1 –Aerial Gunnery Training by the 40 HS and MTARNG, with
28 helicopter-convoy training by 40 HS and 341 SFG personnel along Blue Route Road, and
29 establishment of SUA R-4601.
- 30 • Proposed Alternative 2 – Same Aerial Gunnery Training as Alt 1 and establishment of SUA
31 R-4601, but helicopter-convoy training is proposed along OWG Road instead of Blue
32 Route Road.

33 The DoD requires potential noise impacts to be evaluated in terms of context of the environment
34 and intensity of the noise exposure. For example, an additional aircraft flight over areas adjacent
35 to large airports experiencing multiple daily operations would be less likely to be impacted when
36 compared with a rural area experience of no aircraft overflights and very little ambient noise.
37 Changes in noise action alternatives must be considered within this context to determine the
38 potential for significant impact. Although not a significance threshold criteria, the Army Land Use
39 Guidelines presented in Table 3-3 provide land use recommendations and offer insight on the noise
40 levels with greater potential to create annoyance in humans.

41 FAA Order 1050.1F prescribes the following criteria for noise impact analysis for both airfield
42 and airspace actions in terms of changes in DNL at noise-sensitive receptors:

- 1 • Significant Impact = An increase of 1.5 dB at a DNL of 65 dB and higher
- 2 • Reportable Change = An increase of 3 dB at a DNL of 60 dB to 65 dB
- 3 • Reportable Change = An increase of 5 dB at a DNL of 45 dB to 60 dB

4 Consistent with DoD methodology, the analysis considers whether the Proposed Action would
5 cause noise-sensitive receptors to be newly subjected to increased noise levels and/or whether the
6 relative change from the existing conditions would be substantial.

7 The analysis software for military aircraft noise discussed in the noise study (HMMH 2022b) computes
8 aircraft operations as either equally distributed throughout a defined area or concentrated along the
9 centerline of routes. This results in large areas of equal sound levels, or highly concentrated noise,
10 along routes that decreases toward ambient on either side. FAA guidelines geared for studies around
11 airports prescribe a grid point analysis and refer to the use of different FAA specific software for noise
12 impact analysis. Since the DoD software produces large areas of constant noise levels in military
13 airspace, a grid point analysis is unnecessary and would produce many receptors with identical results.
14 Instead, the change in noise exposure level between the Proposed Action and the Baseline/No Action
15 condition are reported for groups of noise-sensitive receptors in areas of activity to reach the same
16 ultimate goal of identifying the potential for impacts to noise-sensitive areas.

17 **3.5.3.2 Effects of the Proposed Action Alternatives**

18 Under the Proposed Action, an additional 200 helicopter sorties would occur from helicopter
19 gunnery training from AFGSC and MTARNG. These sorties represent an approximate 24%
20 increase above the existing MTARNG helicopter sorties without gunnery training at LHTA. The
21 Proposed Action and existing sorties are summarized in Table 2-6. Table 3-5 shows the proposed
22 day and night helicopter aerial gunnery sorties by aircraft.

23 **Table 3-5. Proposed Annual Day and Night Helicopter Aerial Gunnery Sorties at LHTA.**

User, Airframe	Proposed Helicopter Sorties		
	Day	Night	Total
AFGSC, UH-1N	30	30	60
AFGSC, MH-139	30	30	60
MTARNG, CH-47	20	20	40
MTARNG, UH-60	20	20	40
Total	100	100	200

24 Noise contours for this EA are of a cumulative nature, so the contours shown are for all aspects of
25 the Proposed Action to include the combination of existing helicopter sorties without aerial
26 gunnery and the proposed aerial gunnery sorties.

27 Helicopter aerial gunnery training includes three elements: (1) use of the West AGR, (2) weapons
28 familiarization at the HARM Pads, and (3) helicopter-convoy training without live firing of
29 weapons. Under both Alternatives 1 and 2, the helicopter gunnery training would occur at LHTA
30 in addition to existing operations. The following sections discuss these results in more detail.

1 Proposed Helicopter Gunnery Training

2 *Aircraft*

3 Modeling of noise for existing helicopter flights plus helicopter gunnery sorties produced L_{dnmr} noise
4 contours shown in Figure 3-10 and Figure 3-11 for Alternatives 1 and 2, respectively, presented from
5 55 and 80 dB. Use of the HARM Pads for training would produce the greatest noise calculated of the
6 modeled conditions of up to 86 dB L_{dnmr} for both Alternatives 1 and 2. While use of the LHTA for
7 helicopter gunnery training would increase the size of the 65 dB L_{dnmr} contours substantially, almost
8 the entirety of that growth would be within the LHTA boundary along the western side over the inactive
9 portion of the Graymont “life of mine” boundary with no substantial differences in the northeast near
10 noise-sensitive receptors. Similar to Baseline/No Action, the 65 dB L_{dnmr} contour would extend off-
11 site to the east by approximately 430 ft, and to the north of by approximately 230 ft. The alternatives
12 differ from each other with only a slight growth in the 65 L_{dnmr} for Alternative 1, east of the active
13 mine zone due to the inclusion of the proposed annual helicopter-convoy along Blue Route Road
14 (Figure 3-10, and discussed in more detail below).

15 Consistent with the Baseline/No Action, both alternative contours are completely contained within a
16 single census block (300070002001) corresponding to a population density of 1.25 people per square
17 mile (see Figures C.1-2 and C.1-3 for Alternatives 1 and 2, respectively, in Appendix C.1). Analysis
18 of aerial imagery confirmed that none of those residences are located within the 65 dB L_{dnmr} contour
19 so no residents or population would be newly impacted by growth of the 65 dB L_{dnmr} contours.

20 Modeled L_{dnmr} at noise-sensitive receptors (residences) adjacent to the LHTA would range from
21 the non-military ambient noise to up to 55 dB, a negligible increase from the Baseline/No Action
22 condition. Proposed L_{dnmr} at noise-sensitive receptors along the ingress area north of LHTA ranges
23 would increase to a maximum of 51 dB, a change of 3 dB from Baseline/No Action in an area with
24 a population density of 1.25 people per square mile.

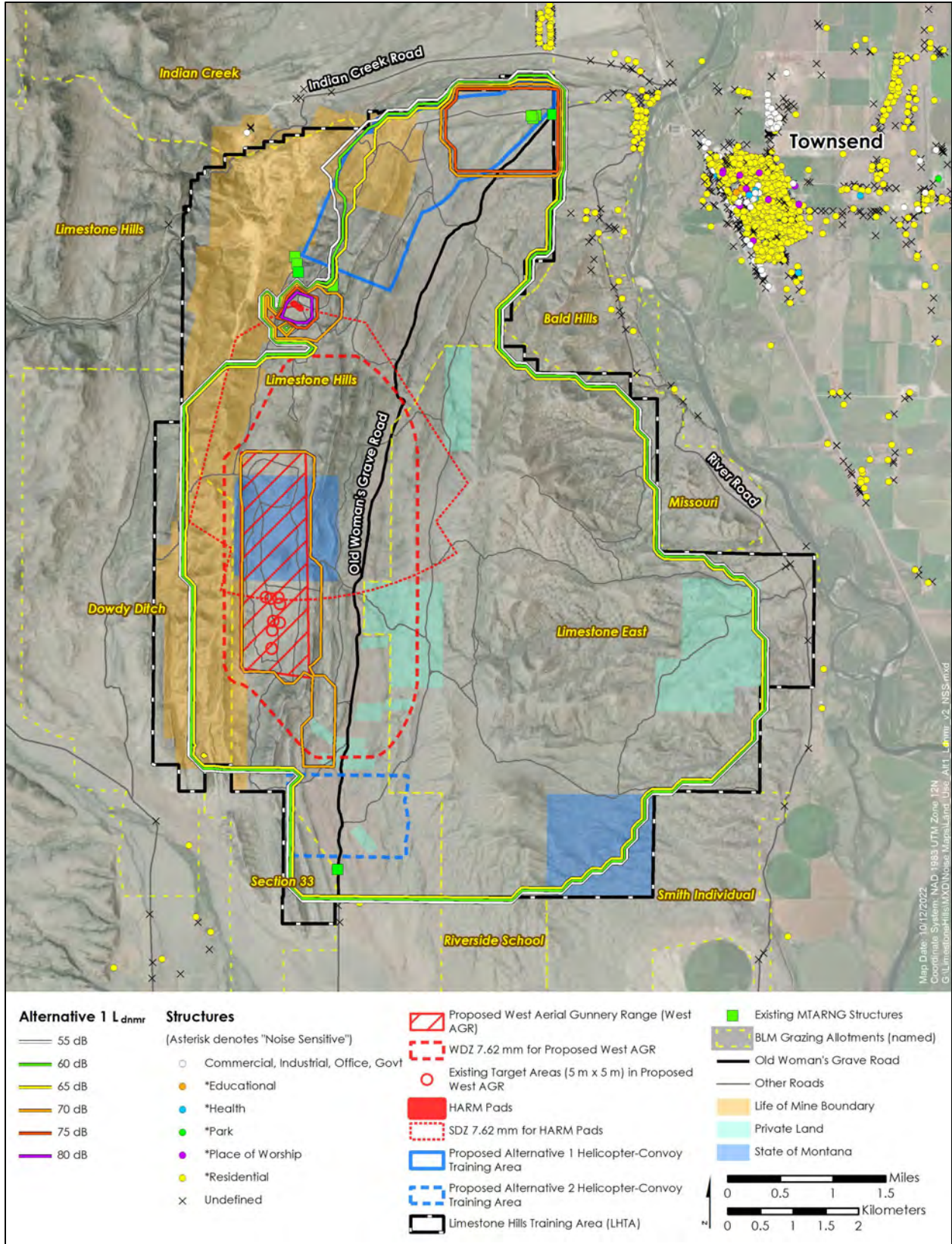
25 Virtually identical findings resulted from the DNL modeling for Alternatives 1 and 2 based on
26 busiest month assumptions (see Appendix C.2 figures, which show DNL overlaid on 2010 census
27 data as well as land use). A busiest month assumption was modeled rather than the annual monthly
28 average because of the seasonal use period (estimated up to 100 days) associated with live-fire
29 weapons training at the LHTA.

30 *Small Arms*

31 Both proposed alternatives would add helicopter aerial gunnery with 7.62 mm rounds to LHTA to the
32 existing noise environment described in Section 3.5.2.1 depicted in the PK15(met) metric. The firing
33 would occur within the existing ranges currently using larger calibers (up to 50 caliber) and the
34 PK15(met) metric calculates the peak level throughout the ROI, the Proposed Action would not result
35 in a change to peak noise levels (Army 2018). Therefore, no change to noise zones or noise-sensitive
36 receptors would occur relative to the Baseline/No Action levels presented in Figure C.3-1 and C.3-2
37 in Appendix C, and no residences would be affected by either proposed alternative.

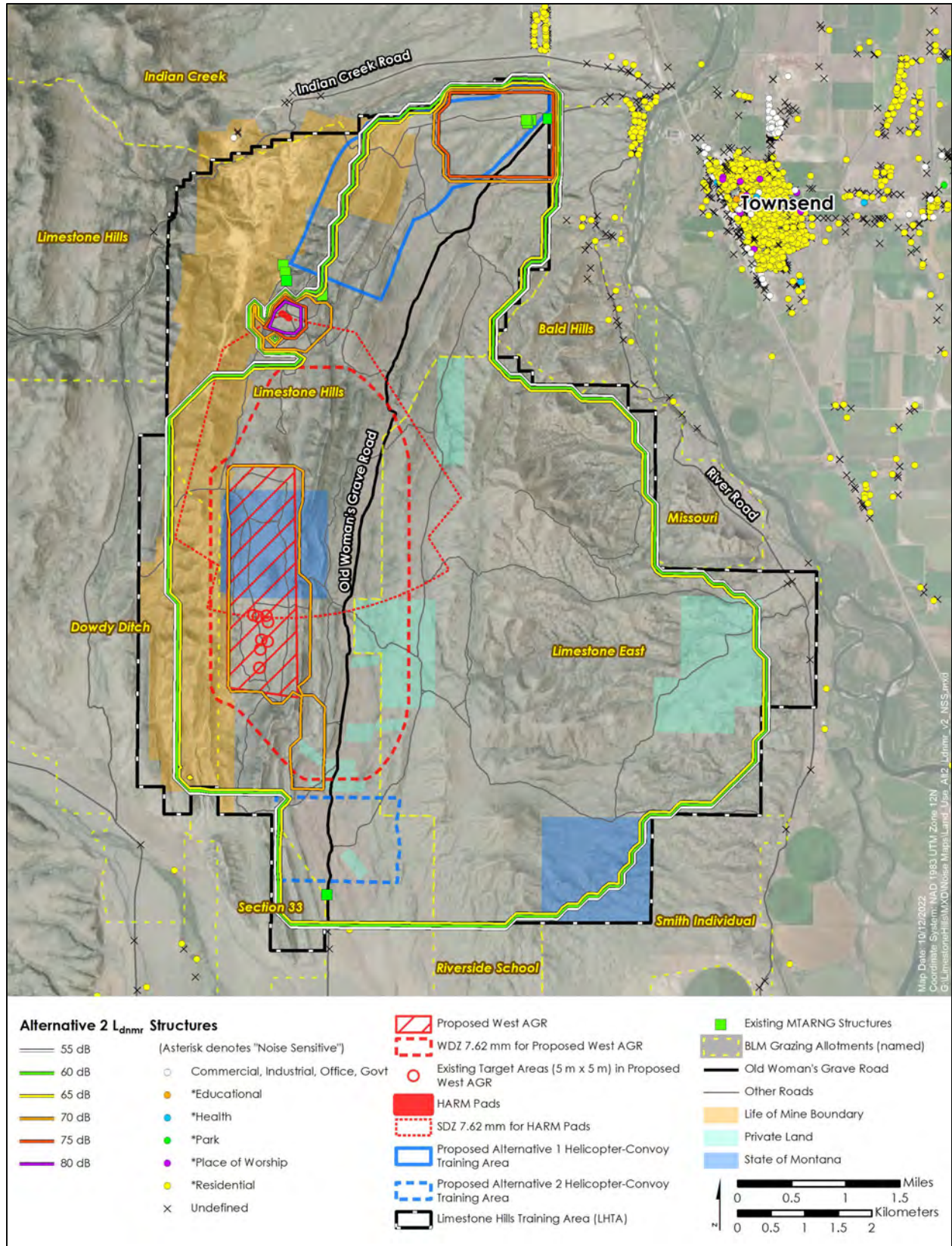
38 Proposed Helicopter-Convoy Training

39 Under Alternative 1, helicopter-convoy training would occur along Blue Route Road in the northern
40 part of the LHTA, while under Alternative 2 this training would occur along OWG Road in the
41 south of the training area. Although the generated contours between Alternatives 1 and 2 are very
42 similar, there are differences due to the location of the convoy training. Namely, under Alternative
43 1, the area for helicopter-convoy training is larger thereby reducing the noise levels.



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Figure 3-10. Alternative 1 L_{dnmr} Noise Contours for Aircraft Operations with Existing Land Use at LHTA.



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 2 **Figure 3-11. Alternative 2 L_{dnmr} Noise Contours for Aircraft Operations with Existing Land Use at**
 3 **LHTA.**

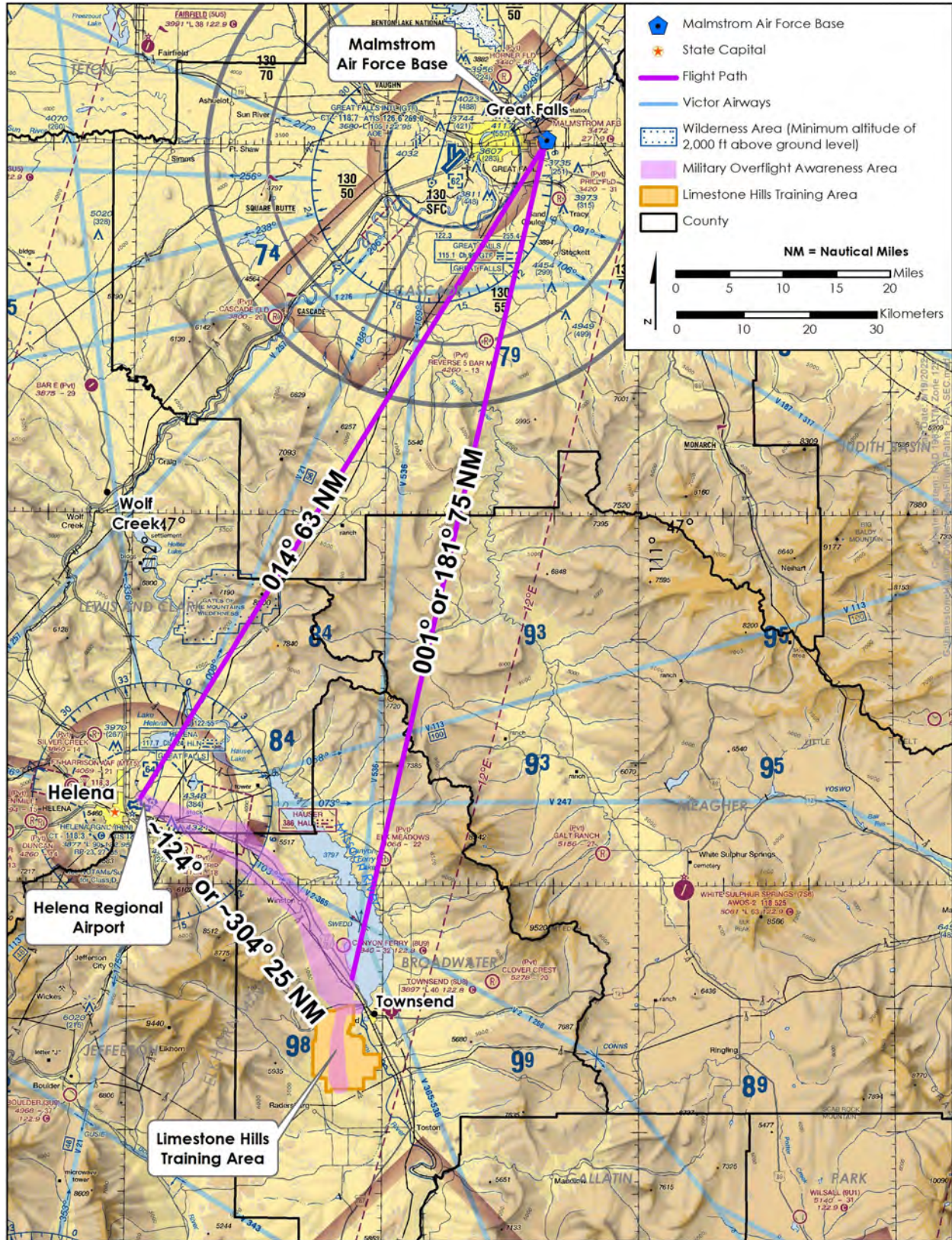
1 Under Alternative 1, helicopter-convoy training would produce combined aircraft noise levels of
2 69 dB for both L_{dnmr} and DNL in the High and Low Bird convoy training areas, which is an increase
3 of 4 dB. Conversely, Alternative 2 convoy training concentrates the helicopter activity to a smaller
4 area which produces noise levels of 70 dB for L_{dnmr} and DNL for the High and Low Bird training
5 area, an increase of 4 dB from existing noise levels.

6 While the addition of helicopter-convoy training would add to the 65 dB contours within LHTA, it
7 would have very little impact off-site with no substantial differences in the northeast nearest noise-
8 sensitive receptors. Noise contours are described above and the contribution of the helicopter-convoy
9 sorties are included in Figure 3-10 and Figure 3-11 for Alternatives 1 and 2, respectively. These off-
10 site areas would fall within Noise Zone I and noise-sensitive land uses would be considered
11 “generally compatible” per Army Land Use Guidelines. Additionally, the U.S. census block for that
12 area reflects a population density of 1.25 people per square mile but aerial imagery confirmed no
13 residences are located within the 65 dB contours. Proposed L_{dnmr} at the nearest noise-sensitive
14 receptors adjacent the LHTA would range from the existing non-military ambient noise to up to <55
15 dB, which is the same range as reported for the Baseline/No Action condition. Therefore, no
16 residents or population would be impacted by the off-site growth of the 65 dB contours. As noted in
17 the previous section, figures of L_{dnmr} noise contours overlaid on 2010 census block data for
18 Alternatives 1 and 2 are in Appendix C.1, and DNL noise contours overlaid on 2010 census block
19 data and on land use are presented in Appendix C.2.

20 Proposed Establishment of Restricted Area R-4601

21 The establishment of SUA R-4601 is required for both Alternatives 1 and 2 of the Proposed Action.
22 Establishment of proposed SUA R-4601 would allow usage of LHTA for helicopter aerial gunnery
23 training. This would increase the number of helicopter ingress and egress operations from the north
24 to LHTA generating L_{dnmr} of 51 dB, resulting in an increase at noise-sensitive receptors along the
25 ingress/egress route of 4 dB from the Baseline/No Action condition. The population density in this
26 area is 1.25 people per square mile (U.S. Census Bureau 2010a).

27 Helicopters originating at Malmstrom AFB would travel directly to LHTA along the 75-NM flight
28 corridor (“Malm”) to conduct aerial gunnery training. Helicopters would then fly from LHTA to
29 Helena for refueling, and either return to LHTA for additional training followed by return to
30 Malmstrom AFB, or return after refueling in Helena along the 63-NM flight path (“Helena”) to
31 Malmstrom AFB. Figure 3-12 presents these routes with an FAA sectional chart background, which
32 includes the Gates of the Mountains Wilderness area and Canyon Ferry Lake. MTARNG helicopters
33 would fly from their base in Helena to LHTA for training and return along the same flight path;
34 this is the route used for existing helicopters traveling to LHTA.



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Figure 3-12. Proposed Transit Routes to and from LHTA with FAA Sectional Chart.

1 The L_{dnmr} would vary along each of these routes due to differences in flight altitude of 500 to 2,000
2 ft AGL with a maximum L_{dnmr} of 48 dB on the “Malm” route and 46 dB DNL on the “Helena”
3 route, representing an increase of 11 and 9 dB from existing ambient conditions, respectively. As
4 discussed in Section 2.2, *Flight Paths and Altitudes*, a minimum altitude of 2000 ft AGL would be
5 maintained over wilderness areas, as practical. Figure 3-13 depicts the two flight routes with
6 corridors underlain by population census blocks with population densities varying from less than
7 35 people per square mile along most of the route to a maximum of approximately 1,000 people
8 per square mile adjacent to Malmstrom AFB, and the cities of Townsend and Helena. Because
9 baseline levels were conservatively estimated from national parkland measurements, the true
10 ambient levels may be much greater, particularly in more populated areas. No noise contours are
11 depicted because the maximum L_{dnmr} of 48 dB would not reach the 55 dB threshold plotted in this
12 analysis. The DoD significance criteria requires consideration of the context and intensity of noise.
13 The context recognizes that modest increases in noise in rural areas with lower ambient levels may
14 elicit more of a response than in urban areas. The helicopter flights along the “Malm” or “Helena”
15 route would generate increased noise exposure over low-density residential areas that would be
16 noticeable by some rural residents. The 11 dB increase would be considered a ‘reportable increase’
17 according to the FAA significance criteria but would not meet the definition of a significant
18 increase. The additional flights would occur at a minimum altitude of 500 ft AGL, an estimated
19 two overflights per busiest month generating noise levels well below the 65 dB threshold where
20 noise-sensitive land use restriction recommendations begin and, according to the DoD criteria,
21 would not reach the threshold of a significant increase in noise.

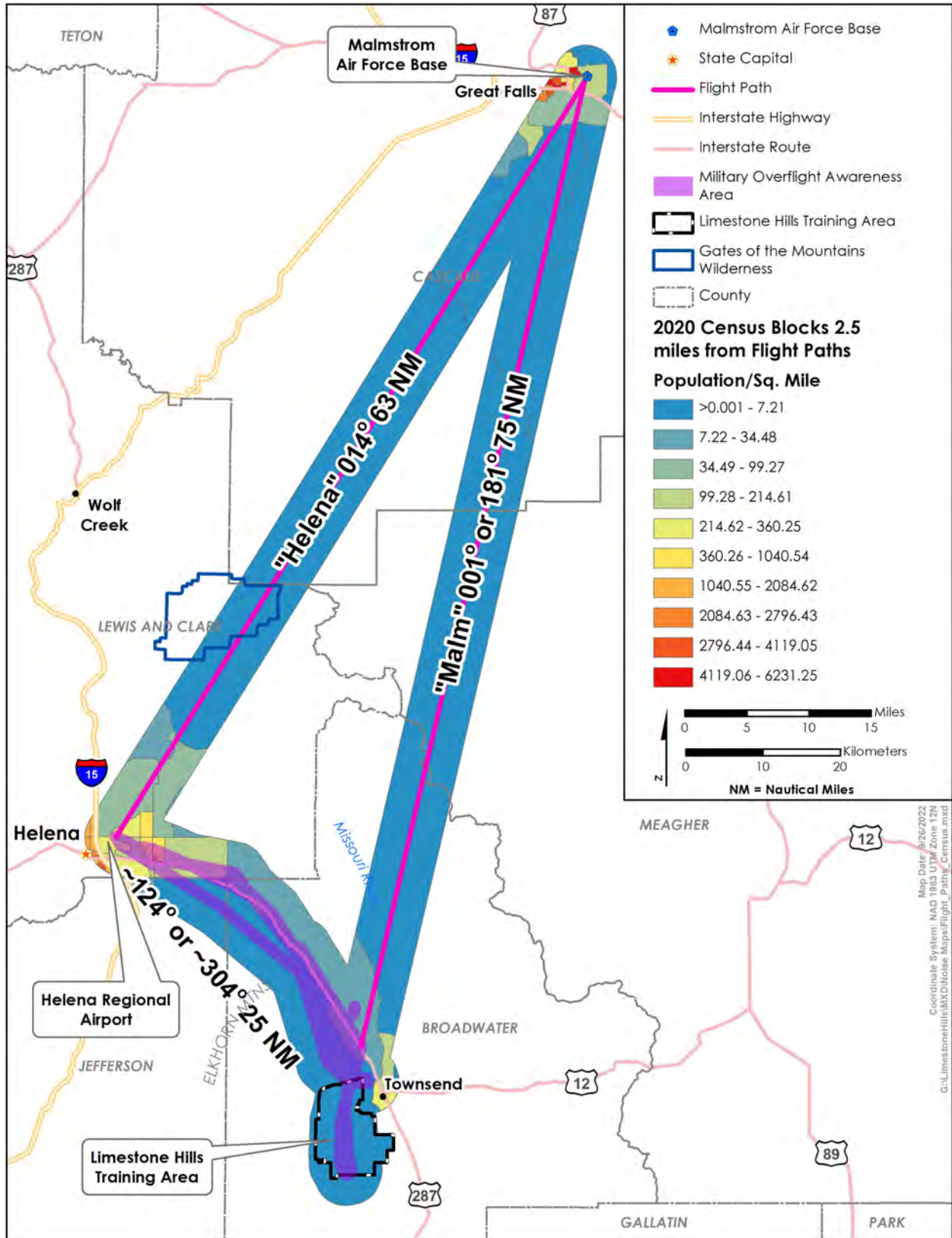
22 Noise levels along the ingress/egress corridor between Helena and the LHTA would increase by up
23 to 4 dB to 51 dB DNL. This route is currently used for travel to the training area, and the additional
24 helicopter sorties associated with aerial gunnery would be expected to be less noticeable. The flight
25 corridor between Helena and the LHTA is recognized as a Military Overflight Awareness Area in
26 the Joint Land Use Study (Matrix Design Group 2014).

27 Summary

28 Based upon the DoD standard, no new noise-sensitive areas would be exposed to DNL or L_{dnmr} of
29 65 dB or greater and changes to noise exposure at levels less than 65 dB DNL/ L_{dnmr} would not be
30 significant for any elements of the Proposed Action. Similarly, the Proposed Action would not
31 cause significant impacts to noise-sensitive areas based upon the FAA standard because none
32 would experience an increase of 1.5 dB while exceeding 65 dB DNL. Although less than
33 significant, the FAA defines increases of 3 dB exposed to 60 to <65 dB DNL and increases of 5
34 dB exposed to <60 dB DNL as reportable for public disclosure purposes. The areas along the Malm
35 and Helena routes would experience increases of up to 14 dB from existing conditions but would
36 remain under 50 dB DNL, which would be a reportable increase under FAA criteria. In summary,
37 establishment of proposed SUA R-4601 would cause less than significant noise impacts but
38 reportable noise increases along the Malm and Helena routes.

39 **3.5.3.3 Effects of the No Action Alternative**

40 Under the No Action Alternative, the Proposed Action would not occur. Baseline conditions would
41 persist. Therefore, there would be no impacts from the implementation of the No Action Alternative.



1
 2 **Figure 3-13. Flight Paths Between Malmstrom AFB and LHTA, Helena and LHTA, and Helena**
 3 **and Malmstrom AFB Overlaid on 2010 Census Block Data.**

1 **3.5.4 Best Management Practices and Standard Operating Procedures**

2 In accordance with FAA VFR flight requirements, helicopter pilots would maintain at least 500 ft
3 AGL over unpopulated areas and at least 1,000 ft AGL above the highest obstacle over congested
4 areas. Additionally, all aircraft are instructed to avoid overflight of the City of Townsend, avoid
5 overflight of Graymont’s mining facilities, and to maintain a reasonable lateral separation from
6 active mining areas for safety reasons (MTARNG 2021b). These existing BMPs and SOPs would
7 apply to both Alternatives 1 and 2 to reduce the potential for noise exposure to noise-sensitive
8 receptors. No mitigation measures would be required because the change in noise exposure would
9 be less than significant.

10 **3.6 Earth Resources**

11 **3.6.1 Definition of Resource**

12 This section addresses topography, geology, soils, and farmlands, which are briefly defined below.
13 Topography describes the configuration of physical features on the earth’s surface that form the
14 landscape. Topography influences drainage/surface flow, vegetation, macro- and microclimates,
15 soil formation, wind direction, and temperature. Geology refers to the earth’s physical structure
16 and substance, including rocks and their arrangement, composition, and formation. Geology
17 influences soil/rock types, structural formations and stability, earthquake hazards, erosion
18 potential, groundwater conditions, and mineral economic resources.

19 Soil is the matrix of mineral and organic material derived from underlying bedrock, or parent
20 material, that forms a natural medium for the growth of land plants. Soil differs from the material
21 from which it is derived in many physical, chemical, biological, and morphological properties and
22 characteristics due to forces of climate (including water and temperature effects), and macro- and
23 microorganisms, conditioned by relief, acting on the parent material over a long period of time. Soil
24 health, also referred to as soil quality, is defined as the continued capacity of soil to function as a
25 vital living ecosystem that sustains plants, animals, and humans for future generations. Soil texture,
26 drainage capacity, chemical and biological composition, and depth to the water table or restrictive
27 features influence the soil’s resilience for certain types of uses and activities.

28 Federal agencies must manage lands to control and prevent soil erosion and preserve natural
29 resources by conducting surveys and implementing soil conservation measures (Soil Conservation,
30 16 U.S.C. §§ 590a-590q1; CWA, 33 U.S.C. § 1251 *et seq.*; Erosion Protection Act, 33 U.S.C. §§
31 426). BLM grazing allotments are provided standards and guidelines (43 CFR 4180.1 *Fundamentals*
32 *of Rangeland Health*). The Farmland Protection Policy Act (7 U.S.C. § 4201 *et seq.*) states that
33 federal agencies must “minimize the extent to which federal programs contribute to the unnecessary
34 conversion of farmland to nonagricultural uses.”

35 **3.6.2 Existing Conditions**

36 The ROI includes the lands within the LHTA where the new West AGR, aerial gunnery, and
37 helicopter-convoy training alternatives are proposed. Potential impacts to topography, geology,
38 soils, or farmlands would be limited to these defined geographic locations; however, an overview
39 of regional and LHTA conditions is provided for context for the effects evaluation.

1 **3.6.2.1 Topography**

2 Elevation at the LHTA ranges from approximately 3,900 ft MSL at its eastern boundary near the
3 Missouri River to 5,950 ft along the highest ridges (Figure 3-14). The LHTA includes two distinct
4 physiographic regions. These areas include a series of long, linear, north-south trending ridges
5 (Limestone Hills) to the west and an area of steep-sided, smooth, and rounded hills to the east and
6 bordering the Missouri River (Kirk 2008). In general, slopes range from 15 to as much as 60
7 percent throughout the area.

8 **3.6.2.2 Geology**

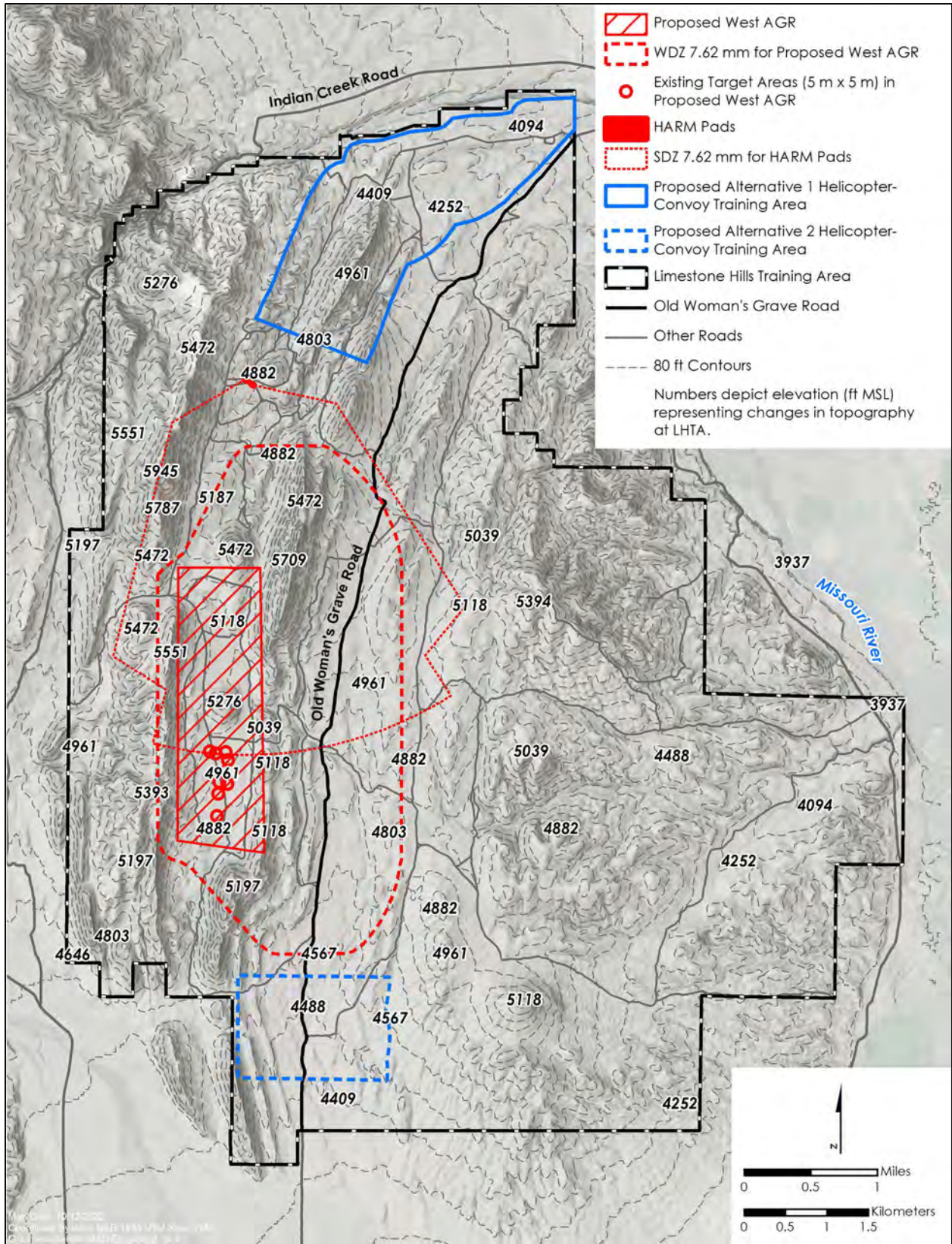
9 The LHTA derives its name from predominate hills that are formed mostly of soils derived from
10 limestone. Limestone, dolomite, and sandstone formations in the Limestone Hills stand in relief
11 as north-trending ridges (Ruppel 1950). Shale, mudstone, and siltstone formations and igneous
12 rocks typically are eroded to north- or south-trending valleys. The stratigraphy of the area (detailed
13 in Kirk 2008), from oldest to recent include Pre-Cambrian (1,100 million years ago [mya] rocks
14 (Belt Group, shale, argillite, sandstone); marine Paleozoic (500 to 248 mya) rocks (chert, quartzite,
15 dolomite; fossiliferous limestone, shale siltstone, sandstone) overlain with non-marine Mesozoic
16 (248 to 65 mya) sedimentary rocks (limestone, mudstone, sandstone, shale, siltstone); overlain
17 with Mesozoic Cretaceous (70 mya) Elkhorn Mountain Volcanics, overlain by Tertiary (65 to 1.8
18 mya) and Quaternary (1.8 mya to present) alluvial deposits and colluvial sand and gravels. The
19 generalized geologic features are shown on Figure 3-15.

20 Geologic history has left the area rich in minerals. Placer gold deposits along both Indian and Crow
21 Creeks were discovered and operated in the mid to late 1800s, were intermittently worked into the
22 mid-1900s, and reworked by dragline operations from 1940 to 1949 (Kirk 2008). Meagher
23 limestone was quarried for building stone in the late 1920s and 1930s. Quartzite was mined in the
24 1940s. Limestone has been mined since the early 1980s. The Graymont limestone quarry, along
25 the western border of the LHTA, extracts high purity limestone and produces a full range of bulk
26 limestone products.

27 The Limestone Hills occur within a regional tectonic province called the Northern Cordilleran
28 overthrust belt where older rocks have been intensely folded, faulted, and thrust faulted (MTARNG
29 and BLM 2008). The Limestone Hills occur as the upper plate of the Lombard thrust that can be traced
30 regionally from Three Forks through Lombard, MT, and is believed to join thrust faulting on the west
31 slopes of the Big Belt Mountains, east of Canyon Ferry Reservoir. The Broadwater County area has a
32 moderate risk score for 50% average earthquake risk (Rukstales and Peterson 2019).

33 **3.6.2.3 Soils**

34 The Soil Survey of Broadwater County shows 22 soil units within the boundaries of LHTA, as
35 described by the NRCS (NRCS 2019, 2020). Broadly, the soils of the LHTA occur on smooth-
36 and-round to sharp-and-narrow ridges and side slopes, generally steep (10–60%); rock outcrops
37 are common. The majority have developed from limestone bedrock, calcium and clay-rich
38 (argillic) sediment, fractured igneous rock, and unconsolidated rock transported downslope by
39 water and gravity. The various soil types developed from the difference in these parent materials
40 and are typically shallow and less than 20 inches thick. Textures are typically loams modified with
41 a range of rock fragment sizes from gravelly loam, cobbly loam, to very stony loam. The delineated
42 soil mapping units for the LHTA are shown in Figure 3-16.



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Figure 3-14. Topography in the Vicinity of LHTA.

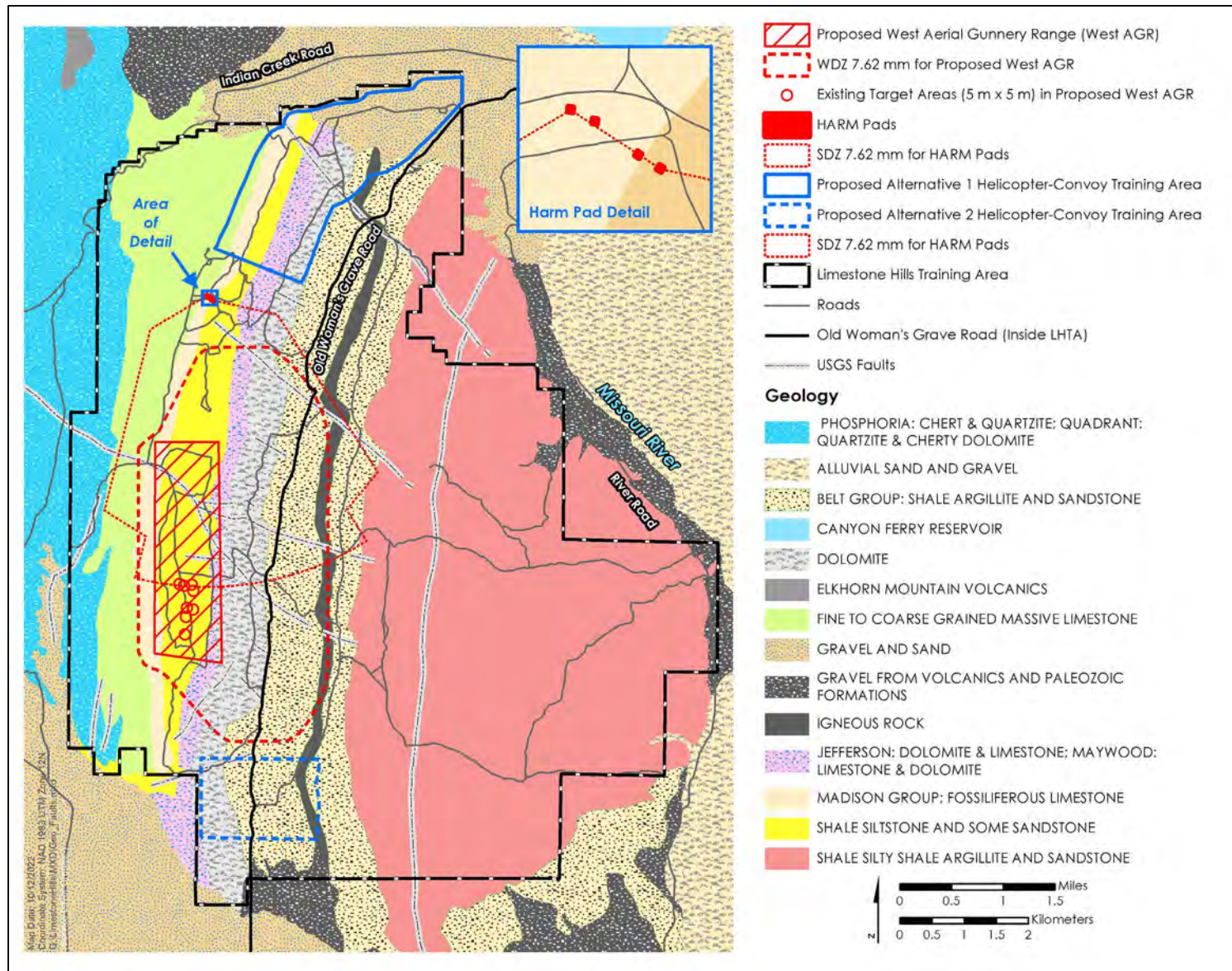


Figure 3-15. Geological Features in the Vicinity of LHTA.

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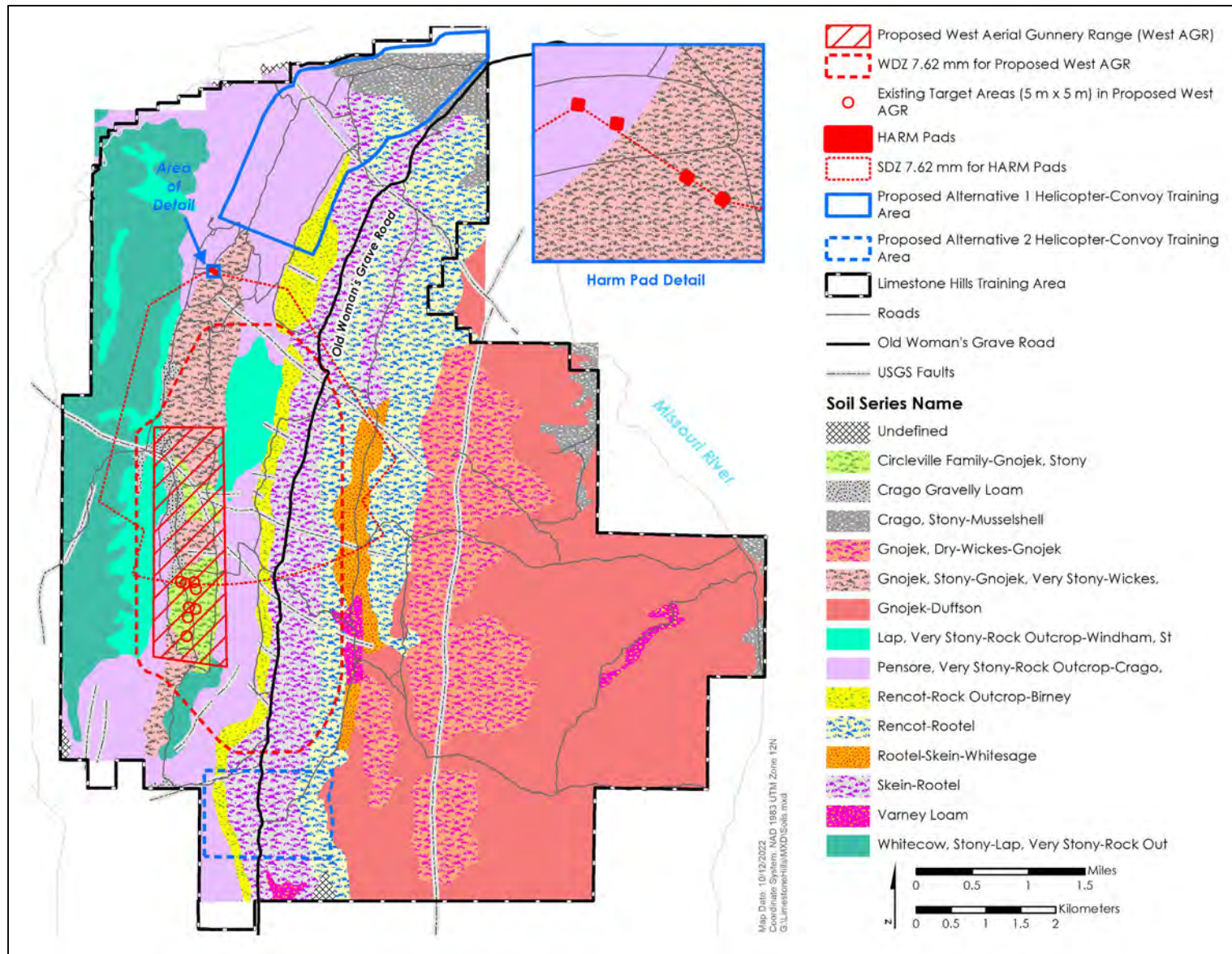


Figure 3-16. Soils at LHTA.

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1 All of the soils in LHTA are classified as moderately susceptible to water erosion (sheet and rill),
2 with NRCS water erodibility values ranging from 0.24 to 0.37 tons per acre per year (NRCS 2019,
3 2021). Soils with moderate water erodibility ratings have a moderate probability of soil erosion
4 damage resulting from site preparation and the aftermath of cutting operations, fires, overgrazing,
5 and military activities.

6 Based on the NRCS Wind Erodibility Group classification (soils with similar percentages of dry
7 soil aggregates larger than 0.84 mm), most of the LHTA soils falls into low to moderate wind
8 erosion susceptibility. Values range from 38 to 86 tons/acre/year if tilled, with the highest
9 susceptibility being the calcareous loams such as the Rootel-Skein-Whitesage complex. A total of
10 177 acres of this soil type occurs in the HARM SDZ (about 5% of the SDZ), and 27 acres in the
11 proposed WDZ for the West AGR (less than 1% of the WDZ).

12 The LHTA contains less than 0.1 acre of NRCS mapped hydric soils, which is one of three required
13 criteria used to identify wetlands. The gravelly loam floodplain complex soils mapped along the
14 Missouri River sometimes contain small inclusions of wet meadow soil types. Regulated waters and
15 wetlands are further described in Section 3.7, *Water Resources*, and Section 3.8, *Biological Resources*.

16 Soil protection practices described in the LHTA INRMP (MTARNG 2021a), prohibit off-road use;
17 use of tracked vehicles in wet soils; driving on road shoulder or in ditches; driving near streambanks;
18 and other types of soil disturbance. The INRMP provides strategies and practices to prevent soil
19 erosion. The ITAM program SOPs (described in MTARNG 2021a) identify procedures to detect
20 bare or damaged soil and rehabilitate them using ITAM's Range and Training Land Assessment and
21 Land Rehabilitation and Maintenance procedures. Practices and procedures to control wildfires and
22 rehabilitate sites after fire are described in Section 3.3, *Land Use*.

23 **3.6.2.4 Farmlands**

24 There are no U.S. Department of Agriculture Class I Prime Farmlands on LHTA. More than 98%
25 of the LHTA soil acreage is not suitable for agriculture and is valued for rangeland, recreation,
26 wildlife, watershed, aesthetics, and other uses including military activities. Limitations to farming
27 are related to shallowness, erodibility, and wetness. According to the NRCS Land Classification
28 System, less than one acre in the proposed West AGR WDZ is considered potentially usable for
29 agriculture, but this small acreage is limited for farming due to shallowness of the soil. Soils
30 derived from limestone bedrock are generally clayey and have a high pH (alkaline) from the
31 calcium carbonate in limestone constantly mixing with the soil; alkaline soils are difficult to farm.
32 Clay soils have a low infiltration capacity and, in dry periods, cultivation requires large amounts
33 of irrigation water and good drainage.

34 In some areas, land that does not meet the criteria for prime or unique farmland is considered to be
35 Farmland of Statewide Importance for the production of food, feed, fiber, forage, and oilseed crops.
36 Varney loam soils are classified as Farmland of Statewide Importance (NRCS 2021). These soils are
37 derived from alluvium, dominated by bunchgrasses, and are common in Montana's intermountain
38 valleys (areas shown on Figure 3-16 totals 175 acres). Generally, these soils can economically
39 produce high yields of crops when treated and managed according to acceptable farming methods,
40 or otherwise conditions are favorable. None of the Varney loam soil areas are currently being farmed
41 and are within two grazing allotments, Limestone East and Limestone Hills.

42 Soil conditions on grazing allotments are evaluated as part of a required land health assessment
43 conducted by the BLM. Achieving or making significant progress towards the elements that

1 contribute to land health is required of all uses of public land (43 CFR § 4180.1). The assessment
2 considers separate standards for elements of rangeland health including soil quality, erosion,
3 deposition, water quality, hydrologic function, vegetation condition, and biotic community integrity.
4 The BLM's 2022 assessment of the LHTA allotments indicated that soil quality and related standards
5 for upland health were met.

6 **3.6.3 Environmental Consequences**

7 **3.6.3.1 Evaluation Criteria**

8 Impacts on geology, topography, and soil resources are evaluated based on the degree of
9 disturbance due to aerial gunnery and helicopter-convoy activities. Significant adverse impacts to
10 geology, topography, and soils could occur as a result of unstable slopes causing loss of unique
11 geologic features, landslides, or other geological hazards. Evaluation of impacts on soils includes
12 soil disturbance (compaction, disruption of the surface soil horizon, etc.), removal of vegetative
13 cover, and soil loss through either wind or water erosion beyond background levels. Effects on
14 soils could be significant in the event that changes in soil composition, structure, or function result
15 in the inability of substantial areas to recover plant growth and cover.

16 **3.6.3.2 Effects of the Proposed Action Alternatives**

17 Under the Proposed Action alternatives, no construction would occur. Therefore, there would be
18 no effects on geology or topography. Soil effects and Farmlands of Statewide Importance are
19 discussed below for the different aspects of the Proposed Action.

20 Proposed Helicopter Gunnery Training

21 Under both Alternatives 1 and 2, long-term adverse impacts to soils are not expected from
22 establishment and operation of the proposed West AGR. Minor direct, short-term and localized
23 impacts to soils may occur from ammunition impact, potentially having the indirect effect of
24 increasing the rate of soil loss from water and wind erosion. Fires caused by training could also
25 indirectly exacerbate these impacts to soils. Potential impacts would be expected to be less than
26 significant with BMPs and SOPs (see Section 2.2.4).

27 Soils that qualify as Farmlands of Statewide Importance are mostly outside the Proposed Action
28 area (see Figure 3-16). The WDZ boundary for the West AGL slightly overlaps some of this land
29 east of OWG Road. However, potential effects of the action on these soils would be remote since
30 high hills occur between the West AGR and lands east of OWG Road.

31 Proposed Helicopter-Convoy Training

32 The proposed annual training activity has the potential to result in direct soil disturbance through
33 compaction and loss of protective plant and litter cover. Indirect impacts may include soil erosion,
34 and weed promotion which is related to native soil health. Impacts would be less than significant
35 with adherence to existing MTARNG SOPs, which include not driving vehicles on road shoulders
36 or off-road. While wind erodible soils are more prevalent in the Alternative 1 area, effects would
37 be minor given the short duration and infrequency of the training; additionally, the larger size of
38 area may allow training effects to be more spread out. There would be no effect on Farmlands of
39 Statewide Importance because none are present at the proposed Alternatives 1 or 2 helicopter-
40 convoy areas (Figure 3-16).

1 Proposed Establishment of Restricted Area R-4601

2 The establishment of SUA R-4601 is required for both Alternatives 1 and 2 of the Proposed Action.
3 The earth resources effects of the establishment of SUA R-4601 are the same as the effects of the
4 Proposed Action alternatives as described previously.

5 **3.6.3.3 *Effects of the No Action Alternative***

6 Effects on soils at the LHTA would continue to be managed in accordance with MTARNG's
7 (2021a) INRMP. Future projects that include ground disturbance would continue to be screened
8 prior to site approval. Construction and demolition would continue to occur as needed and may
9 result in temporary increased erosion potential until vegetation or other stabilizing methods
10 become established. Individual actions would continue to be analyzed under site-specific NEPA
11 analysis undertaken for each project. Less than significant temporary effects on earth resources
12 would be expected.

13 **3.6.4 Best Management Practices and Standard Operating Procedures**

14 Potential impacts on earth resources associated with the proposed establishment and operation the
15 West AGR, helicopter-convoy training, and the proposed establishment of SUA R-4601 would be
16 less than significant; therefore, no mitigation is required. BMPs and SOPs included as part of the
17 Proposed Action (see Section 2.2.4) will help avoid and minimize potential effects on soils,
18 especially those listed below.

- 19 • Use of existing training areas avoids and minimizes impacts associated with the
20 establishment and operation of a new AGR.
- 21 • Vehicles will avoid driving on road shoulders and no off-road vehicle use is allowed.
- 22 • Live-fire gunnery training avoids times of extreme fire hazard. Use of tracer rounds will
23 be restricted during times of elevated fire risk.
- 24 • Brass catchers will be used during all helicopter gunnery training to reduce potential range
25 fires.
- 26 • During live-fire gunnery training, firefighting equipment and training unit personnel will
27 be on hand to provide fire suppression activities in the event of a fire (until relieved by
28 Range Control or USFS, as applicable). Helicopter pilots will conduct a range clearing
29 maneuver at the end of live weapons gunnery to check for fire or smoke and notify Range
30 Control of the need to initiate fire suppression, as warranted.

31 Additional BMP and SOP Consideration

32 Due to the substantial annual increase in firing of 7.62 mm rounds, the following BMP is
33 recommended.

- 34 • Review BLM land health assessments for the Proposed Action areas for potential adverse
35 effects to upland health (soils, vegetation) related to helicopter gunnery training to identify
36 whether additional BMPs or management are required to reduce impacts.

1 **3.7 Water Resources**

2 **3.7.1 Definition of Resource**

3 Water resources include surface waters, groundwater, wetlands, floodplains, and other
4 classifications (such as wild and scenic rivers). These features function as a single, integrated
5 natural system upon which people and wildlife depend. Water resources support many beneficial
6 uses such as drinking water, habitat for fish and waterfowl, recreation, agriculture irrigation, or
7 industrial purposes. Laws, regulations, and policies applicable to an analysis of water resources
8 within the ROI include the following:

- 9 • CWA, as amended (33 U.S.C. § 1251 *et seq.*);
- 10 • Safe Drinking Water Act (42 U.S.C. § 300f *et seq.*);
- 11 • EO 12088, Federal Compliance with Pollution Control Standards;
- 12 • EO 11988, as amended, Floodplain Management;
- 13 • EO 11990, Protection of Wetlands; and
- 14 • DoD Instruction 4715.14, Operational Range Assessments.

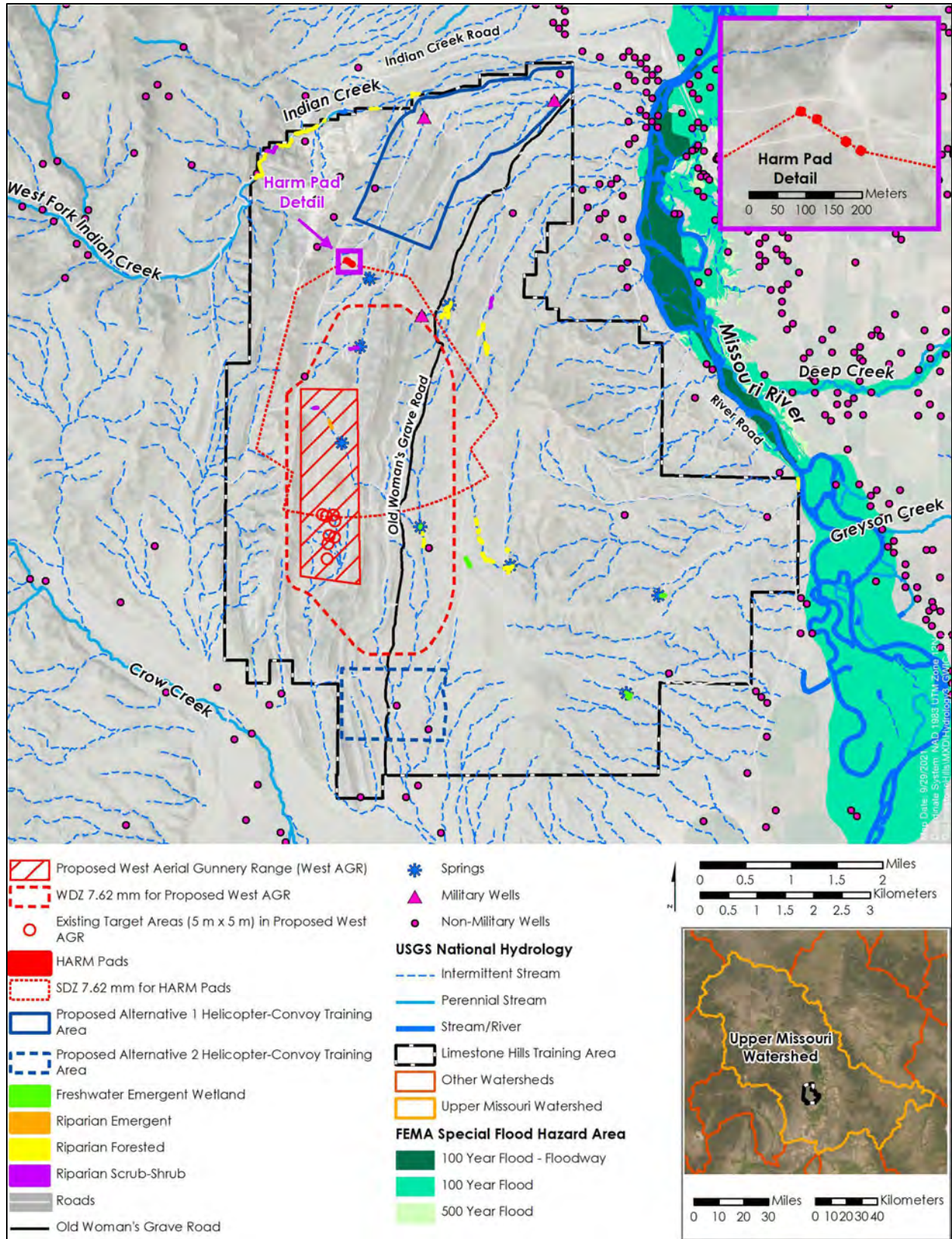
15 The Montana Water Quality Act (MCA 75-5-101 *et seq.*) integrates both national (federal CWA)
16 and state policy. The Montana Water Quality Act provides guidelines to prevent, abate, and control
17 pollution of Montana’s waters consistent with national standards. Water quality is managed by the
18 MDEQ, which is responsible for enforcement of the State’s water quality laws, permitting,
19 monitoring, inspections, recommending water quality standards for pollutants, and developing
20 total maximum pollutant loads for impaired surface waters to focus pollution reduction efforts to
21 improve water quality.

22 **3.7.2 Existing Conditions**

23 The ROI for water resources includes LHTA and, in a regional context, the downstream tributaries,
24 which include Indian Creek to the north, Crow Creek to the south, and the Missouri River to the
25 east. This assessment considered the section of the Missouri River extending from Toston Dam to
26 Canyon Ferry Reservoir, which is the closest river segment separately assessed under Section 303d
27 of the CWA. There are no designated Wild and Scenic Rivers in the vicinity of the LHTA (USFWS
28 2021e). The occurrence of floodplains, wetlands, surface water and springs, and groundwater are
29 described below.

30 **3.7.2.1 Floodplains**

31 The Federal Emergency Management Agency 100- and 500-year flood boundaries overlap along
32 the west side of the Missouri River, whereas the 500-year floodplain extends farther from the river
33 to the east (Figure 3-17). The 100- and 500-year floodplains overlap with one edge of the LHTA’s
34 eastern boundary. Most of these floodplains are outside the boundaries of the LHTA.



Sources: Federal Emergency Management Agency 2021, MTNHP 2021a, USGS 2021, MTARNG GIS.

Figure 3-17. Water Resources Within and Near the LHTA.

1 **3.7.2.2 Wetlands**

2 A total of 23.3 acres of emergent freshwater and riparian habitats have been mapped within the
3 LHTA (Figure 3-17; Table 3-6, Technical Study Volume 2). A total of 0.7 acres of riparian
4 wetlands associated with two small patches of emergent riparian and riparian scrub-shrub occur
5 within the boundaries of the proposed West AGR. Within the 7.62 mm WDZ of the West AGR,
6 there is a total of 1.3 acres of wetland, including approximately 0.1 acre of freshwater emergent
7 wetland, 0.6 acres of riparian scrub-shrub, and 0.6 acre of riparian forested habitats. Three of these
8 small wetland areas are within the zone of overlap, all other wetlands are located outside the SDZ
9 for the HARM Pads and WDZ for the West AGR.

10 **Table 3-6. Mapped Wetland Habitats Within the LHTA.**

Wetland Type	Proposed West AGR		MPTR		Other Locations	Rounded Total (Acres)
	Boundary Area	WDZ	HARM Pads	SDZ		
Freshwater Emergent	-	0.11	-	-	2.56	2.7
Riparian Emergent	0.39	-	-	Overlap*	-	0.4
Riparian Scrub-Shrub	0.30	0.60	-	Overlap*	1.34	2.2
Riparian Forested	-	0.55	-	-	17.49	18.0
Rounded Total (Acres)	0.7	1.3	0	-	21.4	23.3

11 Note: * Three wetland areas occur in the area of overlap of the SDZ and WDZ. The acreage and locations of wetlands were obtained
12 from the current GIS dataset of the Montana Natural Heritage Program (MTNHP 2021a). These same data are included in
13 the National Wetlands Inventory dataset.

14 Source: MTNHP 2021a.

15 Approximately 1.2 lineal miles of perennial streams and 113 lineal miles of intermittent streams
16 are mapped in the National Hydrology Dataset for the LHTA (Figure 3-17; USGS 2021). The
17 perennial stream miles are associated with Indian Creek along the northwestern boundary of the
18 LHTA. The intermittent streams are small drainages that generally only flow during periods of
19 heavy or prolonged storms (MTARNG 2021a). The jurisdictional considerations relative to these
20 wetland habitats and waters are discussed in Section 3.8, *Biological Resources*.

21 **3.7.2.3 Surface Waters and Springs**

22 The LHTA is part of the Upper Missouri River Basin (hydrologic unit code 10030101) within the
23 Upper Missouri Watershed. This hydrologic unit comprises 3,370 square miles (USGS 2021),
24 extending from Three Forks, Montana, northward to the outlet of Holter Lake (MTARNG and
25 BLM 2008).

26 Surface water is scarce at the LHTA as the area has a semi-arid climate characterized by relatively
27 low rainfall (annual average approximately 11 inches) and snowfall (average annual total less than
28 24 inches). In most cases, precipitation infiltrates into the soil or is lost to evapotranspiration prior
29 to reaching a surface waterbody (MTARNG and BLM 2008; EA 2019; MTARNG 2021a).

30 There are several springs that occur at LHTA; however, the number varies depending on climate
31 conditions. For example, four springs are recorded in the Montana Hydrography Dataset (Montana
32 State Library 2021). MTARNG (2021a) clarifies that 4 to 29 springs have been reported during
33 various surveys, but there are eight primary springs (see Figure 3-17). One spring is located within
34 the proposed West AGR and three are located in the 7.62 mm WDZ of the proposed West AGR

1 and/or 7.62 mm SDZ for the HARM Pads. The springs are fed by groundwater. MTARNG planned
 2 natural resource management objectives include installing livestock exclosures around all springs
 3 to protect and enhance sustainable water sources for livestock and wildlife (MTARNG 2021a).

4 The closest perennial waters occur along the northwest boundary of the LHTA (Indian Creek) and
 5 approximately 0.25 mi to the east (Missouri River). At its closest point, Crow Creek occurs
 6 approximately 0.5 mi to the south. Both Indian and Crow Creeks originate in the Elkhorn
 7 Mountains and are tributaries to the Missouri River. The Missouri River flows northward into
 8 Canyon Ferry Lake, a reservoir built on the Missouri River by the Bureau of Reclamation after
 9 construction of the Canyon Ferry Dam located upstream. This lake is located approximately 2 mi
 10 northeast, just north of the City of Townsend. It is the third largest waterbody (approximately
 11 32,500 acres) in the state and a major recreational and wildlife area.

12 Indian Creek varies from perennial along most of its length to intermittent; it is usually dry along
 13 most of the northern border of the LHTA, possibly due to infiltration associated with past placer
 14 mining (MTARNG and BLM 2008). Approximately, 2,400 lineal feet were reclaimed in 2000 by
 15 BLM along the northwest boundary of the LHTA. The reclaimed area is hydraulically stable and
 16 supports riparian vegetation (Figure 3-17).

17 Most agricultural lands in Broadwater County receive water by ditch systems from the Missouri
 18 River (NRCS 2019). The most important of these include the Crow Creek Pump Unit (aka Toston
 19 Irrigation District), Broadwater Missouri Canal, Montana Ditch Company; Big Springs Ditch
 20 receives water from a spring downstream of Toston Reservoir.

21 Crow Creek, Indian Creek, and the Missouri River between the Toston Dam and Canyon Ferry
 22 Reservoir, are listed as impaired waters on the 303(d) list (Table 3-7). Impairments include
 23 sedimentation, metals, alteration in flow-regime, and streamside or vegetative cover. Listed
 24 potential sources of impairments include agriculture, grazing, and past mining activities. The
 25 creeks and this segment of the Missouri River have been identified as having a low priority for
 26 development of total maximum pollutant loads to meet water quality standards.

27 **Table 3-7. Surface Water Beneficial Uses and Impairments in the Vicinity of LHTA.**

Surface Water	Beneficial Uses				Impairment Cause	Potential Source
	AG	AL	DW	RC		
Crow Creek (15.89 mi)	N	N	F	—	Alteration in streamside or vegetative cover, flow-regime modification, total nitrogen/phosphorus, physical substrate habitat alterations, sedimentation-siltation	Agriculture, crop production, grazing in riparian or shoreline zones, Habitat modification - other than hydromodification
Indian Creek (8.01 mi)	—	—	N	—	Metals (arsenic, cadmium, lead, mercury)	Acid mine drainage, dredge mining, impacts from abandoned mine lands (inactive), mine tailings
Missouri River (22.6 mi segment - between Toston Dam and Canyon Ferry Reservoir)	F	N	N	F	Alteration in streamside or vegetative cover, flow-regime modification, metals (cadmium, copper lead) sedimentation-siltation	Agriculture, crop production (irrigated), abandoned mine lands (inactive)

28 Notes: AG = Agriculture; AL = Aquatic Life; DW = Drinking Water; RC = Recreation; F = fully supporting, N = not fully supporting, — = not assessed
 29 Source: MDEQ 2020, EPA 2021b.

1 **3.7.2.4 Groundwater**

2 Montana’s population relies heavily on groundwater. About 61% of the state’s population gets
3 their drinking water from groundwater; of that, 32% get their drinking water from private wells
4 (MDEQ 2020). Groundwater is any water that flows or seeps downward or is stored below the
5 ground in rock crevices or other pores of geologic materials.

6 Aquifers in the LHTA are recharged from rainfall and snowmelt. Two types of aquifers underlie the
7 LHTA, Igneous Rock Aquifer and Basin-Fill and Alluvial Aquifer (MDEQ 2020). Groundwater at
8 LHTA depends upon bedrock fractures in faulted and folded sedimentary and igneous rocks.
9 Permeability of the bedrock aquifers, such as the Madison Limestone that occurs on the LHTA,
10 typically decreases with depth due to compressional forces on the rock; this tends to direct groundwater
11 flow laterally and generally parallel to the top of the bedrock (MTARNG and BLM 2008).
12 Groundwater that moves through fractures that surface at a lower elevation may be visible on the
13 surface as springs or seeps. Overall, groundwater moving through fractures or weathered bedrock is a
14 source of recharge to alluvial aquifers in the Townsend Valley. The general groundwater flow direction
15 from the live-fire training areas is to the east to the nearby Missouri River (EA 2019).

16 Table 3-8 presents data on groundwater wells on or near the LHTA. There is considerable
17 variability in well depth and flow rates. Wells reportedly were drilled to support domestic,
18 irrigation and livestock water uses. However, there are few residences near the LHTA and most
19 wells provide stockwater for livestock owned by grazing allotment permit holders and for wildlife.
20 Three wells are operated by the MTARNG (see Figure 3-17). MTARNG uses one well to provide
21 water for domestic use at the Range Facility in the cantonment area and two wells provide
22 stockwater for grazing livestock and for wildlife.

23 **Table 3-8. Groundwater Wells On and Near the LHTA.**

Well ID	Location Township; Range; Section	Owner	Drill Date	Depth	Static Water Level	GPM	Use
186176	07N; 01E; 27	MTARNG (1)	2000	235	141	70	S
224807	07N; 01E; 27	MTARNG (2)	2006	291	115	25	D
205566	06N; 01E; 10	MTARNG (3)	2003	180	116	9	S
296127	07N; 01E; 36	LEWIS	2017	327	251	30	D
192754	07N; 01E; 35	RODRIGUEZ	2001	60	5	15	D
19231	07N; 01E; 33	BOOHER	1960	86	20	230	D, S
19226	07N; 01E; 33	KNODEL	1976	118	55	30	D
171145	06N; 01E; 9	ARNETT	1998	42	14	30	D
194807	06N; 01E; 1	DAGENAIS	2002	171	117	30	D
17612	06N; 01E; 22	RND GROVE RANCH	1915	18	6	23	D, S
177414	06N; 02E; 7	DRAKE	1999	291	6	8	D
224838	06N; 02E; 17	PARKER	2005	56	40	35	D
124334	06N; 02E; 20	DIAMOND T RANCH	1991	56	35	30	D
17620	06N; 01E; 34	WILLIAMS	1959	105	14	50	D
17615	06N; 01E; 32	MOLDENHAWER	1978	70	9	20	D
17614	06N; 01E; 32	MOLDENHAWER	1978	300	33	10	S
17714	06N; 02E; 32	SMITH	1950	45	15	10	S

Well ID	Location Township; Range; Section	Owner	Drill Date	Depth	Static Water Level	GPM	Use
17713	06N; 02E; 32	SMITH	1950	55	40	22	S
16585	05N; 01E; 3	MILLER	1914	42	18	15	D
16584	05N; 01E; 3	TOMA	1915	62	28	6	S
16586	05N; 01E; 3	D.D DAVIS RANCH CO	1950	60	35	25	I, S

Notes: D = domestic, I = irrigation, S = stockwater; GPM = gallons/minute. The MTARNG wells had concentrations of Munitions Constituents of Concern (metals, explosive constituents, and perchlorate) below Project Action Levels (URS and Arcadis 2013).

Drinking water quality of well water used at the Range Facility is tested annually to ensure it meets EPA drinking water standards for physical parameters (alkalinity, carbonate, bicarbonate as CaCO₃, pH, specific conductance); anions (chloride, fluoride, nitrate plus nitrite as N, sulfate); metals (arsenic, calcium, copper, lead, magnesium, sodium, uranium); and screened for herbicides; pesticides; and volatile organic compounds. Additionally, total coliform and *Escherichia coli* (*E. coli*) bacteria concentrations are tested monthly during the active training season. The most recent 2021 comprehensive testing and monthly bacterial testing indicated no violations of EPA standards, with several of the tested constituents not detected or at very low concentrations (Montana Environmental Laboratory 2021b).

Under the Operational Range Assessment Program (ORAP) (DoD 2018), assessments are conducted, “at least every 5 years, or whenever significant changes (e.g., changes in range operations, site conditions, applicable statutes, regulations, DoD issuances, other policies) occur that may affect determinations the DoD Component made during a previous assessment, whichever is sooner.” The purpose of an Operational Range Assessment (ORA) is to determine if there is a release, or substantial threat of a release, of munitions constituents (MC) from an operational range to an off-range area that exceeds an applicable regulatory standard or creates a potential unacceptable risk to human health or the environment. MC are any materials originating from UXO, discarded military munitions, or other military munitions. The most recent ORA assessments (URS and Arcadis 2013, EA 2019) concluded that migration of MC via surface waters at LHTA are unlikely because no perennial streams flow through the training areas and streams that do occur are ephemeral, soils promote infiltration, and vegetation reduces potential for MC mobilization. East-west trending fractures in the bedrock that cross-cut the topography supports a groundwater flow pattern generally to the east along the series of springs trending toward the Missouri River. Water quality was tested at the three easternmost springs as part of a Phase II ORA conducted in 2012. Waters were tested for MC, including metals (antimony, copper, lead, zinc), several contaminants associated with explosives, and inorganic perchlorate. All concentrations were below project action limits, which were established based on the lower of state and local promulgated values (ORA Screening Values), and it was concluded that no MC were migrating off-range at levels that pose an unacceptable risk to human and/or ecological receptors (URS and Arcadis 2013). The 2019 ORA Periodic Review determined there were no changes in surface water and groundwater conditions since the Phase II assessment, concluding it unlikely that MC were migrating off-range at levels that pose an unacceptable risk to human and/or ecological receptors. Because exposed limestone bedrock was observed within the duded impact area and could serve as a potential area of recharge for underlying groundwater, it was recommended that confirmatory groundwater sampling (i.e., downgradient wells and springs near the range boundary) be conducted during the next ORA.

1 **3.7.2.5 *Wild and Scenic Rivers***

2 There are no designated Wild and Scenic Rivers in the vicinity of the LHTA (USFWS 2021e).

3 **3.7.3 *Environmental Consequences***

4 **3.7.3.1 *Evaluation Criteria***

5 Water resources are evaluated based on whether wetlands, water quality or quantity, or floodplain
6 beneficial values would be impacted. Effects would be significant if the Proposed Action results in:

- 7 • impacts to wetlands;
- 8 • notable adverse impacts on the natural and beneficial floodplain values (e.g., flood control,
9 groundwater recharge, water quality; aquatic or terrestrial organism requirements);
- 10 • exceedance of surface water or groundwater quality standards established by federal, state,
11 and local regulatory agencies; or
- 12 • contamination of a public drinking water supply such that public health may be adversely
13 affected.

14 **3.7.3.2 *Effects of the Proposed Action Alternatives***

15 Proposed Helicopter Gunnery Training

16 Under both Alternatives 1 and 2, helicopter gunnery training would not directly or indirectly
17 impact wetland habitats or surface waters because no construction or fill are associated with
18 establishment of the West AGR. In addition, no fired rounds would be expected to enter surface
19 waters or wetlands because the West AGR firing direction is to the east away from the wetlands
20 and springs and there is a 315-ft hill in the West AGR that provides separation between the firing
21 direction and the wetlands and springs (see Figure 3-18 in Section 3.8, *Biological Resources*).
22 Similarly, the small wetland patch in the broader overlap zone of the HARM Pads SDZ and aerial
23 gunnery WDZ is protected from the line of fire by terrain (rolling hills, ridges). Therefore, potential
24 effects of helicopter gunnery training on groundwater would be expected to be less than significant.

25 Additionally, brass catchers will be used during helicopter gunnery training to catch ejected
26 cartridge casings, thereby reducing the amount of munition debris expended during helicopter
27 gunnery training. Water testing at downgradient springs and the three MTARNG groundwater
28 wells indicated that MC from ongoing weapons training at the LHTA either were not detected or
29 had concentrations below Project Action Levels (URS and Arcadis 2013). The 2019 ORA
30 indicated a similar conclusion would be expected since there have been no changes in surface
31 water and groundwater conditions since the Phase II assessment and testing is recommended
32 during the next ORA review to confirm groundwater quality and potential for off-site migration.

33 The proposed West AGR would have no direct or indirect effects on the 100-year floodplain as it
34 does not occur in the area of potential influence of the West AGR. Similarly, there would be no
35 impact to Wild and Scenic Rivers, as none occur in the vicinity.

36 Based on the above considerations, impacts to water resources would be less than significant for
37 either Alternative 1 or 2.

1 Proposed Helicopter-Convoy Training

2 Helicopter-convoy training would have no effect on wetlands, springs, or the 100-year floodplain
3 as none of these are present in the proposed areas for training under either of the alternatives. There
4 would be no live firing of weapons, therefore, there would be no potential effect to groundwater.
5 Potentially adverse erosion effects associated with parking convoy vehicles along the road at either
6 alternative locations would be expected to be less than significant because BMPs and SOPs
7 (Section 2.2.4) state that vehicles will avoid driving on road shoulders and no off-road vehicle use
8 will be allowed. Therefore, potential effects to water resources from helicopter-convoy training
9 would be less than significant for either Alternatives 1 or 2.

10 Proposed Establishment of Restricted Area R-4601

11 Establishment of SUA R-4601 is required for both Alternatives 1 and 2 of the Proposed Action.
12 The water resources effects of the establishment of SUA R-4601 are the same as the effects of the
13 Proposed Action alternatives as described previously.

14 **3.7.3.3 *Effects of the No Action Alternative***

15 Under the No Action Alternative, Malmstrom AFB personnel will continue to conduct helicopter aerial
16 gunnery training at the out-of-state military training range in Utah. The area identified for the Proposed
17 Action would continue to be used by MTARNG for military training with no opportunity for increased
18 aerial gunnery proficiency. Water resources would continue to be managed by LHTA's existing
19 SOPs and BMPs aimed at minimizing erosion, avoiding impacts to wetlands, and conducting
20 periodic ORAs to ensure no substantial decline in the quality of surface waters and groundwater
21 from military training activities.

22 **3.7.4 Best Management Practices and Standard Operating Procedures**

23 Potential impacts to water resources associated with the proposed establishment and operation the
24 West AGR, helicopter-convoy training, and the proposed establishment of SUA R-4601 would be
25 less than significant; therefore, no mitigation is required. The following BMPs and SOPs are
26 included as part of the Proposed Action (see Section 2.2.4) and will help avoid and minimize
27 impacts to water resources:

- 28
- Vehicles are to avoid driving on road shoulders.
 - 29 • All vehicles are restricted to existing roads, no off-road travel is allowed.
 - 30 • Brass catchers will be used during helicopter gunnery training, which will reduce the
31 amount of munition debris expended during helicopter gunnery training.

32 Additional BMP and SOP Consideration

- 33 • In accordance with DoD Instruction 4715.14 (*Operational Range Assessments*, 2018), Fort
34 Harrison (including LHTA) conducts periodic ORAs utilizing a conceptual site model (e.g.,
35 identifies MC sources, potential migration pathways, and off-range receptors) and develops
36 a sampling strategy, when necessary. If a future ORA identifies a potential threat of MC
37 migration off-range that may create a potential unacceptable risk to human health or the
38 environment (e.g., water quality exceeds a regulatory standard), appropriate notifications
39 would be made to regulatory authorities (EPA, MTDEQ), and additional management
40 practices would be implemented to prevent MC migration off-range. In the event of MC
41 release off-range that exceeds an applicable regulatory standard, response would require

1 additional regulatory notifications, management practices to prevent further MC migration
2 off-range, and the release would be addressed, as appropriate.

3 **3.8 Biological Resources**

4 **3.8.1 Definition of Resource**

5 Biological resources include all animal and plant species, both native and naturalized, and the natural
6 habitats and/or vegetative communities they use. Such habitats at LHTA include wetlands, grasslands,
7 shrublands, and forests. Some species and habitats are of federal and/or state concern. Sensitive and
8 protected biological resources include plant and animal species listed by the USFWS as threatened or
9 endangered and their Critical Habitat, or are otherwise protected under the following:

- 10 • ESA, 16 U.S.C. §§ 1531–1544;
- 11 • Bald and Golden Eagle Protection Act, 16 U.S.C. § 668 *et seq.*;
- 12 • MBTA, 16 U.S.C. § 703 *et seq.*; and
- 13 • EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*.

14 Other sensitive habitats include wetlands which are regulated by the U.S. Army Corps of Engineers
15 (USACE) under:

- 16 • CWA Section 404, 33 CFR 35 § 328; and
- 17 • EO 11990, *Protection of Wetlands*.

18 The ESA (16 U.S.C. § 1536) makes it unlawful to “take” an endangered or threatened species,
19 with “take” defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or
20 attempt to engage in any such conduct.” The ESA requires federal agencies to ensure that actions
21 they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed
22 species or result in the destruction or adverse modification of any designated Critical Habitat of
23 such species.

24 Bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) are protected under
25 the Bald and Golden Eagle Protection Act, which protects the species by prohibiting the take,
26 possession, or commerce of any bald or golden eagle, alive or dead, including any part, nest, or
27 egg, unless allowed by permit (16 U.S.C. § 668(a); 50 CFR § 22).

28 The MBTA (16 U.S.C. § 703 *et seq.*), supported by EO 13186 (66 FR 3853), is intended to ensure
29 the sustainability of populations of all protected migratory bird species, and includes virtually all
30 native, non-game bird species. In the last 40 years, the MBTA has undergone judicial review at
31 several levels with different Circuit Courts issuing different opinions, yielding a patchwork of rules.
32 The Department of the Interior in 2017 sought to resolve the uncertainty by stating that the MBTA
33 does not prohibit “incidental take.” In January 2021, a new rule was finalized eliminating criminal
34 penalties for incidental migratory bird deaths but on 05 February 2021, the USFWS delayed the
35 effective date of the rule and re-opened the public comment period. On 08 March 2021, the
36 Department of the Interior permanently revoked and withdrew the 2017 opinion. On 04 October
37 2021, the USFWS published a final rule revoking the January 2021 rule. The revocation went into
38 effect December 3, 2021, and a new process began to promulgate a regulation that defines the scope
39 of the MBTA prohibitions to include actions that incidentally take migratory birds. No new rule has
40 been proposed to date to clarify the situation.

1 Sensitive habitats include ESA Critical Habitats for listed species, sensitive ecological areas
2 designated by state or federal rulings, wetlands, rare or limited plant communities, and important
3 seasonal use areas for wildlife such as migration corridors, nursery areas, and seasonal summer
4 and winter habitats.

5 Wetlands are an important natural system and habitat due to their distinctive biological and
6 hydrological functions in a landscape. Some wetlands, creeks, and rivers are protected as Waters
7 of the U.S. (WOTUS) under Section 404 of the CWA. The CWA regulates the discharge of
8 dredged or fill material into WOTUS, including wetlands.

9 The MTFWP provides for stewardship of the fish and wildlife resources of the state under the Montana
10 State Code. Through the Montana Natural Heritage Program (MTNHP), the state identifies animals
11 and plant Species of Concern (SOC). Montana has designated 217 SOC, 95 Potential SOC, and two
12 Special Status Species animals; and 453 SOC and 90 Potential SOC plants in the state. Designation as
13 a SOC had no statutory or regulatory authority, but the state uses this system as a basis for resource
14 managers and decision-makers to make proactive decisions regarding species conservation and avoid
15 extirpation, i.e. local extinction, of species from the state (MTARNG 2021a).

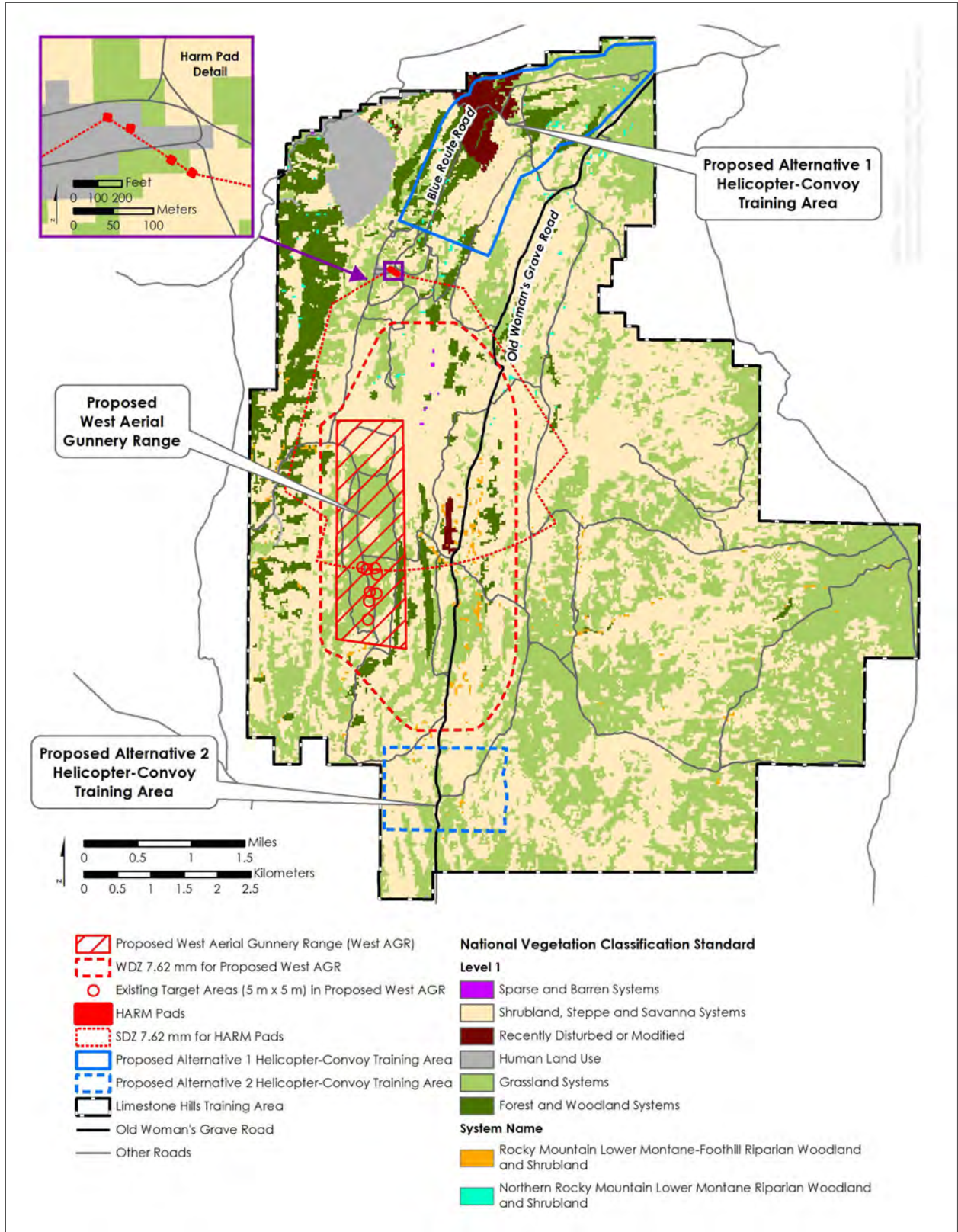
16 **3.8.2 Existing Conditions**

17 The LHTA consists of approximately 21,300 acres located within the Middle Rocky Mountain
18 physiographic province that includes portions of northeastern Oregon, central Idaho, and basins
19 and ranges of southwestern Montana (MTARNG 2021a). The LHTA is specifically located in the
20 Townsend-Horseshoe-London-Sedimentary Hills Level 4 Ecoregion. This Ecoregion consists of
21 partially wooded, often rugged, carbonate-rich hills and low mountains that predominantly support
22 grasslands and shrublands on the folded, sedimentary foothills on the eastern slopes of the Elkhorn
23 Mountains. The LHTA occurs on two distinct physiographic features: a series of long, linear,
24 north-south trending ridges called the Limestone Hills in the west that supports pine and fir forests,
25 and woodlands at higher elevations, and an area of smooth, steep-sided, rounded hills of the
26 western Townsend Valley in the east that supports grasslands and shrublands which borders the
27 Missouri River just beyond the eastern boundary.

28 Several sources of information, including the most recent INRMPs (MTARNG 2014, 2021a) and
29 GIS data on vegetative communities and wetlands were obtained from the MTNHP (2021a). In
30 addition, the Biological Assessment Report conducted for this project was considered (AEM
31 Group 2022 in EA Technical Volume 2).

32 **3.8.2.1 Vegetation Communities**

33 Thirty-one vegetation types, including 19 upland and 12 drainage bottomland types have been
34 identified in the LHTA by MTNHP (2021b) which uses the National Vegetation Classification
35 Standard. For clarity in maps and discussion, the vegetation communities have been consolidated into
36 categories. Upland vegetation types include six grassland, nine shrub/grassland, three forest, and one
37 pasture type. Drainage bottomland types include four deciduous tree, four riparian shrub, and four
38 herbaceous drainage types. Figure 3-18 shows the consolidated (MTNHP Level 1) vegetation
39 categories in the LHTA; two consolidated riparian (shrubland, woodland) systems were separately
40 mapped to distinguish from Level 1 shrubland and woodland communities. Table 3-9 presents the
41 acreage of these Level 1 vegetation cover types.



1
 2 **Figure 3-18. Land Cover/Level 1 vegetation communities at the LHTA (2016 MTNHP land cover**
 3 **layer).**

1 **Table 3-9. Acreage of Generalized Vegetative Cover Types Identified for the LHTA, 2017.**

Vegetation Type	Approximate Acreage ^a	Percentage of LHTA
Forest and Woodland Systems	1,508.3	7.1
Shrubland, Steppe and Savana Systems	11,216.5	52.7
Human Land Use	518.4	2.4
Recently Disturbed or Modified	216.2	1.0
Grassland Systems	7,695.3	36.1
Sparse and Barren Systems	3.8	<0.1
Wetland and Riparian Systems	139.9	0.7
Total ^b	21,298.3	100.0

2 Notes:

3 a Acreages were derived from using the 2016 MTNHP land cover layer classified from satellite and aerial imagery and interpreted
 4 with supporting ground-level data.

5 b Total mapped acreage, as calculated by computer-assisted drafting, is slightly smaller than the 21,300 acres covered by the
 6 LHTA area because of the use of raster data from the MTNHP that is of 30 meter x 30 meter pixels.

7 The LHTA is dominated by shrublands and grasslands which make up approximately 89% of the
 8 vegetation/cover types. Montane Sagebrush Steppe (29%) and Big Sagebrush Steppe (23%)
 9 dominate the shrublands (11,216 acres), and Rocky Mountain Lower Montane, Foothill, and
 10 Valley Grassland (7,695 acres, 36%) contribute virtually all the coverage of grassland. Coniferous
 11 forests, including Limber, Lodgepole, and Ponderosa Pine Forests, and Douglas Fir Forest and
 12 Woodland contribute 1,508 acres (7.1%) and are found mostly on the north and west-facing slopes
 13 of the ridges of the Limestone Hills in the west of LHTA.

14 The Human Land Use category (518 acres, 2.4%) includes the military buildings in the cantonment
 15 area near the north entry to the base, the graded, unpaved road network, including OWG Road that
 16 passes through the LHTA, and the over 300 acres of mining operations that occur in the northwest
 17 corner of the LHTA.

18 The Recently Disturbed or Modified category (216 acres, 1%) are areas that have recently burned
 19 and have not recovered back to their natural vegetative community. Sparse and Barren Systems
 20 are naturally barren areas represented by 3 acres (< 0.1%) of cliff, canyon side, and exposed
 21 bedrock mostly in the Limestone Hills.

22 Descriptions of the consolidated vegetation communities from the MTNHP and plant species lists
 23 for LHTA, including scientific and common names, are included in the INRMP (MTARNG 2021a)
 24 and Biological Assessment Report (AEM Group 2022 in EA Technical Study Volume 2).

25 **3.8.2.2 Wetlands**

26 Wetland acreages have been estimated several times at the LHTA, mostly using aerial image
 27 interpretation combined with soils and topographic data but with minimal on-the-ground formal
 28 assessment. Ground assessment efforts include delineation of 4.3 acres of potential wetland areas
 29 with hydric soils and approximately 76.3 linear miles of WOTUS by Tetra Tech in 1997
 30 (MTARNG 2021a) and a delineation performed in 2014 (Watershed Consulting 2014) that
 31 identified 1.14 acres of Palustrine Freshwater Emergent Wetlands at 19 out of 20 tested locations
 32 associated with the springs or seeps identified in 1997 by Tetra Tech. It has been proposed that
 33 only the wetlands along Indian Creek (7.4 acres) are jurisdictional to the USACE, with the

1 remainder being associated with ephemeral or intermittent drainages that mostly infiltrate or
2 evaporate before reaching a surface water body, meaning they are isolated and not jurisdictional
3 (Watershed Consulting 2014; AEM Group 2022).

4 As noted in Section 3.7, *Water Resources*, wetland data from the MTNHP, derived from the
5 National Wetland Inventory data provided by the USFWS (2021d), identifies 23.3 acres of
6 wetlands on LHTA, mostly Palustrine Emergent Wetlands in the central and southeastern areas
7 associated with springs and seeps, with Riparian Forest and Riparian Scrub-Shrub along
8 intermittent and ephemeral drainages in the center of LHTA and along the perennial Indian Creek
9 at LHTA's northwest boundary (see Figure 3-17).

10 While LHTA has a semi-arid climate with low rainfall and snowfall, and most precipitation events
11 infiltrate or evaporate before leaving the LHTA. The USGS Hydrology Dataset layer (see Figure
12 3-17) shows 113 mi of intermittent streams on LHTA with many potentially draining into the
13 perennial Indian and Crow Creeks or connecting to the Missouri River. This could bestow USACE
14 jurisdiction on the drainages and any wetlands associated with them. While the definition of
15 WOTUS and the criteria for USACE jurisdiction have been in flux in recent years (EPA Final
16 Navigable Waters-Protection Rule, 33 CFR § 328.3, 22 June 2020; EO 13990, *Protecting Public
17 Health and the Environment and Restoring Science to Tackle the Climate Crisis*, 20 January 2021;
18 U.S. District Court for the District of Arizona Order 30 August 2021), only the USACE can make
19 a final determination of what features fall under their jurisdiction.

20 **3.8.2.3 Plants**

21 Descriptions of floral characteristics of the forest, shrubland, grassland, and wetland vegetation
22 communities are provided in the LHTA INRMP (MTARNG 2021a). No listed plant species have
23 been identified in the LHTA, but one listed plant species, the federally-threatened Ute-ladies'-
24 tresses orchid (*Spiranthes diluvialis*), and one proposed threatened species, whitebark pine (*Pinus
25 albicaulis*), were identified by the USFWS as known in Broadwater County and with some
26 potential to occur at LHTA (USFWS 2020).

27 Montana identifies 453 species of plants as SOC, 13 of which have been identified in Broadwater
28 County (MTNHP 2021c). Only one plant SOC has been detected at LHTA, lesser rushy milkvetch
29 (*Astragalus convallarius*), primarily on lower slopes and toeslopes of limestone ridges (MTARNG
30 2021a). Sword Townsend-daisy (*Townsendia spathulata*) identified as a potential SOC, occurs on
31 open, rocky, limestone-derived soils on slopes and windswept ridgetops in the valley and foothill
32 zones and was recorded within and adjacent to the Graymont limestone mine permit area, and at
33 several locations along the limestone ridges.

34 **3.8.2.4 Noxious Weeds**

35 Montana has 35 listed noxious weeds (Montana Department of Agriculture 2017), managed by
36 county-level Weed Management Districts, each with a Board of Commissioners pursuant to the
37 County Weed Act (MCA 7-22-2101 *et seq.*). Since 2013, noxious weeds in Montana have been
38 assigned to one of five priority categories (1A, 1B, 2A, 2B, and 3) depending on their abundance,
39 threat, and distribution, which determines applicable control measures. After initial identification
40 of noxious weeds at the LHTA in 1999, surveys now occur annually. LHTA is known to have
41 eight Priority 2B and one Priority 3 species (MTARNG 2021a).

1 Priority 2B weeds are abundant in Montana and widespread in many counties. The Montana
2 Department of Agriculture recommends eradication or containment of 2B weeds. Priority 3 species
3 are regulated but not considered Montana-listed noxious weeds. However, they have the potential
4 to have significant negative impacts. The Montana Department of Agriculture recommends
5 research, education, and prevention to minimize the spread of Priority 3 species. Weed
6 management is prioritized by local Weed Management Districts.

7 There are four additional noxious weed species on the Broadwater County list that occur at LHTA,
8 but they are not on the Montana priority list (AEM Group 2022; MTARNG 2021a).

9 **3.8.2.5 General Wildlife**

10 The LHTA provides a variety of wildlife habitats across its diverse topography, including
11 coniferous forest and woodland on the west and north faces of the taller hills and ridges; rolling
12 grasslands and sagebrush/grasslands on lower slopes, and riparian woodland and shrubland habitat
13 along Indian Creek and a few of the drainages within LHTA. While seven wildlife habitat types
14 containing 26 habitat subtypes have been identified in the LHTA, these habitats are mostly xeric,
15 i.e., very dry, with limited surface water available from a few springs and seeps, most of which
16 have been previously modified for cattle (MTARNG 2021a).

17 Many studies of wildlife resources in and near the LHTA have been described over recent years
18 by federal and state agencies (BLM, USFS, USFWS, and MTFWP) as well as private individuals
19 and firms. Records for the region include 381 species with 158 of these potentially occurring at
20 LHTA. Of the 158, 117 have been detected at LHTA: one fish, three reptiles, 82 birds, and 31
21 mammals (see EA Technical Study Volume 2).

22 **3.8.2.6 Sensitive Species and Priority Habitats**

23 Species that are endangered, threatened, proposed threatened, or candidate species with potential
24 to occur at LHTA were identified by the USFWS as of potential concern (USFWS 2020). Only
25 four species were identified for the LHTA and are summarized below.

26 **Canada Lynx.** The Canada lynx (*Lynx canadensis*) is a federally-threatened species but has little
27 suitable habitat on the LHTA. While detections of the species have been made in the Elkhorn
28 Mountains and the Big Belt Mountains, to the northwest and northeast of LHTA, respectively,
29 none have been detected in the LHTA (MTNHP 2021e). Canada lynxes avoid large openings but
30 often hunt along edges of dense cover (Montana Field Guide 2021). The species is non-migratory,
31 but movements of over 100 mi have been recorded between Montana and Canada (AEM Group
32 2022). The species is crepuscular, i.e., active at dawn and dusk, and primarily found in dense tree
33 habitat. Critical Habitat occurs more than 30 mi from the LHTA, and the closest potential suitable
34 habitat would be high on the ridges to the west of the Proposed Action Areas; therefore, the
35 potential for the species to occur in the Proposed Action Area is very low.

36 **Grizzly Bear.** The grizzly bear (*Ursus arctos horribilis*) is a federally-threatened species but has
37 little suitable habitat at the LHTA. According to the MTNHP (2021e), the majority of observations
38 of the species in Montana have been made far south in the mountains that border Yellowstone
39 National Park and to the north in higher elevations of the Rocky Mountains. While Broadwater
40 County has some moderate suitability for grizzly bear in the Big Belt Mountains, the LHTA has low
41 quality or unsuitable habitat (MTNHP 2021e). There is no designated Critical Habitat for the grizzly
42 bear on LHTA. Grizzly bear habitat use is highly variable, and no true migration occurs, although

1 grizzly bears often exhibit discrete elevational movements from spring to fall, following seasonal
2 food availability (AEM Group 2022). The grizzly bear has a low potential to occur within the LHTA.

3 **Monarch Butterfly.** The monarch butterfly (*Danaus plexippus*) was identified as a federal
4 candidate species on December 17, 2020, and has been identified as historically occurring and
5 currently present in Montana (USFWS 2022a). Recent observations of the species have been in
6 western mountain and southwestern lowland counties but not in Broadwater or immediately
7 surrounding counties (Montana Field Guide 2022). In Montana, they occur in open grasslands,
8 foothills, valley bottoms, roadsides, pastures, and suburban areas with sufficient milkweed species
9 (Apocynaceae family e.g., *Asclepias* spp.) for laying eggs and/or sufficient nectar resources from
10 suitable flowers during breeding and migration (USFWS 2022b). The correct timing, of monarchs,
11 nectar plants, and milkweed is important for monarch survival and in western North America these
12 resources often occur along riparian corridors (USFWS 2022b). None of the primary host plant
13 species for this species have been recorded in the LHTA (MTARNG 2021a). While the LHTA
14 falls within the species broad summer range, the lack of potential host plants at LHTA and lack of
15 recent detection in Broadwater County and surrounding counties in the last 20 or more years
16 suggests the species may be a rare summer visitor passing through LHTA and would not reside or
17 breed at LHTA (AEM Group 2022).

18 **Ute-Ladies'-Tresses Orchid.** The Ute-ladies'-tresses orchid, a federally-threatened species, is an
19 orchid which occurs along riparian edges, gravel bars, old oxbows, high flow channels, and moist
20 to wet meadows along perennial streams in Montana and other interior western states. It typically
21 occurs in stable wetland and seepy areas associated with old landscape features within historical
22 floodplains of major rivers. It is also found in wetland and seepy areas near freshwater lakes or
23 springs (USFWS 2021a). The potential for this species to occur on the LHTA is considered low
24 because the MTNHP predictive model identifies the LHTA as mostly unsuitable (lower elevations)
25 or with no potential in the Limestone Hills (MTNHP 2020e). The species has highly and
26 moderately suitable habitat, and has been detected along the Missouri River immediately to the
27 east where wetlands are perennial and cover many hundreds of acres (AEM Group 2022, Figure
28 11, see EA Technical Volume 2). The small size of the scattered wetlands at LHTA, along mostly
29 fast-flowing, ephemeral drainages, suggests the species has a low potential to occur at LHTA, and
30 an even lower probability of being in the Proposed Action Areas (AEM Group 2022).

31 **Whitebark Pine.** The whitebark pine is a coniferous tree that was proposed for listing as
32 threatened by the USFWS on 02 December 2020 with comments due 01 February 2021 (FR Doc.
33 2020-25331 Filed 12-1-20); however, a final rule for the listing has not been published. Whitebark
34 pine is typically found in cold, windy, high-elevation or high-latitude sites in western North
35 America. Its hardiness allows it to grow where other conifer species fail (USFWS 2021c). It has
36 been detected in the Elkhorn Mountains to the northwest and the Big Belt Mountains to the
37 northeast (MTNHP 2021e; AEM Group 2022, Figure 12, see EA Technical Study Volume 2), but
38 it has not been detected at LHTA and, if present, would only likely be on the tallest ridges of the
39 Limestone Hills to the west of the Proposed Action Area.

40 **Bald Eagle and Golden Eagle.** The bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila*
41 *chrysaetos*) are fully protected by the Bald and Golden Eagle Protection Act. These species have
42 been recorded within the LHTA but no nesting habitat for either species is present. Bald eagles are
43 opportunistic predators which typically hunt for fish and nest along larger river systems, lakes, and
44 reservoirs in Montana (MTNHP 2021e), including the Missouri River, but they also hunt for small
45 and medium-sized mammals (e.g., squirrels, raccoons, and rabbits) so they are sometimes seen at

1 LHTA. Golden eagles forage for medium-sized mammals, birds, and reptiles, which are present at
2 LHTA. The distribution and abundance of medium-sized prey species has been linked to golden
3 eagle breeding success (MTNHP 2021e; USFWS 2021b). While golden eagles nest on rock cliff
4 ledges and in taller trees, they are not known to nest at LHTA. The MTNHP predicts low to moderate
5 suitability for golden eagle foraging at LHTA. The Proposed Action would not be expected to impact
6 nesting for either species within the LHTA.

7 **Wolverine.** The wolverine (*Gulo gulo*) is a Montana SOC. While the LHTA falls within the
8 wolverine's year-round range, there is mostly unsuitable habitat on-site for the species (MTNHP
9 2021e). They are wide-ranging but are most commonly found in alpine tundra and mountain forests
10 habitat, which makes it unlikely they would be found in the LHTA or the training areas. In
11 Broadwater County they have been observed in the Elkhorn Mountains to the northwest and the
12 Big Belt Mountains to the northeast (MTNHP 2021e).

13 **Montana SOC.** Since Montana's SOC status does not have any statutory or regulatory authority, SOC
14 that do not have other protections are managed by the MTARNG Environmental Office in accordance
15 with DoD and Army policy using an ecosystem approach to maintain viable populations and avoid
16 extirpation of species from the state (MTARNG 2021a). While some SOC species may have some
17 potential to occur at LHTA, most either use habitats not within the Project Action areas or are migrants.
18 One SOC, the Brewer's sparrow (*Spizella breweri*), may nest at the LHTA, and has been recorded
19 there during the nesting season (MTARNG 2021a). Lesser rushy milkvetch populations at LHTA are
20 considered healthy as they can survive moderately heavy grazing pressure and are unlikely to be
21 affected by the Proposed Action. Sword Townsend-daisy is found outside the Proposed Action area
22 and would not be affected. The LHTA INRMP identifies natural resource goals and objectives and
23 includes specific actions designed to achieve each objective. In some instances, even measuring
24 ecosystem conditions and progress toward the objectives is identified (MTARNG 2021a). These
25 include monitoring percent cover or acres of habitat for plant and animal SOC at LHTA.

26 A total of 13 Montana SOC animals have been detected at LHTA (MTNHP 2021d):

- 27 • two raptors, including the bald eagle and golden eagle (discussed above);
- 28 • other avian species, including the common tern (*Sterna hirundo*), Pinyon jay
29 (*Gymnorhinus cyanocephalus*), Clark's nutcracker (*Nucifraga columbiana*), loggerhead
30 shrike (*Lanius ludovicianus*), green-tailed towhee (*Pipilo chlorurus*), and Brewer's sparrow
31 (*Spizella breweri*);
- 32 • bats, including the little brown myotis (*Myotis lucifugus*), silver-haired bat (*Lasionycteris*
33 *noctivagans*), hoary bat (*Lasiurus cinereus*), and Townsend's big-eared bat (*Corynorhinus*
34 *townsendii*); and
- 35 • the western spotted skunk (*Spilogale gracilis*).

36 **Game Species.** MTFWP has expressed concern for big game species present at LHTA and the
37 potential effects on these species from the Proposed Action (MTFWP 2020). Seasonal habitat for
38 seven species of big game that include elk (*Cervus canadensis*), mule deer (*Odocoileus hemionus*),
39 white-tailed deer (*Odocoileus virginianus*), pronghorn (*Antilocapra americana*), bighorn sheep
40 (*Ovis Canadensis*), black bear (*Ursus americanus*), and mountain lion (*Puma concolor*) have been
41 recorded in the LHTA, though habitat for white-tailed deer and black bear is apparently limited
42 (AEM Group 2022, see EA Technical Study Volume 2).

1 Most elk observations at LHTA are from the southwest corner of the LHTA in the limestone
2 hogback ridges (mostly winter) or on the southeast side of the LHTA (winter and spring).

3 LHTA is one of the most important mule deer wintering ranges associated with the Elkhorn
4 Mountains (MTARNG 2021a). Mule deer mostly use the limestone ridges and their accompanying
5 mountain mahogany/shrub habitats in the western portion of LHTA, although mule deer can be
6 found in significant numbers in the sagebrush habitats to the east of OWG Road.

7 Bighorn sheep were transplanted into the Crow Creek drainage of the Elkhorn Mountains in the
8 winters of 1996, 1997, and 2000, have bred successfully, and have established primary winter ranges
9 along Crow Creek and Indian Creek. Bighorn sheep numbers have remained low since bacterial
10 pneumonia reduced their numbers in 2007 and 2008 (MTARNG 2021a).

11 Mountain lions are present at least from late autumn through early spring when wintering mule
12 deer and elk are available as prey. Black bears have been reported, but their habitat is limited.

13 Other game species that have been observed at LHTA include three bird species, the native blue
14 grouse (*Dendragapus obscurus*), non-native gray partridge (*Perdix perdix*), and non-native
15 ringnecked pheasant (*Phasianus colchicus*). All three species are considered uncommon in the
16 LHTA (MTARNG 2021a).

17 **Wetlands.** WOTUS are the only habitat regulated at LHTA. While uncertainty about the true
18 acreage of wetland and riparian habitats exists, fill or dredge of WOTUS would be an impact under
19 the CWA.

20 **3.8.3 Environmental Consequences**

21 **3.8.3.1 Evaluation Criteria**

22 Potential effects on biological resources are evaluated based on whether sensitive species or
23 habitats would be impacted in violation of federal or state laws, or regulatory agency concerns.
24 Effects would be significant if the Proposed Action results in:

- 25 1. “take” of federally-listed or federally-protected species;
- 26 2. adverse impacts to federally-listed species’ Critical Habitat;
- 27 3. substantial, adverse impacts to a Montana SOC;
- 28 4. substantial, adverse impacts to regionally important big game animals;
- 29 5. impacts to jurisdictional wetlands and WOTUS; and
- 30 6. adverse, long-term effects on any of the above.

31 Effects from the Proposed Action on vegetation communities, plants, wildlife, and listed/protected
32 species were evaluated by identifying the types and locations of potential ground-disturbing or
33 other activities, and their direct and indirect impacts on biological resources (habitats, wildlife,
34 and sensitive resources). This includes the potential to cause indirect effects that result in long-
35 term changes in populations or distribution through effects on habitat, migration, reproductive
36 success, or recurring injury to species over time incidental to operations.

37 Potential direct and indirect effects to biological resources include:

- 38 • Direct

- 1 ○ weapons firing strikes to animals from missing targets, ricochet, or from fragments and
- 2 debris;
- 3 ○ dust dispersed over vegetation by helicopters when landing/taking off;
- 4 ○ fire impacts to sensitive plants or wildlife habitat;
- 5 ○ noise impacts to wildlife from weapons firing and from helicopters; and
- 6 ○ aircraft bird/wildlife strikes.
- 7 • Indirect
- 8 ○ lead contamination of the training range used by wildlife after live-fire training.

9 **3.8.3.2 *Effects of the Proposed Action Alternatives***

10 Proposed Helicopter Gunnery Training

11 Effects are assessed for the flight paths between LHTA, AFB and for refueling at Helena Regional
12 Airport (see Figure 2-2), weapons familiarization and firing from the HARM Pads, and aerial
13 gunnery training at the West AGR (see Figure 2-1).

14 Helicopter Gunnery Training would have a less than significant effect on federally-listed species or
15 other protected species, since:

- 16 • listed species are not expected in the West AGR WDZ or HARM Pads SDZ due to lack of
- 17 suitable habitat;
- 18 • flight over more suitable habitat for these species off-site in transit to LHTA will be at 500
- 19 to 2,000 ft AGL, reducing noise effects;
- 20 • the SOPs for range clearing over the HARM Pads SDZ and West AGR WDZ to ensure the
- 21 area is clear of big game prior to commencement of gunnery training (see Section 2.2.4) will
- 22 reduce or eliminate risks of animals being struck by shells, ricochets, or shrapnel during
- 23 aerial gunnery; and
- 24 • application of the Bird/Wildlife Aircraft Strike Hazard Management Program SOP will help
- 25 to avoid impacts to large flying birds (see Section 2.2.4).

26 There will be no direct or indirect effect on Critical Habitat from any aspects of the Proposed Action
27 as there is no Critical Habitat at LHTA or in its vicinity.

28 There will be less than significant direct effects on Montana SOC because of the expectation that
29 none or so few would be in the Proposed Action areas that no substantial adverse impacts on their
30 populations would or could occur. Additionally, the SOPs that prevent impacts to special status,
31 listed species will also protect several Montana SOC if they were in the Project Action area.

32 Less than significant direct effects would occur to big game animals at the West AGR with
33 application of the range clearing SOP. A reconnaissance approach will be made as the helicopters
34 fly to and circle the HARM Pads prior to landing. These maneuvers should help to clear any big
35 game that may be in the vicinity. The seasonal restriction that limits live-fire training to reduce
36 impacts to overwintering big game will also reduce potential impacts of aerial gunnery training
37 (see Section 2.2.4).

38 Helicopter gunnery training would not impact potentially jurisdictional wetlands and WOTUS
39 because no construction or fill is expected from any aspect of the Proposed Action, and the firing
40 from the HARM Pads and in the West AGR is in a direction away from the nearest potential

1 wetlands. The potential jurisdictional wetlands in the HARM Pad SDZ (a spring) and the West AGR
2 and WDZ are also screened from the ground and aerial gunnery target area by terrain, further
3 reducing the potential for rounds to enter the wetlands (see Section 2.2.4 and Figure 3-19).

4 *Noise*

5 Noise and downdraft disturbance from helicopters is unlikely to scare wildlife or disrupt foraging,
6 nesting, or movement while the helicopters are in route from Malmstrom AFB and when
7 approaching LHTA. While effects on wildlife could occur during the initial training events, those
8 effects are expected to dissipate with repeated exposure to the noise and/or downdraft. Helicopters
9 will be flying at 500 to 2,000 ft AGL and visual detection, noise, and downdraft effects will be
10 transitory, but occur frequently enough to allow any sensitive species to identify it as no threat, cause
11 them to adapt, and ultimately have them ignore the helicopters flying past. Similar expectations in
12 terms of effects occur for refueling trips to and from Helena Regional Airport.

13 Noise and downdraft disturbances from helicopters as they proceed at LHTA directly to helicopter
14 weapons familiarization and firing on the concrete HARM Pads may be greater due to flying at lower
15 altitudes, but no sensitive species are expected in this area and the disturbance would be intermittent,
16 perceived as no threat over time, and, as a result, any effects would be less than significant.

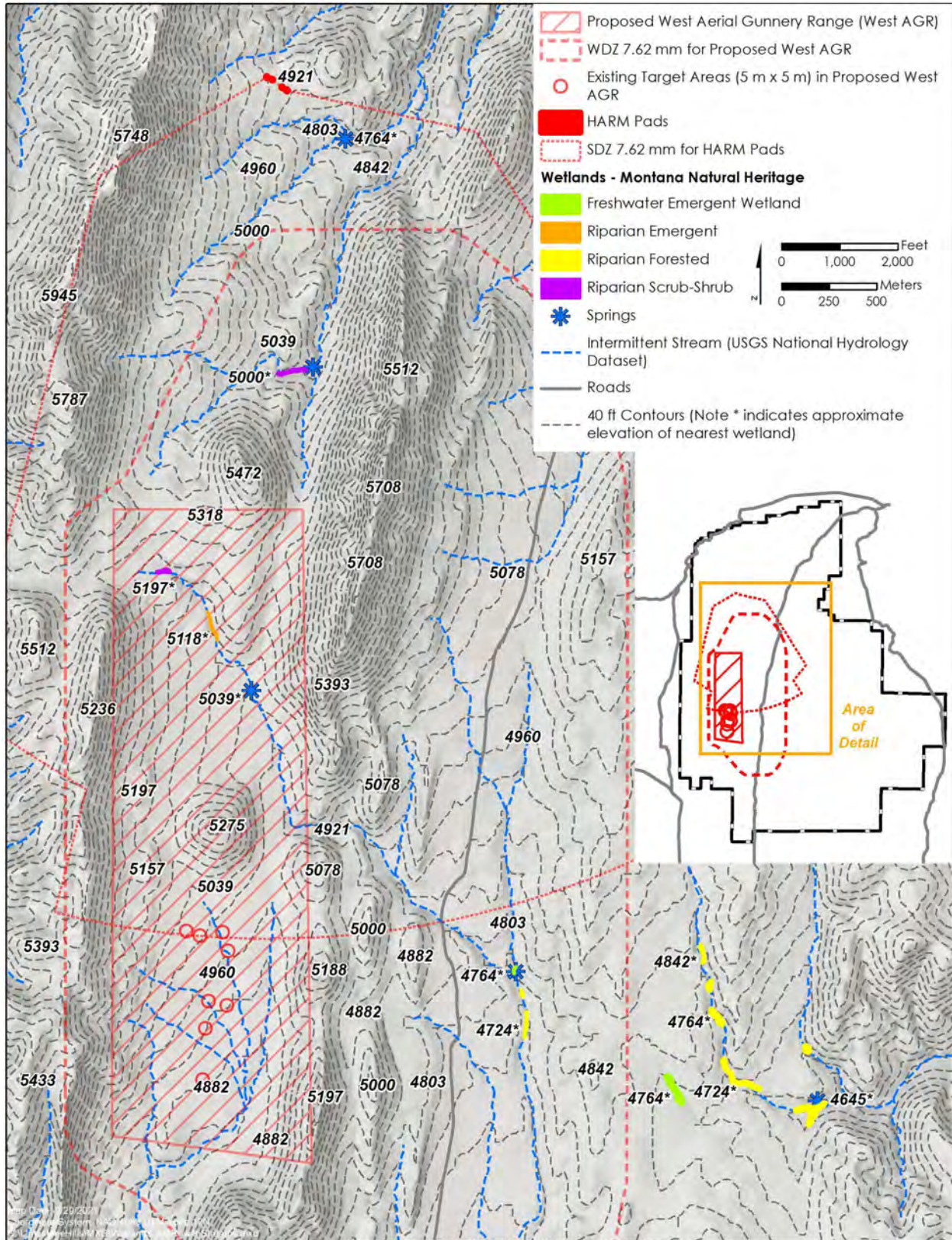
17 Noise from ground-to-ground gunfire at the HARM Pads or air-to-ground weapons firing at the
18 West AGR is not expected to affect sensitive species since no sensitive species are expected to
19 occur at the firing ranges. In addition, the application of the SOPs for range clearing over the SDZ
20 and WDZ at these training areas prior to commencement of gunnery training, plus the seasonal
21 restriction SOP that limits training from 01 December to 30 April (see Section 2.2.4), will ensure
22 that big game, including grizzly bears, if present, are not in the SDZ or WDZ before firing starts.
23 Therefore, effects of noise from helicopter gunnery training will be less than significant.

24 *Dust*

25 Dust can have long-term effects in semi-arid climates by covering vegetation. The resulting shading
26 can reduce plant productivity, displace native plants and encourage weeds, reduce native plant
27 diversity, increase susceptibility to fire, and adversely affect wildlife dependent on native plant
28 species. Dust would primarily be a potential issue around the HARM Pads where helicopters land
29 and take off during gunnery training. However, sensitive vegetation does not occur around the
30 HARM Pads and the nearest potential wetland are a spring 1,150 ft to the southeast and a strip of
31 riparian scrub-shrub 4,825 ft south of the HARM Pads. Dust is unlikely to travel that far or to have
32 an effect. In addition, while LHTA is in a region with a semi-arid climate, rain or snow typically
33 occurs every month, with the heaviest rains occurring from May through September, the period when
34 gunnery training will be focused. These rains will wash the dust off the vegetation so that, in the
35 long-term, there would be no effects on sensitive or any other vegetation community.

36 *Fire*

37 With increased gunnery activity, an increase in ignitions might occur, which if allowed to spread
38 could remove significant acreages of habitat for big game species. LHTA has an IWFMP
39 (MTARNG 2020d) that addresses fire prevention and habitat recovery. In accordance with the
40 MTARNG SOPs, live-fire gunnery training avoids times of extreme fire hazard and limits use of
41 tracer rounds (Section 2.2.4). All helicopter gunnery will use weapons outfitted with brass catchers
42 to further reduce potential range fires. During live-fire gunnery training, firefighting equipment
43 and personnel will be on hand to suppress range fires that may occur.



1
2

Figure 3-19. Potential Jurisdictional Wetlands in and Proximal to the West AGR at LHTA.

1 As identified in the IWFMP (MTARNG 2020d), measures to minimize post-fire effects to natural
2 resources are identified for application after a munitions-caused wildfire. For example, erosion and
3 invasive plant species control, including reseeding and pesticide application, if necessary, are
4 measures that may be taken to protect resources and assist in supporting sensitive or big game
5 species after wildfires.

6 While increased gunnery may increase wildfire incidents, the precautionary measures and
7 adherence to the post-fire requirement of the IWFMP will make fire have a less than significant
8 effect on habitat and any sensitive resources that could be affected.

9 *Lead*

10 Lead at shooting ranges can be a significant environmental concern depending on the proximity to
11 wetlands and the hydrogeologic setting. There are a number of cases where lead pellets and shot
12 have been taken in by fish and fowl at ranges over wetlands, and at some ranges where streams in
13 acidic environments have picked up lead contamination (EPA 2005).

14 The ranges at LHTA have been subjected to lead deposition from bullets since the 1950s. From
15 2013-2018, an average of 1.3 million bullets per year were fired at LHTA, although that average
16 is skewed by 2015 which was an anomalous year. The Proposed Action will add 780,000 bullets
17 per year, with most firing during aerial gunnery training at the West AGR and to a lesser extent
18 during weapons familiarization at the HARM Pads. While bullet casings are captured by “brass
19 catchers” the head of the 7.62 mm bullet contains on average 9.53 grams of lead. Firing 780,000
20 bullets potentially adds 8.19 U.S. tons of lead onto the LHTA ranges per year. Range clearance at
21 LHTA includes UXO clearance from the Graymont “life of mine” boundary. Some clean-up
22 occurs at the ranges where UXO, wire, and other munitions materials are collected and blown up,
23 but released lead is not removed from soils (URS and Arcadis 2013; EA 2019).

24 The impact of lead at a site is influenced by the pH of rain, surface water, and groundwater, soil
25 type, soil chemistry, rainfall intensity, plant cover, depth to groundwater, slope, and topography
26 (EPA 2001). At LHTA, the majority of soils are derived from limestone bedrock, calcium and
27 clay-rich (argillic) sediment, fractured igneous rock, and unconsolidated rock transported
28 downslope by water and gravity. The various soil types developed from these parent materials are
29 typically shallow, less than 20 inches thick (see Section 3.6, *Earth Resources*). Soils derived from
30 limestone bedrock are generally alkaline from the calcium carbonate in limestone constantly
31 mixing with the soil. Lead solubility in water tends to be low when the pH is between 6.5 and 8.5
32 but rises at lower or higher pH Values (U.S. Army Environmental Center and U.S. Army Training
33 Support Center 1998; Pierrard et al. 2002). In moderately alkaline soils (pH 7 - 8.5), lead
34 precipitates out of solution and binds to the soil preventing it from migrating to the subsurface
35 (EPA 2001). The uptake of lead by plants is affected by plant species’ characteristics, but to reduce
36 lead uptake by plants in cultivation, the pH of the acidic soils is adjusted with lime to a level of
37 6.5 to 7.0 (Tangahu et al. 2011).

38 The limestone geology of the area makes the soils alkaline and prevents lead from dissolving,
39 making lead from bullets unlikely to reach groundwater. Most creeks on the site are intermittent
40 or ephemeral and rarely receive surface water, thus any dissolved lead is extremely unlikely to
41 travel far under the LHTA’s geological, soil, and hydrological conditions. The potential
42 sequestration of lead on the site is suggested from water quality testing at the three easternmost
43 springs in 2012. Waters were tested for MC, including lead, as well as pH. The lead concentration
44 was below project action limits, which was established based on the lower of state and local

1 promulgated values, and pH values ranged from 7 to 7.9 (ORA Screening Values; URS and
2 Arcadis 2013). Recent groundwater testing of MTARNG's well used for drinking water indicated
3 a pH of 8.1 (Montana Environmental Laboratory 2021a). Lead is unlikely to be taken up by plants
4 (Tangahu et al. 2011). As a result, the potential for lead poisoning of wildlife from the Proposed
5 Action is considered unlikely.

6 Based on the above considerations, effects of Alternatives 1 and 2 would both be less than significant.

7 Integrated Helicopter and Convoy Training

8 One sortie formation of two helicopters and up to 15 vehicles (a mix of Humvees, Bear Cats, and
9 general-purpose vehicles) with 30 personnel would be involved and no live firing of weapons
10 would occur. Vehicles would park along a designated portion of road at the LHTA. Each training
11 event would take two hours.

12 This activity could result in additional though minor increases to soil compaction on existing dirt
13 or gravel roads, bare ground, soil erosion, and weed establishment. Per MTARNG's SOPs,
14 vehicles would avoid driving on road shoulders and no off-road vehicle use would be allowed.
15 With no live firing of weapons, any big game would be aware of the approaching sortie and could
16 easily vacate the area unharmed. There would be no effect on listed and protected species, Critical
17 Habitat, Montana SOCs, big game animals, potentially jurisdictional wetlands, or any long-term
18 effects on these biological resources.

19 Alternatives 1 and 2 have different locations for this Proposed Action (see Figure 2-5 and Figure
20 2-6); however, the effects on sensitive biological resources would be less than significant in both areas.

21 Proposed R-4601

22 The establishment of R-4601 is required for both alternatives (Alternatives 1 and 2) of the
23 Proposed Action. The effects on biological resources from the establishment of R-4601 are the
24 same as the effects of the Proposed Action alternatives as described previously.

25 Summary of Effects on Sensitive or High Interest Biological Resources

26 For each sensitive resource, the following additional analysis is provided.

27 *Sensitive Vegetation - Wetlands*

28 None of the components of the Proposed Action require ground disturbance such as grading or
29 clearing. The most intense activity would be within the West AGR, located within the existing
30 duded area, and to a lesser extent the HARM Pad SDZ and West AGR WDZ. These areas contain
31 mostly Grassland and Shrubland systems, along with some Forest and Woodlands on the ridges in
32 and to the east of the West AGR, and are not identified as sensitive habitat within the LHTA that
33 could support protected species identified by the USFWS or SOC by the state.

34 The only sensitive habitat in the West AGR are two small patches of potential wetland along
35 drainages in the north of the West AGR. The proposed West AGR is wholly within the existing
36 duded area for LHTA with the targets located in the southern half of the West AGR and are
37 bordered to the east and west by ridges at least 200-ft taller than the target area and also to the
38 north by a 315-ft hill that separates the northern and southern portion of the West AGR. These
39 physiographic features will reduce the potential for munition and debris to affect the wetlands. For
40 an effect to be significant there would have to be significant damage or fill into a WOTUS. With

1 no clearing or grading, no fill will occur, and no violation of CWA Section 404 would occur. The
2 Proposed Action would have no effect on wetlands.

3 *Canada Lynx (Threatened)*

4 All aspects of the Proposed Action aerial gunnery training and the helicopter-convoy alternatives
5 do not overlap Canada lynx Critical Habitat. On-ground disturbance and noise have a potential
6 effect that is less than significant on the species due to the low probability that Canada lynx would
7 be present within the training area.

8 *Grizzly Bear (Threatened)*

9 According to the Department of the Interior, “impacts of aircraft on bears can include possible
10 displacement, or physiological arousal without overt response” (AEM Group 2022). On-ground
11 disturbance and noise have a potential to impact the species. However, there is a potential effect
12 that is less than significant to the species due to the low probability that grizzly bears would be
13 present within the training area. All aspects of the Proposed Action aerial gunnery and the
14 helicopter-convoy alternatives are shown within the species range but not in preferred habitat or
15 known locations of grizzly bears (MTNHP 2021e).

16 The USFWS (2020) stated that Canada lynx and grizzly bears are wide-ranging species and may
17 be present within the project area. The following general guidance was provided to help reduce
18 the risk of human-grizzly bear conflicts. USFWS recommended the measures which are already
19 incorporated into the Resource Protection Guidelines for the LHTA (MTARNG 2021a):

- 20 1. Promptly clean up any project-related spills, litter, garbage, debris, etc.
- 21 2. Store all food, food-related items, petroleum products, antifreeze, garbage, personal
22 hygiene items, and other attractants inside a closed, hard-sided vehicle or commercially
23 manufactured bear resistant container.
- 24 3. Remove garbage from the project site daily and dispose of it in accordance with all
25 applicable regulations.
- 26 4. Notify Environmental Program Manager of any animal carcasses found in the area.
- 27 5. Notify Environmental Program Manager of any bears observed in the vicinity of the project.

28 *Monarch Butterfly (Candidate)*

29 LHTA falls within the summer range of species in the state, and is most commonly found in open
30 grasslands, foothills, valley bottoms, roadsides, pastures, and suburban areas with sufficient
31 milkweed species (USFWS 2022b). However, no host plants have been detected at LHTA which
32 are essential for breeding (MTARNG 2021a). Thus, it is very unlikely the species would occur in
33 the LHTA or the training areas. It is anticipated that the Proposed Action would have no effect to
34 the species.

35 *Ute-Ladies'-Tresses Orchid (Threatened)*

36 All aspects of the Proposed Action aerial gunnery training and the helicopter-convoy alternatives
37 do not overlap the Ute-ladies'-tresses orchid predicted areas in the MTNHP suitability model. On-
38 ground disturbance is unlikely as wetlands must be avoided per MTARNG’s SOPs. The Proposed
39 Action would have no effect on the species.

1 *Whitebark Pine (Proposed Threatened)*

2 All aspects of the Proposed Action aerial gunnery training and the helicopter-convoy alternatives
3 do not overlap the known whitebark pine distribution or predicted range in the MTNHP suitability
4 model. Therefore, the Proposed Action would have no effect to the species.

5 *Bald and Golden Eagles*

6 Nesting of both species has occurred in recent years east of LHTA along the Missouri River, and to
7 the south along Crow Creek (MTNHP 2021b), but no records were found of nesting on LHTA or
8 within 0.5 mi of any areas of the Proposed Action. The USFWS recommended compliance with
9 nesting season restrictions from 01 February–15 August or until young have fledged, within 0.5 mi
10 as specified in the *2010 Montana Bald Eagle Management Guidelines: An Addendum to Montana*
11 *Bald Eagle Management Plan* (1994) in order to avoid/minimize the risk for eagle take during
12 activity (USFWS 2020). With application of these guidelines, if a bald or golden eagle nest is
13 detected within 0.5 mi of the Proposed Action areas, the effects would be less than significant.

14 *Bighorn Sheep, Elk, Mule Deer*

15 MTFWP commented (MTFWP 2020) that “The Limestone Hills area provides winter range for
16 migratory herds of mule deer, elk and bighorn sheep from the Elkhorn Mountains” and “The existing
17 level of [MTARNG] training use in LHTA has a significant (sic) impact on the portion of the
18 Limestone Hills area that is used by big game.” MTFWP suggested a window of non-operation from
19 01 December to 30 April, and if winter training is required, to avoid the periods when big game are
20 migrating from 01 December–15 January and 16 March–30 April time periods. (i.e., training would
21 be restricted to the 16 January–15 March time period). MTFWP said these measures would minimize
22 the impacts to migratory big game moving through the LHTA to winter range areas to the east and
23 south of the live-fire training area and then moving back to spring-fall range to the west of the LHTA.
24 This BMP is included as part of the Proposed Action description (see Section 2.2.4).

25 *Wolverine*

26 LHTA falls within the year-round range of the species but there is mostly unsuitable habitat at
27 LHTA (MTNHP 2021e). Most commonly found in alpine tundra and mountain forest habitat, it is
28 very unlikely they would be found in the LHTA or the training areas. It is anticipated that the
29 Proposed Action would have no effect to the species.

30 **3.8.3.3 *Effects of the No Action Alternative***

31 Under the No Action Alternative, the current status of LHTA and all current procedures and
32 activities would remain in place; Malmstrom AFB personnel will continue to conduct helicopter
33 aerial gunnery training at the out-of-state military training range in Utah. No additional effects on
34 known biological resources at the LHTA would occur because no additional ground-disturbing
35 activities or operations would take place. The area identified for the Proposed Action would
36 continue to be used by MTARNG for military training with no opportunity for increased aerial
37 gunnery proficiency.

38 **3.8.4 *Best Management Practices and Standard Operating Procedures***

39 Potential impacts on biological resources would be less than significant; therefore, no mitigation
40 is required. BMPs and SOPs included as part of the Proposed Action (see Section 2.2.4) that reduce
41 potential adverse effects and benefit sensitive biological resources include:

- 1 • In accordance with SOPs, aerial gunnery training flight planning and operations will
2 comply with AFI 91-212_AFGM2020-01, Bird/Wildlife Aircraft Strike Hazard
3 Management Program (12 June 2020, 31 May 2018) or similar guidance to reduce the
4 potential for bird/wildlife hazards and mishaps.
- 5 • In accordance with LHTA SOPs, live-fire gunnery training avoids times of extreme fire hazard.
6 All aerial gunnery will use weapons outfitted with brass catchers to reduce potential range fires.
7 During live-fire gunnery training, firefighting equipment and personnel will be on hand to
8 suppress range fires that may occur.
- 9 • Helicopter flight paths to, from, and over the LHTA will be in accordance with FAA standards
10 (14 CFR § 91.119, *Minimum Safe Altitudes*) and Advisory Circular 91-36D (*VFR Flight Near*
11 *Noise-Sensitive Areas*), as well as within the Military Overflight Awareness Area between
12 Helena and LHTA to minimize impacts to noise-sensitive areas on the ground to the extent
13 practical. Helicopter flights will avoid Townsend unless required in an emergency. Every
14 attempt will be made by pilots to fly friendly and avoid excessive overflight of populated areas.
- 15 • Prior to weapons arming, the pilots would fly a range clearing maneuver, consisting of
16 multiple passes starting at the perimeter of the WDZ and working inward, to ensure the
17 area is clear of civilian and nonparticipating aircraft, vehicles, persons on the ground,
18 grazing livestock, and big game wildlife prior to commencing gunnery training. Aerial
19 gunnery training would not commence until the aircraft commander determines the WDZ
20 area is cleared and approval is granted from the Range Tower.
- 21 • Generally, no aerial gunnery training would be scheduled during the 01 December–30
22 April time period to avoid and minimize disturbance impacts to wintering big game
23 wildlife. If winter training is desired/needed, then it would be restricted to the 16 January–
24 15 March time period (with no use during the 01 December–15 January and 16 March–30
25 April time periods) in compliance with recommendations by the MTFWP.
- 26 • Vehicles would avoid driving on road shoulders, and no off-road driving is allowed.

27 Additional BMP and SOP Consideration

- 28 • The existing INRMP (MTARNG 2021a) includes the following applicable Resource
29 Protection Guidelines: The USFWS recommends the following (or similar) conservation
30 measures to manage potential bear attractants and reduce the risk of human-grizzly bear
31 conflicts: (1) Promptly clean up any spills, litter, garbage, debris, etc.; (2) Store all food,
32 food-related items, petroleum products, antifreeze, garbage, personal hygiene items, and
33 other attractants inside a closed, hard-sided vehicle or commercially manufactured bear
34 resistant container; (3) Remove garbage from the project site daily and dispose of it in
35 accordance with all applicable regulations; (4) Notify the Environmental Program Manager
36 of any animal carcasses found in the area; (5) Notify the Environmental Program Manager
37 of any bears observed in the vicinity of the area.

38 **3.9 Cultural Resources**

39 **3.9.1 Definition of Resource**

40 Cultural resources consist of prehistoric and historic buildings, districts, sites, structures, artifacts,
41 or any other physical evidence of human activity considered important to a culture, subculture, or
42 community for scientific, traditional, religious, or other reasons, and are considered in this EA.

1 Depending on the condition and historic use, such resources might provide insight into the cultural
2 practices of previous civilizations, or they might retain cultural and religious significance to
3 modern groups. Cultural resources include the following:

- 4 • **Archaeological resources:** The remains of past human activity and records documenting
5 the scientific analysis of these remains.
- 6 • **Architectural resources:** Buildings or other structures or groups of structures, or designed
7 landscapes that are of historic or aesthetic significance.
- 8 • **Historic structures:** Material assemblies that extend the limits of human capability.
- 9 • **Cultural landscapes:** Settings we have created in the natural world.
- 10 • **Ethnographic resources:** Sites, structures, landscapes, objects, or natural features of
11 significance to a traditionally associated group of people.
- 12 • **Museum objects:** Manifestations of human behavior and ideas.

13 Historic properties are defined in the federal regulations outlined in Section 106 of the NHPA, as
14 amended (54 U.S.C. 306108 *et seq.*), 36 CFR § 800, as prehistoric and historical sites, buildings,
15 structures, districts, or objects listed or eligible for listing in the National Register of Historic
16 Places (NRHP), as well as artifacts, records, and remains related to such properties. To be
17 considered significant, archaeological or architectural resources must meet one or more criteria as
18 defined in 36 CFR § 60.4 for inclusion in the NRHP. The quality of significance in American
19 history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings,
20 structures, and objects that possess the seven aspects of integrity—location, design, setting,
21 materials, workmanship, feeling, and association—and:

- 22 a) that are associated with events that have made a significant contribution to the broad
23 patterns of our history; or
- 24 b) that are associated with the lives of persons significant in our past; or
- 25 c) that embody the distinctive characteristics of a type, period, or method of construction, or that
26 represent the work of a master, or that possess high artistic values, or that represent a significant
27 and distinguishable entity whose components may lack individual distinction; or
- 28 d) that have yielded, or may be likely to yield, information important in prehistory or history.

29 In addition to significance, a cultural resource must also retain integrity, which is the ability to
30 convey said significance. The NRHP criteria recognize the seven aspects of integrity (listed
31 above); a resource must retain several, if not all of these aspects, to be considered eligible for
32 listing in the NRHP. Once a federal agency has determined a cultural resource to be significant,
33 the agency has a responsibility to manage the resource as a historic property.

34 Several federal laws and regulations have been established to manage cultural resources, including
35 the NHPA (1966), the Archaeological and Historic Preservation Act (1974), American Indian
36 Religious Freedom Act (1978), the Archaeological Resources Protection Act (1979), and Native
37 American Graves Protection and Repatriation Act (1990). In addition, coordination with federally
38 recognized Tribal Nations must occur in accordance with EO 13175, *Consultation and*
39 *Coordination with Indian Tribal Governments*.

40 On 27 November 1999, the DoD promulgated its Annotated American Indian and Alaska Native
41 Policy, which emphasizes the importance of respecting and consulting with Tribal Nations on a

1 government-to-government basis. This policy requires an assessment, through consultation, of the
2 effect of proposed DoD actions that may have the potential to significantly affect protected Tribal
3 resources, Tribal rights, and Indian lands before decisions are made by the respective services
4 (DoD American Indian/Alaska Native Policy), as does DoD Instruction 4710.02, Interaction with
5 Federally Recognized Tribes (14 September 2006).

6 The USAF sent an IICEP letter to the MT SHPO regarding the Proposed Action on 26 October
7 2020 as part of the scoping process. In a letter received from the MT SHPO dated 4 November
8 2020, it was suggested that all unevaluated cultural resources within the Area of Potential Effect
9 be evaluated for NRHP eligibility, as well as urging a robust government-to-government
10 consultation due to the large number of pre-contact sites within the area (Appendix A.2).

11 **3.9.2 Existing Conditions**

12 The affected environment for cultural resources is based on the establishment of the Area of
13 Potential Effect (APE) of an undertaking, through consultation with the State Historic Preservation
14 Offices. An APE is defined in 36 CFR § 800.16(d) as “the geographic area or areas within which
15 an undertaking may directly or indirectly cause changes in the character or use of historic
16 properties, if any such properties exist.” The APE, and therefore the affected environment, for the
17 Proposed Action includes the land beneath the proposed boundaries of the SUA R-4601, which
18 includes all of the airspace in LHTA, the proposed West AGR located within the existing primary
19 duded impact area of existing training ranges, the concrete HARM Pads located within the
20 existing MPTR, and the existing gravel roads associated with the integrated helicopter-convoy
21 training. No construction or ground-disturbing activities are required for the Proposed Action.

22 Information on cultural resources within the APE was derived from conducting background
23 research to identify NRHP and the State Register of Historic Places properties beneath the affected
24 airspace; national historic landmarks; national battlefields; national historic trails; cultural
25 landscapes, historic forts, or historic ranches recorded, or known, within the same area; and
26 American Indian Reservations, sacred areas, or traditional use areas. Aircraft operations are most
27 likely to affect historic buildings, structures, and districts where setting is an important aspect of a
28 property’s significance. In addition to the desktop background research, cultural resource studies
29 conducted to inform the Proposed Action (Brockington 2022a, 2022b) were considered and are
30 briefly summarized below.

31 **3.9.2.1 Archaeological Resources**

32 The MTARNG maintains an ICRMP for all ARNG installations within the State of Montana,
33 including the LHTA, to aide in management of cultural resources on the installations in accordance
34 with appropriate federal laws and other applicable Army regulations. Cultural resources can be
35 found in various locations throughout the LHTA. The installation encompasses approximately
36 21,300 acres. The entirety of the acreage within the LHTA was surveyed for cultural resources in
37 1979 (Davis et al. 1980). The 1979 survey resulted in the identification of 87 archaeological sites,
38 two of which were determined potentially eligible for listing in the NRHP (MT SHPO 1980). The
39 Indian Creek Site (24BW626) is a prehistoric site with a concentration of lithic materials. The
40 Pilgrim Site (24BW675) is a Late Archaic-Late Prehistoric village site that contains projectile
41 points, tipi rings, and stone circles (Davis et al. 1980, 1982). Davis et al. conducted a large-scale
42 data recovery project at the Pilgrim Site in 1980 to mitigate any future potential negative effects
43 from active use by the LHTA (Davis et al. 1982). This mitigation consisted of full excavation of

1 55 percent of the tipi rings. The rings were removed, cleaned, mapped to scale, and spatially
2 reconstructed for future research (Davis et al. 1982). In 2006, a cultural resources survey of 4,000
3 acres was conducted to verify the accuracy of the 1979 findings (MTARNG 2020b).

4 In 2020, Brockington and Associates, Inc. (Brockington) completed a Class III cultural resources
5 inventory of 845.4 acres within the proposed West AGR at the LHTA in preparation for the current
6 Proposed Action. The survey resulted in six newly recorded sites, one of which, a twentieth-
7 century historic artifact scatter, is located within the current APE. Two previously recorded sites—
8 the Pilgrim Site and OWG Road (24BW975)—were revisited. The survey found that the Pilgrim
9 Site lacks integrity because the site and its associated tipi rings were found to be in poor to very
10 poor condition and the site itself has been damaged by range activities. Site 24BW722, a stone
11 circle, and Site 24BW668, a Late Archaic lithic scatter, were not relocated during the 2020 survey.
12 The newly recorded site was recommended not eligible for listing in the NRHP. Brockington
13 recommended that the Pilgrim Site, despite a lack of integrity, remain eligible for listing in the
14 NRHP, as it may have significance as a traditional cultural property (Brockington 2022a).

15 In May and June 2020, Brockington completed a cultural resources literature review of the two
16 proposed alternatives for the helicopter-convoy training areas. The literature review included a
17 review and archival search of known cultural resources that may be affected by the proposed
18 undertaking. The literature review concluded that there were 22 previously recorded
19 archaeological sites within the Alternative 1 area (North Alternate), and an additional seven
20 previously recorded sites within a 0.25-mi radius. Six previously recorded archaeological sites
21 were located within the Alternative 2 area (South Alternate) and two additional previously
22 recorded sites were located within a 0.25-mi radius (Brockington 2022b).

23 Currently, there is a total of 118 identified archaeological sites in the LHTA (MTARNG 2020b).
24 Of these sites, two are listed and seven are eligible for listing in the NRHP. The NRHP-listed
25 resources are a historic irrigation system and a historic site. The historic site is McCormick’s
26 Livery and Feed Stable Sign, an advertising sign painted on a vertical limestone rock wall in the
27 late 1800s. The NRHP-eligible resources include a historic irrigation system, two historic mining
28 sites, a historic railroad and stage route called the Gold Wagon Road, one prehistoric and historic
29 occupation site, a historic trash dump, and the Pilgrim Site (24BW675). Though the Indian Creek
30 Site is currently listed by SHPO as “unresolved,” it is presumed eligible for listing in the NRHP
31 (MTARNG 2020b). In addition, there is one known gravesite at the LHTA, which dates
32 approximately to 1870. A 2009 geophysical survey was undertaken at the site to determine if a
33 body is buried at the site, the results of the survey were inconclusive. Early cultural resources
34 surveys indicate that the actual gravesite may be located in a nearby location at LHTA (MTARNG
35 2020b). No historic trails, national monuments, or historic battlefields are located in the proposed
36 APE (NPS 2020, 2021a, 2021b).

37 **3.9.2.2 Architectural Resources**

38 The LHTA has been used for military training by the MTARNG since 1958. There are no
39 permanent administrative or billeting facilities at the LHTA, and the majority of its buildings were
40 constructed between 1984 and 2015. Currently, no architectural properties at the LHTA are listed
41 in the NRHP. There is one building over 50 years old, a 1966 Range Support Facility, that has not
42 been evaluated for its NRHP eligibility. The Range Support Facility does not possess
43 characteristics that convey its historical significance and is therefore unlikely to be eligible for
44 listing. There are no historic districts or landscapes present at the LHTA (MTARNG 2020b).

1 **3.9.2.3 *Traditional Cultural Properties***

2 To date, no traditional cultural properties or Native American sacred places have been identified
3 at the LHTA (MTARNG 2020b). There are eight federally recognized Tribal Nations that claim
4 Tribal affiliation within LHTA and/or the geography in which the installation occurs. These Tribal
5 Nations are Blackfeet Nation Tribe, Fort Belknap Indian Community, Northern Cheyenne Tribe,
6 Fort Peck Assiniboine and Sioux Tribes, Chippewa Cree Tribe, Confederated Salish and Kootenai
7 Tribes, the Crow Tribe of Indians, and Little Shell Chippewa Tribe (MTARNG 2020b).

8 **3.9.3 Environmental Consequences**

9 **3.9.3.1 *Evaluation Criteria***

10 Section 106 of the NHPA empowers the Advisory Council on Historic Preservation to comment
11 on federally initiated, licensed, or permitted projects affecting cultural sites listed or eligible for
12 inclusion in the NRHP. Once cultural resources have been identified, significance evaluation is the
13 process by which resources are assessed relative to established significance criteria and
14 considerations. Cultural resources that have been determined to be eligible for listing in the NRHP
15 are called “historic properties.”

16 Analysis of potential impacts on cultural resources is based on the following considerations: (1)
17 physically altering, damaging, or destroying all or part of a resource; (2) altering characteristics of
18 the surrounding environment that contribute to resource significance; (3) introducing visual,
19 audible, or atmospheric elements that are out of character with the property or alter its setting; or
20 (4) neglecting the resource to the extent that it deteriorates or is destroyed. The potential to directly
21 disturb cultural resources can be assessed by identifying the type and location of the Proposed
22 Action and by determining the exact locations of cultural resources that could be affected. Effects
23 that are farther removed from the immediate project area including visual, noise, or atmospheric
24 changes due to the project implementation are harder to quantify.

25 The Proposed Action does not include substantial ground-disturbing activities; therefore, an
26 inadvertent discovery or physical destruction of a resource is not likely.

27 **3.9.3.2 *Effects of the Proposed Action Alternatives***

28 Proposed Helicopter Gunnery Training

29 Under both Alternatives 1 and 2, helicopter aerial gunnery training would take place at existing training
30 ranges. An estimated 100 aerial gunnery training events would be scheduled per year, including day
31 and night training. Each event would include two helicopters for a total of 200 helicopter sorties.
32 Currently, approximately 833 helicopter sorties are flown per year without aerial gunnery, so the
33 additional sorties would represent roughly a 24% increase. During the training, up to 14 personnel
34 would travel by ground vehicles to support range operations, including fire suppression.

35 No construction or ground-disturbing activities will be conducted within the proposed West AGR nor
36 the concrete HARM Pads; therefore, there would be no significant impacts to archaeological resources.
37 Aerial gunnery firing in the West AGR would occur in a west to east direction, towards existing targets,
38 away from the direction of the Pilgrim Site. A 315-ft hill separates the target area from the Pilgrim Site
39 and associated stone tipi rings. This hill would protect the site from any visual impacts and from
40 unlikely ricochets during gunnery training. No new targets would be placed in the vicinity of the
41 Pilgrim Site. Any future targets would be placed in current positions.

1 There are no NRHP-eligible or listed architectural resources at the LHTA; therefore, there would be
2 no significant impacts to architectural resources. Also, no historic trails, national monuments, or
3 historic battlefields are located in the proposed APE (NPS 2020, 2021a, 2021b).

4 No traditional cultural properties have been identified at the LHTA (MTARNG 2020b).

5 Helicopter noise levels in the proposed training area would produce maximum noise of 80 dB for both
6 Alternatives 1 and 2. Use of the HARM Pads for training would produce up to 86 dB L_{dnmr} and 85
7 DNL for both Alternatives 1 and 2. The HARM Pads are within the existing MPTR used for ground-
8 based gunnery. The West AGR is fully within an existing training range used for ground-based
9 gunnery and explosive training. Under baseline conditions a variety of weapons are fired in these areas,
10 including 7.62 mm rounds associated with the proposed helicopter gunnery training (see Section 3.5,
11 *Noise*). Therefore, noise levels from the Proposed Action would be within the range experienced under
12 existing conditions and would not impact cultural resources.

13 Government-to-government consultation between the USAF and each federally recognized Tribal
14 Nation which may be historically, culturally, or linguistically affiliated with the area of the LHTA
15 has been initiated for this action in recognition of their status as sovereign nations. This is to
16 provide information regarding Tribal concerns per Section 106 of the NHPA, as well as
17 information on traditional cultural properties that may be present on or near the LHTA (MTARNG
18 2020b). An IICEP letter was sent to each of the eight federally recognized Tribal Nations with
19 ancestral ties to the LHTA on 22 October 2020; no comments were received. The USAF will send
20 additional letters notifying each of these Tribal Nations of the availability of the Draft EA and the
21 public comment period; received comments will be considered and included in subsequent drafts
22 of the EA.

23 Based on the above considerations, no adverse effects would be expected to historic properties
24 under either Alternative 1 or 2.

25 Proposed Helicopter-Convoy Training

26 Integrated helicopter-convoy training would occur once per year either along Blue Route Road
27 (Alternative 1) or along OWG Road (Alternative 2) on the LHTA; the training would include up
28 to 15 ground vehicles and two helicopters. Up to 30 SFG personnel would conduct threat response
29 and tactical communication training within an approximate 3,280-ft. area on either side of the road,
30 while the helicopter flight training would include low-altitude threat detection and higher altitude
31 visual reconnaissance. Vehicles would travel and park on existing gravel roads only, there would
32 be no off-road vehicular use. The training exercise would occur over an approximately two-hour
33 period and no live firing of weapons would occur.

34 No construction or ground-disturbing activities would be required for the proposed helicopter-
35 convoy training; therefore, there would be no significant impacts to archaeological resources.

36 There are no NRHP-eligible or listed architectural resources at the LHTA; therefore, there would
37 be no significant impacts to architectural resources. No historic trails, national monuments, or
38 historic battlefields are located in the proposed APE (NPS 2020, 2021a, 2021b).

39 No traditional cultural properties have been identified at the LHTA (MTARNG 2020b).

40 Under Alternative 1, helicopter-convoy training would produce noise levels of 69 dB for both L_{dnmr}
41 and DNL in the High and Low Bird convoy training area activities. Alternative 2 convoy training

1 concentrates the helicopter activity to a smaller area and produces noise levels of 70 dB for L_{dnmr}
2 and DNL for the High and Low Bird training areas. Noise levels for proposed helicopter-convoy
3 training would not impact cultural resources.

4 Based on the above considerations, there would be no adverse effects to cultural resources or
5 historic properties under either alternative.

6 Proposed Establishment of Restricted Area R-4601

7 The establishment of SUA R-4601 is required for both Alternatives 1 and 2 of the Proposed Action.
8 The cultural resources effects of the establishment of SUA R-4601 are the same as the effects of
9 the Proposed Action alternatives as described previously.

10 Effects of the No Action Alternative

11 Under the No Action Alternative, the Proposed Action would not occur and there would be no
12 change to existing actions. Cultural resources and historic properties would be expected to remain
13 as described under existing conditions in Section 3.9.2. Therefore, there would be no adverse
14 effects under the No Action Alternative.

15 **3.9.4 Best Management Practices and Standard Operating Procedures**

16 The entirety of the proposed West AGR was surveyed for cultural resources and surveyors
17 attempted to revisit all previously recorded sites. Site 24BW722, a stone circle, and Site 24BW668,
18 a Late Archaic lithic scatter, were not relocated (Brockington 2022a).

- 19 • It is recommended that the NRHP-eligible Pilgrim Site (24BW675) be avoided as it may,
20 in future, be considered significant as a Traditional Cultural Property.

21 Brockington (2022b) completed a cultural resources literature review of the two proposed
22 alternatives for the helicopter-convoy training areas (see Section 3.9.2). To manage the potential
23 for adverse effects under either alternative, the MTARNG would implement the following BMPs,
24 as applicable.

- 25 • Certain areas may be off-limits due to special concerns, such as cultural resources, special
26 status species, wetlands, seeps and springs, high biodiversity value, etc. These will be
27 described as mine fields, friendly forces, towns, etc. in training scenarios to add to the
28 realism of off-limit areas. They will be marked with siber (Seibert) stakes, off-limits signs,
29 barbed wire, or barricades as necessary for each area.
- 30 • In case of inadvertent discovery of cultural items or Tribal resources, the MTARNG would
31 follow *Standard Operating Procedure No. 5: Inadvertent Discovery* in the ICRMP
32 (MTARNG 2020b). This SOP outlines the steps to be taken upon inadvertent discovery of
33 cultural resources, including typical actions that may (e.g., field training exercises,
34 construction, and maintenance, etc.) or will (e.g., discovery of human remains,
35 archaeological features, etc.) trigger such requirements and describes specific actions to be
36 taken when they occur.

1 **3.10 Socioeconomics, Environmental Justice and Protection of Children**

2 **3.10.1 Definition of Resource**

3 Socioeconomics is a social science discipline that focuses on the attributes of human social and
4 economic interactions within an area. Socioeconomic analyses typically address issues such as
5 population demographics; business activity and economic output; or employment and income.
6 Impacts to these fundamental socioeconomic components can also influence other systemic issues
7 such as the availability and affordability of housing, the availability of public services, and the
8 general quality of life in a community.

9 In 1994, EO 12898, *Federal Actions to Address Environmental Justice in Minority and Low-*
10 *Income Populations*, was issued to focus the attention of federal agencies on human health and
11 environmental conditions in minority and low-income communities. EO 12898 aims to ensure that
12 disproportionately high and adverse human health or environmental effects on these communities
13 are identified and addressed. Additionally, in 2021, EO 14008, *On Tackling the Climate Crisis at*
14 *Home and Abroad*, was issued which amends EO 12898 to update the interagency working group
15 and requires the working group to provide recommendations for improving environmental justice.

16 Since children may suffer disproportionately from environmental health and safety risks, EO
17 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, was introduced
18 in 1997. It prioritized the identification and assessment of environmental health and safety risks
19 that may affect children, and to ensure that federal agency policies, programs, activities, and
20 standards address environmental and safety risks to children.

21 **3.10.2 Existing Conditions**

22 The LHTA lies entirely within Broadwater County. The nearest population center is the City of
23 Townsend, which is roughly 1 mi to the east of the LHTA boundary and across the Missouri River.
24 No military personnel or civilians live on the LHTA, but approximately 2,500 MTARNG soldiers
25 train at this facility annually (MTARNG 2020b). During training, soldiers either camp on-site or
26 stay at Fort Harrison.

27 The ROI for socioeconomic impacts is defined as Broadwater County, and some attention is
28 focused as appropriate on the City of Townsend. Socioeconomic data is provided in this section to
29 establish baseline conditions consist primarily of publicly available information from the U.S.
30 Census Bureau or the Bureau of Labor Statistics for Broadwater County, and the City of
31 Townsend. Additional information about the State of Montana is provided as a reference.

32 Areas of potential impact related to environmental justice, or the protection of children are
33 primarily in the immediate vicinity of the LHTA, which lies in census tract 2, block group 1, in
34 Broadwater County. Information for the environmental justice analysis is presented at the smallest
35 geographical area for which the necessary U.S. Census data are available (the block group) in order
36 to avoid overlooking small communities. The block group and the City of Townsend data are
37 selected for analysis and reference populations of Broadwater County and the state of Montana are
38 used for comparison.

1 **3.10.2.1 Population**

2 Table 3-10 shows the population of areas in the vicinity of the LHTA. Between 2010 and 2020
3 Broadwater County showed a greater level of population increase (20.7%) than the state of
4 Montana (9.6%), while the population of Townsend decreased by 4.8%.

5 **Table 3-10. Population in the ROI.**

Location	Population (2010 Census)	Population (2020 Census)	Percentage Population Change (2010 - 2020)	Population per square mile (2020 Census)
Montana	989,415	1,084,225	9.6	7.4
Broadwater County	5,612	6,774	20.7	5.7
City of Townsend	1,878	1,787	-4.8	NA

NA = Not Available.
Sources: U.S. Census Bureau 2010b, 2020a.

6 **3.10.2.2 Employment and Income**

7 Information on employment and income in the ROI is presented in Table 3-11. The unemployment
8 level is higher in Broadwater County (3.4%) than in the state of Montana as a whole (2.7%). The
9 median household income in Broadwater County and the city of Townsend is higher than levels in
10 the state of Montana, but per capita incomes are lower than the state.

11 **Table 3-11. Employment and Income in the ROI.**

Location	Civilian Labor Force (July 2022)	Unemployed (July 2022)	Unemployment Percent (July 2022)	Per Capita Income (ACS 2015-2019)	Median Household Income (ACS 2015-2019)
Montana	573,671	15,305	2.7	\$32,463	\$56,539
Broadwater County	2,799	96	3.4	\$31,573	\$57,723
City of Townsend	NA	NA	NA	\$26,159	\$58,092

Notes: ACS = U.S. Census Bureau's American Community Survey; NA = Not Available – Monthly employment data is not reported for Townsend.
Sources: Bureau of Labor Statistics 2022a, 2022b; U.S. Census Bureau 2020b.

12 **3.10.2.3 Housing**

13 Information on housing in the ROI is presented in Table 3-12. There are a total of 304 vacant
14 housing units in Broadwater County, 58 of which are in Townsend. Median gross rent is lower in
15 Broadwater County (\$697) and Townsend (\$675) than in the state of Montana (\$836).

16 **3.10.2.4 Mining and Grazing**

17 Mining and grazing operations in and around the LHTA make significant contributions to the local
18 economy. In accordance with LHTA SOPs, helicopters avoid active mining areas, and training
19 activities are conducted in accordance with existing joint-use and safety procedures outlined in the
20 Implementation Agreement (DARNG et al. 2018) to deconflict military training with permitted
21 mining and grazing within the LHTA.

1 **Table 3-12. Housing in the ROI (American Community Survey 2015-2019).**

Location	Total Housing Units	Total Vacant Housing Units	Rental Vacancy Percentage	Median Gross Rent
Montana	514,956	78,908	6.2	\$836
Broadwater County	2,740	304	3.7	\$697
City of Townsend	889	58	7.5	\$675

Sources: U.S. Census Bureau 2020b.

2 **3.10.2.5 Public Services and Public Use**

3 Public access to the LHTA occurs on OWG Road although areas west of the road are closed to the
 4 public due to the potential for UXO. The military provides their own fire protection services during
 5 training. Fires that ignite on the LHTA during training activities are suppressed in accordance with
 6 the Limestone Hills Training Site Wildfire Suppression Plan and the MTARNG IWFMP. When
 7 training exercises are not occurring, the USFS has the responsibility to fight fires per the
 8 Interagency Suppression Agreement.

9 **3.10.2.6 Environmental Justice and Protection of Children**

10 This environmental justice analysis focuses on the distribution of race and poverty status in areas
 11 potentially affected by implementation of the Proposed Action. For the purpose of this analysis,
 12 minority populations and low-income populations are defined as:

- 13 • *Minority Populations:* All categories of non-white population groups as defined in the U.S.
 14 Census, including African American, Hispanic, American Indian and Alaska Native, Asian
 15 or Pacific Islander, and other groups.
- 16 • *Low-Income Populations:* Persons living below the poverty level, as defined by the U.S.
 17 Census Bureau’s poverty thresholds.

18 Using guidelines issued by the CEQ (1997), an area is considered a minority area if 50% or more
 19 of its population is non-white, or if the percentage of the minority population is meaningfully
 20 greater than the minority population percentage in the general population or reference area. Based
 21 on recommendations from the Environmental Justice Interagency Working Group and NEPA
 22 Committee (Environmental Justice Interagency Working Group 2016), an area is considered a
 23 low-income area if the percentage of households with incomes below the poverty level is
 24 meaningfully greater than the general population or reference area. Census tract 2, block group 1,
 25 in Broadwater County is not considered low-income, with 7.0% of household incomes below the
 26 poverty level which is the same percentage as in Broadwater County as a whole and lower than
 27 the state of Montana which is 12.7% (U.S. Census Bureau 2020b). It is not considered a minority
 28 area with 8.2% of the population identifying as a minority compared with 9.2% of the population
 29 in Broadwater County and 16.9% in the state of Montana (U.S. Census Bureau 2020a).
 30 Additionally, both the City of Townsend and Broadwater County have lower levels of poverty
 31 (9.5% and 7.0% of households respectively) and minority residents (9.1% and 9.2% of the
 32 population, respectively) than the state of Montana which has 12.7% of households below the
 33 poverty level and 16.9% minority residents (U.S. Census Bureau 2020a, 2020b). Additionally, the
 34 U.S. Environmental Protection Agency’s (EPA) twelve Environmental Justice Indexes were
 35 reviewed for the area within two miles of the LHTA using the EPA screening tool, EJScreen. No

1 indexes were above the 75th percentile for the State of Montana or above the 57th percentile for the
2 United States. The Environmental Justice Indexes serve as an indicator that an environmental
3 factor may require additional review. Indexes at the 80th percentile or higher are recommended for
4 additional review.

5 Children are not often at the LHTA, but in the event children are present (e.g., in a vehicle traveling on
6 OWG Road), SOPs require verification that vehicles are clear of SDZs and WDZ before live firing of
7 weapons. Additionally, there are no schools, childcare centers, libraries, parks, or residential areas
8 where high numbers of children would be present in the vicinity of the proposed helicopter gunnery
9 training areas.

10 **3.10.3 Environmental Consequences**

11 **3.10.3.1 Evaluation Criteria**

12 In the evaluation of socioeconomic impacts, the following factors are considered: effect on
13 population; changes in employment opportunities and associated effect on income in the region;
14 effect on the housing market; and whether the actions will result in public health or safety concerns
15 or affect emergency service response times. Significant impacts would occur if the demographics
16 of a local population were altered or if there was a change to the local population growth rate;
17 housing market; housing vacancy rate; or availability of jobs, goods, and services.

18 No low-income or minority communities are identified in the vicinity of the LHTA, and no
19 locations where high numbers of children may be present are identified in areas that would be
20 impacted by the Proposed Action and Alternatives. Therefore, there would be no impacts on
21 environmental justice or the protection of children.

22 **3.10.3.2 Effects of the Proposed Action Alternatives**

23 Proposed Helicopter Gunnery Training

24 The addition of proposed air-to-surface gunnery activities to the existing ground-based gunnery
25 activities would not cause increased socioeconomic impacts. Under the proposed training
26 activities, personnel would not stay in the area and would return to either Malmstrom AFB or Fort
27 Harrison after the training event. Socioeconomic impacts would be minimal because there would
28 be no construction operations requiring local labor, and personnel would not utilize local lodging
29 or housing. Minor benefits to local businesses may occur if personnel utilize local restaurants for
30 meals between day and night training activities or after training activities.

31 Increases in live-fire activity would raise the risk of wildfires, which would potentially increase
32 demands on public emergency services and could damage public or private property. However,
33 adherence to LHTA SOPs would minimize fire risk, and training units would provide personnel to
34 provide initial fire attack/suppression using equipment that is on-site at LHTA, minimizing
35 impacts to local firefighting resources. Machine guns used in gunnery training would be outfitted
36 with brass catchers to catch the hot fired cartridge cases and prevent them from igniting fires.

37 Economic activities occurring in the LHTA include mining operations and livestock grazing. In
38 accordance with the LHTA Withdrawal Act of 2013 (Pub. L. 113-66), all military training
39 activities are scheduled using established procedures for deconfliction with ongoing UXO
40 clearance activities, permitted mining operations, and permitted livestock grazing, which would
41 minimize impacts to these activities (DARNG et al. 2018). Additionally, helicopter gunnery

1 training would be scheduled within the existing seasonal period that applies to ground-based live-
2 fire gunnery to minimize disturbance to wintering wildlife.

3 Based on the above considerations, effects of both Alternatives 1 and 2 on socioeconomics would
4 be less than significant and minor benefits to local businesses may occur.

5 Proposed Helicopter-Convoy Training

6 The types of socioeconomic impacts related to the helicopter-convoy training for either alternative
7 would be similar to those associated with helicopter gunnery training except that it would only
8 occur once per year and the degree of impacts would therefore be much smaller. Personnel would
9 return to Malmstrom AFB after the training and would not utilize local lodging or housing.
10 Benefits to local businesses would be minor if personnel utilize local restaurants or gas stations
11 after training or would not occur if no stops are made traveling to or from Malmstrom AFB.

12 Training activities have the potential to ignite wildfires, which could increase demands on public
13 emergency services or damage public or private property; however, risks would be minimized
14 because there would be no live firing of weapons. The limited nature of the training, and the lack of
15 live weapons firing, would minimize any impacts to mining or grazing operations.

16 During the training, access along OWG Road would not be restricted from public use. Public
17 access along Blue Route Road is controlled and restricted during training; therefore training
18 operations would not further limit public access. Therefore, no socioeconomic impacts would occur
19 due to the helicopter-convoy training under Alternative 1 or 2.

20 Proposed Establishment of Restricted Area R-4601

21 The establishment of SUA R-4601 is required for both Alternatives 1 and 2 of the Proposed Action.
22 The socioeconomic effects of the establishment of SUA R-4601 are the same as the effects of the
23 Proposed Action alternatives as described previously.

24 **3.10.3.3 *Effects of the No Action Alternative***

25 Under the No Action Alternative, the Proposed Action would not occur and there would be no
26 change to socioeconomic conditions in Broadwater County. Socioeconomic conditions would be
27 expected to remain as described under existing conditions in Section 3.10.2. Therefore, there
28 would be no significant impacts to socioeconomics under the No Action Alternative.

29 **3.10.4 Best Management Practices and Standard Operating Procedures**

30 Socioeconomic impacts associated with the proposed establishment and operation the West AGR,
31 helicopter-convoy training, and the proposed establishment of SUA R-4601 would be less than
32 significant and there would be no impacts on environmental justice communities or children;
33 therefore, no mitigation would be required. Adherence to the following SOPs and BMPs
34 incorporated in the Proposed Action (see Section 2.2.4) help to minimize potential socioeconomic
35 effects from helicopter gunnery training activities.

- 36 • Impacts to mining and grazing operations would be minimized by conducting helicopter
37 aerial gunnery in accordance with the existing Implementation Agreement and safety
38 procedures to deconflict military training with permitted mining and grazing within the
39 LHTA (DARNG et al. 2018), and helicopters would avoid active mining areas.

- 1 • Impacts on the local wildfire response services such as the USFS would be minimized
- 2 through existing fire avoidance and minimization measures.
- 3 ○ No off-road vehicle use is allowed.
- 4 ○ Live-fire gunnery training would avoid times of extreme fire hazard.
- 5 ○ The use of tracer rounds would be restricted during times of elevated fire risk.
- 6 ○ Weapons would be outfitted with brass catchers.
- 7 ○ Firefighting equipment and personnel would be on hand to attack/suppress range fires
- 8 that may occur during live-fire gunnery training.

9 **3.11 Infrastructure and Utilities**

10 **3.11.1 Definition of Resource**

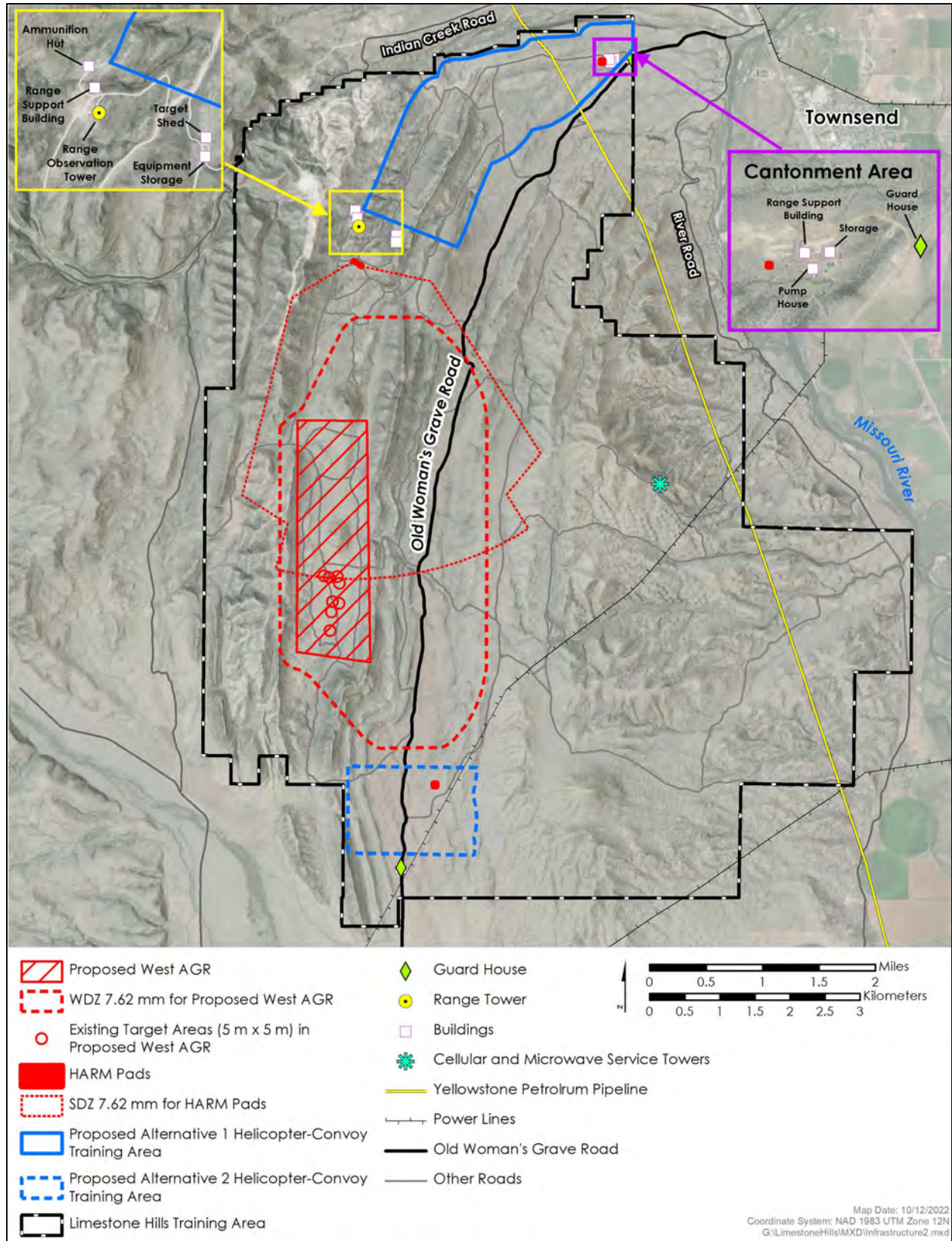
11 Physical infrastructure includes buildings, paved and unpaved roads and parking areas, and
12 infrastructure for the conveyance of utilities. Public utilities infrastructure includes potable water
13 supply, sewer and wastewater, solid waste management, stormwater infrastructure, electricity,
14 natural gas, and telecommunications that serve the project site. Existing utilities serving the project
15 site and applicable regulations and policies affecting the utilities and service systems in the project
16 area are also described.

17 Laws and regulations applicable for analysis of the infrastructure include the following:

- 18 • Antiterrorism Force Protection Standards - Instruction number 2000.16 of October 2006;
- 19 • CWA, 33 U.S.C. §§ 1251-1387;
- 20 • Energy Independence and Security Act;
- 21 • Energy Independence and Security Act Section 438;
- 22 • Energy Policy Act;
- 23 • EO 13693, *Planning for Federal Sustainability in the Next Decade*;
- 24 • EO 13834, *Efficient Federal Operations*;
- 25 • Resource Conservation and Recovery Act, 42 U.S.C. § 6901 *et seq.*;
- 26 • Safe Drinking Water Act, 42 U.S.C. § 300f;
- 27 • UFC-3-201-01-Civil Engineering; and
- 28 • UFC-3-210-10-Low Impact Development.

29 **3.11.2 Existing Conditions**

30 Existing conditions for infrastructure and public utilities include planned system capacities and
31 locations, and the capacities of existing distribution infrastructure for public utilities. For the
32 Proposed Action, the affected environment is defined as the proposed boundaries of the proposed
33 SUA R-4601. With the exception of the Graymont mine permit area and a few structures along
34 River Road at the eastern boundary of the LHTA, the majority of structures currently in place
35 within the LHTA are operated and maintained by MTARNG. Physical infrastructure on-site is
36 limited to range-related uses (Figure 3-20), such as range support buildings and unpaved parking
37 areas in both the northeast cantonment area and the training areas west of OWG Road. Gravel and
38 dirt roads support vehicle transportation at the LHTA. Specific infrastructure for conveyance and
39 use of utilities, transportation, energy, and natural resources used are described below.



1

Figure 3-20. Infrastructure at the LHTA.

1 Water

2 A groundwater well located in the northeast area of the LHTA provides potable water to the Range
3 Facility building, and a deionizing unit is used for water treatment. Other MTARNG groundwater
4 wells are used as a source of stockwater. Private wells and the few non-military private residences
5 and structures occur along River Road near the eastern border, otherwise MTARNG is the sole
6 entity on the LHTA that uses utilities and services. No perennial surface waters occur on the LHTA
7 to provide a source for irrigation, or for any water contact activity (e.g. fishing, swimming, etc.),
8 either on-range or off-range.

9 Wastewater

10 Wastewater derived from MTARNG facilities within the LHTA is collected in conventional septic
11 tanks and discharged to drain fields. Approximately 2,000 gallons of wastewater are discharged
12 per year. Port-o-johns are located at range and bivouac (temporary camp for units on an extended
13 gunnery) areas to be used during training events.

14 Transportation

15 The LHTA is traversed by three county roads: (1) OWG Road runs north-south through the center;
16 (2) River Road runs north-south adjacent to the eastern boundary and transects a portion of the
17 LHTA; and (3) Indian Creek Road traverses the far northwest corner. These roads fall under the
18 supervision of Broadwater County and are gravel roads, open to yearlong motorized travel where
19 not otherwise restricted. In addition to these roads, there are named (e.g., Blue Route, Green Route,
20 etc.) and unnamed dirt access and firebreak roads traversing the LHTA.

21 Highway 12 and 287 (12/287) is a relatively well-used concrete and asphalt, two-lane highway
22 running north-south about 1 mi east of the LHTA. The highway provides access to the LHTA via
23 intersection with Indian Creek Road. Highway 12/287 currently operates under the U.S.
24 Department of Transportation and Montana Department of Transportation. Highway 12/287 is the
25 major connecting road between Fort Harrison in Helena and the LHTA. The average daily number
26 of vehicles using Highway 12/287 in 2020 was 5,755 at Station A-2, 9 mi south of Helena, and
27 5,314 at Station A-101 in Townsend (Montana Department of Transportation 2020).

28 One commercial rail carrier, Montana Rail Link, runs parallel to U.S. Highway 12/287 in a north-
29 south direction between Helena and LHTA. This railway is crossed by Indian Creek Road, which
30 serves as a primary entrance to the LHTA; however, the Montana Rail Link line does not enter
31 any portion of the LHTA.

32 Solid Waste Disposal

33 Solid waste accumulated from the LHTA is stored in a roll-off dumpster, collected by a private
34 contractor, and transported to the Broadwater County transfer station. The containers are
35 subsequently transported to City-County Sanitation, Inc., located in Helena Montana.

36 Natural Resources and Energy Supply

37 Electrical service is provided to the LHTA by NorthWestern Energy through an underground
38 electrical transmission line branched off Broadwater County transmission facilities. Two facilities,
39 including the Range Support Facility and observation tower, are terminations for this transmission
40 line. Additionally, a section of electrical transmission line owned by Bonneville Power traverses a
41 section of the LHTA; however, this line does not terminate to any facilities within the LHTA. The

1 LHTA is not serviced with natural gas; however, a section of the Yellowstone Pipeline, owned by
2 Phillips 66, currently traverses the LHTA, see Figure 3-20 (MTARNG and BLM 2008).

3 Average total annual utility costs between 2016 and 2020 was \$10,304.12. Average total electricity
4 use over the same time period has been 48,745 kilowatt hours per year. Average annual propane
5 use over the same time period was 2,081 gallons (MTARNG 2021c).

6 Fuel for AFGSC helicopter aerial gunnery training sorties and helicopter-convoy training would be
7 supplied at existing facilities at Malmstrom AFB and refueling would occur at existing facilities at
8 Helena Regional Airport. Fueling and refueling of MTARNG helicopter aerial gunnery training sorties
9 would occur at existing facilities at Helena Regional Airport.

10 Communications

11 Currently, MTARNG has one analogue phone line provided by Qwest communications. The line
12 provides communications service for the Range Support Facility located within the LHTA
13 boundary. Additionally, MTARNG uses a radio network for communications support within the
14 LHTA. The radio communications network consists of a base state located at Fort Harrison, a radio
15 repeater site located in Broadwater County, and a repeater located on Hedges Mountain located in
16 Lewis and Clark County, both outside the LHTA (MTARNG and BLM 2008).

17 **3.11.3 Environmental Consequences**

18 **3.11.3.1 *Evaluation Criteria***

19 Environmental consequences for infrastructure and utilities are related to the magnitude of
20 anticipated increases or decreases in public utilities and infrastructure demands considering
21 existing demand estimates and management practices, storage capacity, and the recommended
22 utilities and improvements necessary to service the Proposed Action. Increases in potential demand
23 is compared to the existing utility use at the site. Environmental consequences associated with
24 natural resources and energy supply are related to intensity of use, increased use per square foot,
25 and demand increases that have the potential to exceed available or future supply of these resources
26 (FAA 2020a).

27 Potable water, septic system, electricity, petroleum, and propane demand are usually estimated based
28 on occupancy or building area, and land use category or type of use. Solid waste is not expected to
29 be generated as the Proposed Action does not involve any demolition or construction. Training
30 would not generate significant amounts of solid waste and any waste associated with personnel
31 would be disposed of in the on-site solid waste containers or returned to Malmstrom AFB.

32 The current use of the site is equivalent to the No Action Alternative, so alternatives will be
33 compared to the No Action Alternative as a reference point for increases in demand associated
34 with the action alternatives.

35 **3.11.3.2 *Effects of the Proposed Action Alternatives***

36 The potential effects of the Proposed Action alternatives are evaluated as they relate to the
37 operational activities associated with Alternatives 1 and 2. No construction would be required with
38 the Proposed Action. The existing training ranges are equipped with targets (typically steel or
39 tires), a range tower, road access, and firebreak roads. Effects to infrastructure would be related to
40 any increase in demand for capacity or conveyance of utilities and resources at the project site.

1 Proposed Helicopter Gunnery Training

2 Effects to infrastructure and utilities associated with the proposed aerial gunnery activities at the
3 proposed West AGR and at existing HARM Pads would essentially be the same for Alternatives
4 1 and 2. Both alternatives include the same helicopter gunnery activities, personnel numbers, and
5 demand levels for infrastructure and utilities at the same locations.

6 The effects of the proposed aerial gunnery training would not increase use of public utilities or
7 require an upgrade or addition of conveyance for any of the categories under infrastructure and
8 utilities at the LHTA. AFGSC personnel would travel to and from the site during training exercises
9 and would rely on the utilities and resources established at Malmstrom AFB. MTARNG aviation
10 units would coordinate to determine the number of ground personnel required to support range
11 operations during their helicopter gunnery training. The number would be expected to be similar
12 or less than required during AFGSC aerial gunnery training.

13 It is assumed that resources for personal consumption, such as potable water, would either be
14 brought with during training activities or accessed at the existing on-site facilities. The septic
15 system at the cantonment area would likely not be accessed during training; personnel would use
16 port-o-johns at range and bivouac areas. This could result in negligible increases in demand for
17 potable water or use of the port-o-johns, which may require more frequent cleaning, that would
18 not exceed currently existing capacities or conveyances on-site.

19 Electricity use at the site would not be increased and no new transmission or distribution facilities
20 are proposed as part of the project. Range tower electrical systems may be accessed on-site as a part
21 of night-time training. The project and overall demand for electricity at the site may increase, but
22 would not exceed capacity or design limits for conveyance of those resources to the LHTA. Energy
23 consumption and use would also be related to fuels used for the helicopters and vehicles from
24 Malmstrom AFB or MTARNG helicopters and vehicles originating at the Helena Regional Airport.

25 Therefore, the proposed helicopter gunnery training would not result in significant impacts to
26 potable water, wastewater, electricity, or communications infrastructure and utilities.

27 Proposed Helicopter-Convoy Training

28 Effects to infrastructure and utilities would be essentially the same, since both alternatives include
29 the same daytime training activities, personnel levels, and similar demand levels for infrastructure.
30 The only difference between Alternatives 1 and 2 is the location for the training, and this would
31 not change projected infrastructure use. Existing roads would be accessed by the convoys and
32 would result in negligible increases in traffic levels on public roads during travel to and from the
33 site, the number of vehicles would not meet or exceed design levels, and this training would only
34 occur once per year. Therefore, the proposed helicopter-convoy training would not result in
35 significant impacts to infrastructure or utilities.

36 Proposed Establishment of Restricted Area R-4601

37 The effects of establishing the proposed SUA R-4601 would not increase the use of public utilities
38 nor require the upgrade or addition of conveyance infrastructure for any of the categories under
39 infrastructure and utilities at the LHTA as discussed above. Nonparticipating aircraft required to
40 avoid the R-4601 many need to divert to a longer route and may require more fuel to fly the
41 additional distance. However, the added distance to avoid the R-4601 would be approximately 7
42 mi, as described in Section 3.2.3, and would not significantly alter the amount of fuel typically

1 used for these flights. Therefore, the establishment of the proposed SUA R-4601 would not result
2 in significant impacts to infrastructure or utilities.

3 Natural Resources and Energy Supply

4 The Proposed Action does not involve any new construction, renovation or demolition, or large
5 capital energy or water investment in any existing buildings. Operations would be supported by
6 existing natural resources and energy supplies associated with the 40 HS and MTARNG. No new
7 conveyances or sources would be required by the Proposed Action. The Proposed Action would
8 not draw from power plants, water utilities, sewage disposal utilities, or suppliers of natural gas
9 and petroleum that are not already servicing Malmstrom AFB, Helena Regional Airport, or the
10 LHTA. The Proposed Action involves negligible increased future demand for energy on-site and
11 overall. Negligible and intermittent increased demand for electricity and water at the LHTA would
12 be supported by existing sources and would not increase intensity of use or exceed existing or
13 future supply. No consumable materials, especially scarce or unusual materials are found within
14 and around the ROI. Therefore, the Proposed Action would not cause significant impacts to natural
15 resources and energy supply (FAA 2020a).

16 **3.11.3.3 *Effects of the No Action Alternative***

17 Under the No Action Alternative, the Proposed Action alternatives would not occur, and there
18 would be no change to the existing infrastructure system or demand at the LHTA. The use of
19 existing infrastructure would continue at current levels. Utility use would remain consistent with
20 historic demand, which does not exceed infrastructure capabilities for potable water, septic and
21 wastewater, solid waste, stormwater runoff, electricity, propane, and telecommunications. The
22 agencies or providers in charge of infrastructure components would continue to maintain their
23 respective systems in accordance with normal use at the LHTA and currently planned demand
24 increases in the local area. Therefore, the No Action Alternative would result in no impacts to
25 infrastructure or utilities.

26 **3.11.4 Best Management Practices and Standard Operating Procedures**

27 Since the alternatives associated with the proposed establishment and operation the West AGR,
28 helicopter-convoy training, and the proposed establishment of SUA R-4601 would not result in
29 significant impacts to infrastructure or utilities, no mitigation is required.

30 **3.12 Hazardous Materials and Hazardous Waste**

31 **3.12.1 Definition of Resource**

32 According to the definition found in 49 CFR § 171.8, the term hazardous materials includes,
33 "...hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials,
34 materials designated as hazardous in the Hazardous Materials Table (49 CFR § 172.101), and
35 materials that meet the defining criteria for hazard classes and divisions..." in 49 CFR § 173.
36 Transportation of hazardous materials is regulated by the U.S. Department of Transportation
37 regulations within 49 CFR § 105-180.

38 Hazardous waste is defined by the Resource Conservation and Recovery Act (42 U.S.C. § 6903(5),
39 as amended by the Hazardous and Solid Waste Amendments), as "...a solid waste, or combination
40 of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious
41 characteristics may (a) cause, or significantly contribute to an increase in mortality, or an increase

1 in serious irreversible, or incapacitating reversible illness; or (b) pose a substantial present or
2 potential hazard to human health or the environment when improperly treated, stored, transported,
3 disposed of, or otherwise managed.”

4 Evaluation of hazardous materials and wastes focuses on the presence, storage, transport, handling,
5 and use of pesticides, fuels, solvents, oils, lubricants, asbestos containing materials, lead-based paint,
6 and polychlorinated biphenyls. The evaluation might also extend to the generation, storage,
7 transportation, and disposal of hazardous wastes when such activity occurs at or near the site of a
8 proposed action. In addition to being a threat to humans, the improper release of hazardous materials
9 and wastes can threaten the health and well-being of wildlife, botanical habitats, soil systems, and
10 water resources. In the event of a release of hazardous materials or wastes, the extent of
11 contamination varies based on the contaminant and the type of soil, topography, and water resources.

12 Environmental impacts associated with operational ranges are managed and monitored in
13 accordance with DoD Directive 4715.11, *Environmental and Explosives Safety Management on*
14 *Operational Ranges Within the United States* (2004) and DoD Instruction 4715.14, *Operational*
15 *Range Assessments* (2018).

16 **3.12.2 Existing Conditions**

17 The ROI for hazardous materials and wastes is defined as the LHTA. Hazardous materials and
18 wastes at the LHTA are managed in accordance with the MTARNG Hazardous Material and Waste
19 Management Plan (Tetra Tech 2019). This Plan applies to any unit or activity that generates and
20 disposes of waste while using MTARNG training sites. Hazardous materials or wastes at the
21 LHTA may include antifreeze, battery cleaner, gasoline stabilizers, brake fluid, transmission oil,
22 polyvinyl chloride cement and cleaner, de-icer, paint, or other miscellaneous petroleum, oils, and
23 lubricants. There is one above-ground storage tank at the LHTA that contains 500 gallons of fuel
24 to power generators.

25 Operational ranges at the LHTA contain MC, including small, medium, and large caliber arms,
26 pyrotechnics, mortars, hand grenades, and demolition materials. According to the EPA’s toxic
27 release inventory facility reports for the LHTA between 2016 and 2020, lead released on-site from
28 gunnery training ranged from a low of 458 lbs in 2016 to a high of 1,368 lbs in 2019 (EPA 2021b).
29 ORAs regularly monitor LHTA for any MC which may migrate off-site, and ORA reports from
30 2013 and 2019 show that it is unlikely that any MC is migrating off-site (MTARNG 2013, 2019).
31 Between 2013 and 2018, a total of 6,737,813 rounds of small caliber munitions, 4,080 rounds of
32 live-fire medium or large caliber munitions, 175,946 rounds of practice or inert medium or large
33 caliber munitions, 29,315 rounds of other munitions, and 211 rounds of pyrotechnics or obscurants
34 were expended at LHTA (MTARNG 2019).

35 Past live-fire ordnance activities at the ranges have left UXO in various locations west of OWG
36 Road. In accordance with the LHTA Withdrawal Act of 2013 (Pub. L. 113-66) and Implementation
37 Agreement (DARNG et al. 2018), all military training activities are scheduled using established
38 procedures for deconfliction with ongoing UXO clearance activities taking place within the LHTA.
39 Helicopter gunnery would occur within the boundaries of existing training ranges and would not
40 increase the frequency of MTARNG range maintenance.

1 **3.12.3 Environmental Consequences**

2 **3.12.3.1 Evaluation Criteria**

3 This section addresses the potential impacts associated with existing contaminated sites and the
4 potential for environmental impacts caused by hazardous materials and hazardous waste
5 management practices associated with the Proposed Action. Significant impacts would occur if
6 proposed activities would result in the discharge or generation of hazardous materials to a level
7 that would permanently adversely affect the health and safety of personnel on the installation or
8 the neighboring communities or would result in the discharge or generation of hazardous materials
9 that affect the physical environment above applicable local, state, or federal regulatory standards.

10 **3.12.3.2 Effects of the Proposed Action Alternatives**

11 Proposed Helicopter Gunnery Training

12 Under both Alternatives 1 and 2, helicopter live-fire aerial gunnery training would take place at existing
13 training ranges. An estimated 100 aerial gunnery training events would be scheduled per year,
14 including day and night training. Each event would include two helicopters for a total of 200 helicopter
15 sorties. These events would result in an additional 780,000 7.62 mm rounds being fired within existing
16 ranges per year. The increase in expended rounds would result in a larger amount of lead being released
17 on-site at the LHTA. As shown through groundwater sampling of wells and springs during the previous
18 ORAs, explosives, metals, and perchlorate levels did not exceed project action limits and MC are
19 unlikely to migrate off the LHTA and would not likely produce negative impacts.

20 Additionally, the ongoing ORA Program requirements for range assessments will inform
21 management of potential releases of hazardous materials from munition expenditures during
22 training. Furthermore, the Army started incorporating some “green” (lead-free) ammunition at the
23 LHTA in 2013, and the transition to more environmentally friendly ammunition reduces the
24 potential for MC impacts, however, the use is limited and the USAF does not currently use green
25 ammunition. The increase in MC released as part of the Proposed Action would be a minor long-
26 term impact, but as shown in past ORAs the MC are unlikely to migrate off-site. Future ORAs
27 would inform management of potential future releases based on the above considerations and
28 because the Army is reducing the impacts of ammunition over time, impacts of the Proposed
29 Action would be expected to be less than significant.

30 Proposed Helicopter-Convoy Training

31 The proposed helicopter-convoy training would take place along a roadway and would not include
32 live-fire. Therefore, there would be no impact on hazardous materials and hazardous waste at the
33 LHTA under either Alternative 1 or 2.

34 Proposed Establishment of Restricted Area R-4601

35 The establishment of SUA R-4601 is required for both Alternatives 1 and 2 of the Proposed Action.
36 The hazardous materials and hazardous waste effects of the establishment of SUA R-4601 are the
37 same as the effects of the Proposed Action alternatives as described previously.

38 **3.12.3.3 Effects of the No Action Alternative**

39 Under the No Action Alternative, the Proposed Action would not occur and there would be no change
40 to hazardous materials or hazardous waste conditions at LHTA. Conditions would be expected to

1 remain as described under existing conditions in Section 3.12.2. Therefore, there would be no
2 significant impacts to hazardous materials and hazardous waste under the No Action Alternative.

3 **3.12.4 Best Management Practices and Standard Operating Procedures**

4 Potential hazardous materials and hazardous waste impacts associated with the proposed
5 establishment and operation the West AGR, helicopter-convoy training, and the proposed
6 establishment of SUA R-4601 would be less than significant; therefore, no mitigation is required. The
7 following BMPs and SOPs included as part of the Proposed Action (see Section 2.2.4) will help to
8 reduce impacts of hazardous materials and wastes:

- 9 • The proposed West AGR and all air-to-surface weapon firing would be located entirely
10 within the existing primary duded impact area at the LHTA. All helicopter weapon
11 familiarization and firing while on the ground would be from concrete HARM Pads located
12 within the existing MPTR. Use of the existing training areas avoids and minimizes impacts
13 associated with creation and operation of a new gunnery range and ORAs have shown that
14 existing Munitions Constituents of Concern at ranges do not migrate off-site.

15 Additional BMP and SOP Consideration:

- 16 • In accordance with DoD Instruction (4715.14), Fort Harrison (including LHTA) conducts
17 periodic ORAs utilizing a conceptual site model (e.g., identifies MC sources, potential
18 migration pathways, and off-range receptors) and develops a sampling strategy, when
19 necessary. If a future ORA identifies a potential threat of MC migration off-range that may
20 create a potential unacceptable risk to human health or the environment (e.g., water quality
21 exceeds a regulatory standard), appropriate notifications would be made to regulatory
22 authorities (EPA, MDEQ), and additional management practices would be implemented to
23 prevent MC migration off-range. In the event of MC release off-range that exceeds an
24 applicable regulatory standard, response requirements would include additional regulatory
25 notifications, management practices to prevent further MC migration off-range, and the
26 release would be addressed as appropriate.

27 **3.13 Safety and Occupational Health**

28 **3.13.1 Definition of Resource**

29 Safety and occupational health refers to any activities, occurrences, or operations that have the
30 potential to affect the safety, well-being, or health of project personnel or the public (including
31 persons or communities). Although many routine workplace activities involve some degree of risk,
32 there are numerous ways to enhance safety and minimize health risks. The main objective of safety
33 and occupational health is to identify and prevent potential accidents and their impacts on project
34 personnel and the public.

35 The Occupational Safety and Health Act of 1970 is the primary federal regulation concerning
36 health and safety. The Occupational Safety and Health Administration (OSHA) is the federal
37 agency that implements this regulation. Montana does not have an OSHA state plan but does have
38 regulations related to health and safety, including those found in the MCA 39-71-101 *et seq.* The
39 Montana Department of Labor & Industry's Safety and Health Bureau is the primary state agency
40 charged with addressing occupational health and safety.

1 The Army and National Guard have numerous regulations addressing range management and
2 safety requirements for ground-based and aviation training. National Guard Regulation 385-63,
3 *The Army National Guard Range Safety Program, Policy, and Standards* (28 February 2019)
4 addresses policy and range operational responsibilities for live-fire training on ARNG ranges and
5 training facilities. This regulation is supplemental to DA Pam 385-63 (April 2014), *Range Safety*,
6 and DA Pam 385-64 (October 2013), *Ammunition and Explosives Safety Standards*. Aviation
7 operations, safety, and SUA management are addressed in AR 95-2, *Air Traffic Control*,
8 *Airfield/Heliport, and Airspace Operations* (31 March 2016), and DA Pam 385-90, *Army Aviation*
9 *Accident Prevention Program* (24 February 2010).

10 **3.13.2 Existing Conditions**

11 The ROI for safety and occupational health includes training areas and the travel routes to and
12 from the training areas. The primary safety concern related to military training flights is the
13 potential for aircraft accidents, which may be caused by mechanical failure, collisions with other
14 aircraft or objects, adverse weather conditions, or bird-aircraft strikes. Live-fire training also poses
15 potentially serious risks to personnel.

16 Currently, the 40 HS temporarily deploys on a quarterly basis to the UTTR, which is more than
17 480 mi from Malmstrom AFB. The UTTR is the nation's largest combined restricted area and land
18 training area, hosting more than 22,000 training sorties and 1,000 test sorties annually for the
19 USAF, Army, and U.S. Marine Corps.

20 The LHTA is primarily used for tank and Bradley Fighting Vehicle maneuvers and weapons firing,
21 hand grenade and detonation training, machine gun and small-arms firing, and mortar training.
22 Existing surface-to-surface and surface-to-air weapons training is conducted in accordance with a
23 FAA-authorized CFA at the LHTA. The existing CFA allows use of aircraft for transport of
24 equipment and/or personnel to and from the ranges; however, no aerial gunnery is authorized.
25 Approximately 833 helicopter training sorties (without aerial gunnery) are flown at the LHTA per
26 year by the MTARNG. As described in Table 2-5, several ground-based weapons are authorized for
27 training at the LHTA. In accordance with LHTA SOPs, guards are posted at the ends of OWG Road
28 to inform the public of live-fire training events and to notify Range Control to cease fire in the event
29 that a vehicle proceeds past the guard post during a live-fire training event.

30 Other concerns specific to operations at the LHTA include the potential for wildfires and UXO
31 associated with training ranges west of OWG Road. Fires that ignite in the LHTA during training
32 activities are suppressed in accordance with the Limestone Hills Training Site Wildfire
33 Suppression Plan and the MTARNG IWFMP, and the protocol is for total suppression. As
34 described in Section 2.2.4, live-fire aerial gunnery training avoids times of extreme fire hazard,
35 and the use of tracer rounds is restricted during times of elevated fire risk. When training activities
36 are not occurring, the USFS has the responsibility to respond to wildfires per the Interagency
37 Suppression Agreement that covers this area. Areas in the LHTA east of OWG Road are open for
38 recreation, including hunting seasonally, however, areas west of this road are closed to the public
39 due to hazards associated with live-fire training and presence of UXO. All military training
40 activities are scheduled using established procedures for deconfliction with ongoing UXO
41 clearance activities and no off-road vehicle use is allowed.

1 **3.13.3 Environmental Consequences**

2 **3.13.3.1 Evaluation Criteria**

3 An increase in safety or health risks would be considered an adverse effect on safety and
4 occupational health. The Proposed Action would have a significant effect on safety and
5 occupational health if any of the following were to occur:

- 6 • Substantially increased risks associated with the safety or health of MTARNG, AFGSC
7 personnel, the general public, or the local community.
- 8 • Substantially hindered ability to respond to an emergency.
- 9 • Introduction of a new safety or health risk for which USAF or MTARNG is not prepared
10 for or does not have adequate management and response plans in place.

11 **3.13.3.2 Effects of the Proposed Action Alternatives**

12 Proposed Helicopter Gunnery Training

13 *Aircraft Accidents*

14 Under both Alternatives 1 and 2, helicopter live-fire aerial gunnery training would take place at the
15 West AGR which would be located within existing training ranges. The siting of the West AGR
16 would establish the firing direction and axis to enhance containment and separation from civilian
17 aircraft and nonparticipating ground personnel. An estimated 100 aerial gunnery training events (60
18 events for the 40 HS and 40 events for MTARNG) would be scheduled per year; including 50 day-
19 and 50 night-events. Each event would include two helicopters for a total of 200 helicopter sorties.
20 Currently, approximately 833 helicopter sorties are flown by the MTARNG per year without aerial
21 gunnery, so the additional sorties would represent approximately a 24% increase. The types of safety
22 and occupational health impacts at the LHTA would not differ significantly between existing
23 operations and the proposed air-to-surface aerial gunnery activities, except for the increased number
24 of training events and number of rounds fired. The increase in helicopter sorties and live-fire rounds
25 fired at the LHTA would be offset in part by the elimination of some training sorties which are
26 currently flown by the 40 HS at UTTR, so the safety risks to crews would be similar. In accordance
27 with SOPs, helicopter gunnery training will comply with the Bird/Wildlife Aircraft Strike Hazard
28 Management Program to reduce the potential for bird-aircraft strikes, and would be in accordance
29 with VFR which would avoid flying in inclement weather.

30 *Occupational Safety*

31 During helicopter gunnery training, up to 14 personnel would travel by ground vehicles to support
32 range operations, including fire suppression capability. Travel to and from training locations would
33 increase in frequency under the Proposed Action (60 training events) when compared to the four
34 quarterly two-week deployments to UTTR the 40 HS currently make which include commercial
35 air travel and do not include vehicle deployment. The ability to use the LHTA for helicopter aerial
36 gunnery training may replace at least one deployment per year to UTTR. The shorter distances
37 traveled per trip under the Proposed Action (approximately 130 mi each direction) would minimize
38 the impact of travel because of the large distances traveled and longer duration of deployment to
39 UTTR (more than 480 mi each direction). Travel to and from training would be similar for
40 MTARNG, however, the estimated 40 events and 80 total sorties would be an approximately 10%
41 increase over current conditions. Ground transportation would be conducted in accordance with

1 AFI 24-301 and AFD 24-3, *Management, Operation and Use of Transportation Vehicles* (22
2 October 2019), which would minimize transportation risks. The Proposed Action would not
3 establish any new ground-based training ranges, target areas, changes in types of weapons, or result
4 in the disturbance of any previously undisturbed areas.

5 *Fire*

6 Increases in live-fire activity would raise the risk of wildfires, however, adherence to LHTA SOPs
7 described in Section 2.2.4 would minimize fire risk, and training units would provide fire suppression
8 on-site. Training days would not be permitted on days of extreme or high fire risk and the use of
9 tracer rounds would be restricted on days of elevated fire risk. Machine guns used in gunnery training
10 would be outfitted with brass catchers to catch the hot fired cartridge cases and prevent them from
11 igniting fires. Before leaving the area after training, helicopters would perform a range clearing
12 maneuver covering the entire WDZ to check for smoke or flames, and if observed Range Control
13 would be notified and fire suppression would be initiated, as appropriate.

14 *Public Safety*

15 In accordance with the LHTA Withdrawal Act of 2013 (Pub. L. 113-66) and the Implementation
16 Agreement (DARNG et al. 2018) described in Section 1.6, all military training activities are
17 scheduled using established procedures for deconfliction with ongoing UXO clearance activities,
18 permitted mining operations, and permitted livestock grazing, which would minimize impacts to
19 these activities. As described in Section 2.2.4, prior to aerial gunnery training, pilots would conduct
20 a range clearing maneuver, consisting of multiple passes over the entire West AGR WDZ, to ensure
21 the area is clear of civilian and nonparticipating aircraft, vehicles, and persons on the ground, grazing
22 livestock, and big game wildlife. Training would not commence until the area is cleared. In
23 accordance with LHTA SOPs, guards are posted at each end of OWG Road to inform the public of
24 military hazards (live weapons firing) at the time of vehicle arrival at the guard shack; if a vehicle
25 proceeds on the road despite the hazard, the guard immediately contacts Range Control who calls
26 for a halt in live-fire training until the road is determined to be clear of vehicles.

27 *Summary*

28 Overall, the proposed helicopter gunnery training under Alternatives 1 and 2 would be similar to
29 current training that takes place at out-of-state training ranges and is also similar to training that
30 currently takes place at the LHTA. Increased frequency of these types of events would increase
31 the risks associated with the activities, however, SOPs currently in place at LHTA and proposed
32 BMPs outlined in this section and described further in Section 2.2.4 include several measures to
33 reduce risks associated with aircraft accidents, occupational safety, fire, and public safety, which
34 would result in the proposed helicopter aerial gunnery training having less than significant impacts
35 to safety and occupational health.

36 Proposed Helicopter-Convoy Training

37 *Aircraft Accidents*

38 Under both Alternatives 1 and 2, an integrated helicopter-convoy training exercise would occur once
39 per year at the LHTA. The alternatives differ with respect to the location of the training (i.e., Blue
40 Route Road under Alternative 1 or OWG Road under Alternative 2). The training would include up
41 to 15 ground vehicles and two helicopters. Up to 30 personnel would conduct threat response and
42 tactical communication training along the road, while the helicopter flight training would include
43 low-altitude threat detection and higher altitude visual reconnaissance. The types of safety and

1 occupational health impacts related to the helicopter-convoy training would be similar to those
2 associated with helicopter gunnery training except that it would only occur once per year and it
3 would not include live firing of weapons, so the degree of impacts would therefore be much smaller.

4 *Occupational Safety*

5 Under both Alternatives 1 and 2, the one-day training event would represent a small percentage of
6 the current annual training for the 341 SFG and the 40 HS. Training exercises at the LHTA would
7 occur over an approximately two-hour period and no live firing of weapons would occur. The round
8 trip would include approximately 260 mi of driving to and from the LHTA. Ground transportation
9 would be conducted in accordance with AFI 24-301 and AFD 24-3, *Management, Operation and*
10 *Use of Transportation Vehicles* (22 October 2019), which would minimize transportation risks.

11 *Fire*

12 Under both Alternatives 1 and 2, the limited nature of the helicopter-convoy training and the lack
13 of live weapons firing would minimize the risk of fire.

14 *Public Safety*

15 Helicopter-convoy training would not include live firing of weapons and convoy vehicles would
16 not block public roads. Blue Route Road under Alternative 1 is not a public road; thus, there would
17 be no public access to the training area. Public access is not restricted and SOPs are in place to
18 protect safety of travelers on OWG Road during existing training. The helicopter-convoy training
19 would not include live firing of weapons which would limit impacts on public safety under
20 Alternative 2. Therefore, impacts on safety and occupational health would be less than significant
21 under both Alternative 1 and 2.

22 *Summary*

23 The proposed helicopter-convoy training under both Alternative 1 and 2 would be similar to
24 existing helicopter training activities (without gunnery) and SOPs and BMPs would reduce risks
25 so that the training would have less than significant impacts on safety and occupational health.

26 Proposed Establishment of Restricted Area R-4601

27 *Aircraft Accidents*

28 Under both Alternatives 1 and 2, the proposed SUA R-4601 would be established to allow for live-
29 fire air-to-surface helicopter gunnery activities. The proposed SUA R-4601 would only be
30 activated by NOTAM during helicopter gunnery training events. The existing CFA would remain
31 active during all periods when restricted airspace is not active. There would be no increased risk
32 of aircraft accidents as a result of establishing SUA R-4601.

33 *Occupational Safety*

34 Other than the described helicopter aerial gunnery training, there would be no substantial change
35 to existing military training at the LHTA with the establishment of SUA R-4601. No major changes
36 to the existing communications and surveillance currently providing coverage of the existing CFA
37 at the LHTA would occur. This includes designated RSOs on all live-fire ranges and a Designated
38 Safety Observer to cover the training area with real-time communications in place between the on-
39 site range safety personnel, range users, and range control tower. Therefore, there would be no
40 negative impacts on occupational safety as a result of establishing SUA R-4601.

1 *Fire*

2 The potential fire effects of establishment of SUA R-4601 are the same as the effects of the
3 Proposed Action alternatives as described previously.

4 *Public Safety*

5 The SUA RA would serve to segregate military helicopter aerial gunnery training that could be
6 hazardous to nonparticipating aircraft. Establishment of SUA R-4601 would lead to the depiction
7 of the RA on aeronautical charts while currently the CFA is not depicted. This would increase
8 awareness of the area to civilian aviation, which may contribute to a minor long-term positive
9 impact on public safety.

10 *Summary*

11 The establishment of SUA R-4601 is required for both alternatives (Alternatives 1 and 2) of the
12 Proposed Action. The establishment of SUA R-4601 under either Alternative 1 or 2 would have no
13 significant effects on aircraft accidents, occupational safety, fire, or public safety similar to effects
14 described previously for the Proposed Action alternatives. Depiction of the proposed SUA R-4601 on
15 aeronautical charts may contribute to a minor long-term positive impact on safety.

16 **3.13.3.3 *Effects of the No Action Alternative***

17 Under the No Action Alternative, the Proposed Action would not occur and there would be no
18 change to safety and occupational health. Conditions would be expected to remain as described
19 under existing conditions in Section 3.13.2. Therefore, there would be no significant impacts to
20 safety and occupational health under the No Action Alternative.

21 **3.13.4 Best Management Practices and Standard Operating Procedures**

22 Potential safety and occupational health impacts associated with the proposed establishment and
23 operation the West AGR, helicopter-convoy training, and the proposed establishment of SUA R-
24 4601 would be less than significant; therefore, no mitigation is required. As described in Section
25 2.2.4, several BMPs and SOPs at the LHTA serve to improve safety and reduce negative impacts
26 to occupational health. The BMPs and SOPs related to safety and occupational health are described
27 in detail in Section 2.2.4 and summarized as follows:

- 28 • The proposed West AGR was sited to aid in the containment and separation from civilian
29 aircraft and nonparticipating ground personnel.
- 30 • Helicopter aerial gunnery training flight planning and operations would comply with the
31 Bird/Wildlife Aircraft Strike Hazard Management Program to reduce the potential for bird-
32 aircraft strikes.
- 33 • Helicopter aerial gunnery would be conducted in accordance with existing joint-use and
34 safety procedures to deconflict military training with permitted mining and grazing within
35 the LHTA (DARNG et al. 2018).
- 36 • Helicopters avoid active mining areas.
- 37 • No off-road vehicle use is allowed.
- 38 • Live-fire gunnery training would avoid times of extreme fire hazard and the use of tracer
39 rounds would be restricted during times of elevated fire risk.
- 40 • Weapons would be outfitted with brass catchers to reduce potential for starting fires.
- 41 • Personnel and firefighting equipment would be on hand to suppress range fires that may occur.

- 1 • RSOs would be present on all live-fire ranges and designated safety observers would be in
2 place to cover the entire area and would always have continuous and effective
3 communication with the RSO and Range Control. Visual surveillance extending to a
4 minimum of 5 mi in all directions beyond the SUA RA would be maintained during all
5 times of hazardous activity. Hazardous activities in the restricted area would cease if
6 communication were lost, or if a nonparticipating aircraft approaches the area.
- 7 • Aircraft involvement in any training would be controlled through communication,
8 coordination, regulation, SOPs, safety briefings, and inspections. Aircraft involved would
9 have constant communications contact with the range tower.
- 10 • Prior to commencing aerial gunnery training, pilots would conduct a range clearing
11 maneuver to ensure the area is clear. If there is a range incursion after aerial gunnery
12 training has commenced, training would immediately cease and not resume until the WDW
13 area is cleared.
- 14 • Guards are posted at both ends of OWG Road to inform the public of live-fire training. If
15 a vehicle proceeds past the guard post during live-fire training, the guard immediately calls
16 for an immediate cease fire to ensure the safety of persons traveling on OWG Road.

17 **3.14 Cumulative Effects Analysis**

18 This section evaluates the potential effects of Proposed Action Alternatives with consideration given
19 to reasonably foreseeable future actions at and in the vicinity of the LHTA. The Fort William Henry
20 Harrison Real Property Master Plan (MTARNG 2018) identifies foreseeable future activities as
21 including the ongoing military training, mining activities, and livestock grazing that occur on the
22 LHTA. As noted in Section 1.6, there is an Implementation Agreement (DARNG et al. 2018) that
23 sets forth the policies and procedures for coordinating the joint and compatible use of the LHTA.

24 The Fort William Henry Harrison Real Property Master Plan EA (MTARNG 2020b) identifies the
25 following types of potential infrastructure development needs at the LHTA:

- 26 • Renovation and expansion (13,797 square feet) of the existing Unit Training and
27 Equipment Site facility;
- 28 • New Readiness Center building;
- 29 • New Battalion-sized transient training housing, and supporting headquarters, dining,
30 supply and ration, and maintenance buildings;
- 31 • New Company Headquarters building; and
- 32 • Road improvement and new paved parking areas in new development areas.

33 The master plan identified the cantonment area, located in the northeastern portion of the LHTA,
34 as a plan area for future development, considering constraints associated with terrain, limited
35 utilities, existing training, and land ownership. The EA for the master plan identified that future
36 infrastructure development could be within the cantonment plan area or located outside but near
37 the LHTA and stated additional NEPA analysis would be undertaken once site-specific plans are
38 developed (MTARNG 2022). None of the above-identified potential future infrastructure
39 developments are foreseeable at this time since none have been funded and the master plan is
40 subject to routine updates every few years (Myers 2022).

1 The working draft of the Broadwater County Capital Improvements Plan identifies several projects
2 ranked as higher or lower priority (Great West Engineering 2020). The plan identifies that
3 Broadwater County will strive to initiate the development of priority projects within one to three
4 years of adoption of the Capital Improvements Plan, while lower priority projects will likely not
5 occur within the five-year planning period of the document unless funding becomes available. The
6 identified overall higher priority projects included:

- 7 • Wheatland Area Emergency Services - construct new building;
- 8 • Road Department Building - construct new fabric structure;
- 9 • Fairgrounds - improve bathrooms, replace existing septic system;
- 10 • Fairgrounds - construct multi-use facility;
- 11 • Bridge replacements - Meridian and Old Town bridges; and
- 12 • Flood Mitigation - Crow Creek Valley.

13 In addition, the Capital Improvements Plan identified the Townsend Airport as having three
14 priority rehabilitation projects (apron, runway, taxiway). The overall County and airport priority
15 projects would occur more than 3.5 mi from the LHTA.

16 Lower priority projects identified in the Capital Improvements Plan included the following two,
17 representing the closest (within 0.5 mi) to the LHTA:

- 18 • Bridge upgrade at OWG Road crossing at Crow Creek (adjust skew, widen); and
- 19 • Solid Waste – potential relocation of transfer station from Indian Creek Road to a different
20 site to improve the efficiency of the solid waste collection services.

21 Limited residential development is reasonably foreseeable in proximity to the LHTA. The
22 Broadwater County Commission (July 2022) made Findings and Conditions for the preliminary
23 plat approval of the Horse Creek Hills Major Subdivision, located approximately 18.5 miles
24 northeast of Townsend, and approximately 20 mi from the LHTA.

25 The Broadwater County 2020 Growth Policy Update (Broadwater County 2020) identified that
26 much of the new development in the county will likely be in rural areas outside of the City of
27 Townsend. This document included several goals and objectives to strengthen and diversify the
28 local economy, enhance infrastructure, ensure that residents will have access to adequate
29 community services, encourage a variety of housing options, and manage land use in a manner
30 that minimizes potential for harm, or hazards, and more directly benefits county residents and the
31 economy. Land use objectives associated with new development included the following:

- 32 • New subdivisions will not be approved within the 100-year floodplain;
- 33 • The development of new homes and businesses within the 100-year floodplain shall be
34 constructed to minimize the impacts from flooding; and
- 35 • New subdivisions will be discouraged in areas of high to severe wildfire hazard unless
36 mitigation steps are taken to reduce the risks.

37 The reasonably foreseeable future effects of the Proposed Action Alternatives are summarized
38 below by resource area.

1 **3.14.1 Airspace**

2 Foreseeable future activities comprise ongoing military training, mining activities, and livestock
3 grazing that occurs on the LHTA. Potential future expansion of infrastructure in support of training at
4 the LHTA may occur on or off the installation, though none is currently foreseeable. Most Broadwater
5 County planned projects over the next five years would also not be expected to create additional
6 impacts. However, with LHTA located in Broadwater County between Gallatin and Lewis & Clark
7 Counties, two of the faster growing counties in the state, significant population growth in these
8 neighboring areas could result in additional pilots and aircraft operating in the airspace within the ROI.
9 Since the airspace analysis technical study for this project (EA Technical Study Volume 1) did not
10 identify existing air traffic congestion in the ROI, increases to local air traffic would be considered
11 manageable within the reasonably foreseeable future. Required BMPs and SOPs described in Section
12 2.2.4 would ensure that the Proposed Action, when combined with other actions both on and off the
13 installation, would not result in a significant cumulative impact on airspace resources.

14 **3.14.2 Land Use**

15 Foreseeable future activities comprise ongoing military training, mining activities, and livestock
16 grazing that occurs on the LHTA. Potential future expansion of infrastructure in support of training
17 at the LHTA may occur on or off the installation, though none is currently foreseeable. In the event
18 of future development at the LHTA, it is anticipated that a site would be selected that does not
19 conflict with existing land use configurations or conflict with land use plans. Foreseeable
20 development in Broadwater County would comply with community development planning
21 guidance and regulations. The Proposed Action does not include construction and thus would not
22 overlap the primary impacts of the foreseeable future actions. Therefore, the Proposed Action,
23 when combined with other actions both on and off the installation, would not result in a significant
24 cumulative impact on land use. Potential effects of noise on land use compatibility are addressed
25 in Section 3.14.4.

26 **3.14.3 Air Quality and Climate Change**

27 Foreseeable future activities comprise ongoing military training, mining activities, and livestock
28 grazing that occurs on the LHTA. Potential future expansion of infrastructure in support of training at
29 the LHTA may occur on or off the installation, though none is currently foreseeable. Projects proposed
30 in the Broadwater County Capital Improvements Plan, will likely include site grading, trenching and
31 excavation, building construction, application of architectural coatings, and paving. These activities
32 will result in temporary and slight increases in emissions from fugitive dust and other pollutants (listed
33 below) from on and off-road vehicles, vehicle exhaust, construction equipment exhaust, and off-
34 gassing of paint, paving, and other construction materials. The likely pollutants expected to be released
35 as part of these projects will include criteria air pollutants and precursors such as carbon monoxide,
36 nitrogen oxides, sulfur dioxide, volatile organic compounds, and PM_{2.5} and PM₁₀. The construction
37 and use of these buildings and structures will result in increases in GHG emissions over the lifetime of
38 the development. Broadwater County is currently in-attainment of ambient air quality standards for all
39 criteria air pollutants. Due to the relatively small nature of these projects, and the transitory nature and
40 phased development of the construction activities, all emissions are expected to be within de minimis
41 thresholds. Therefore, cumulative impacts on air quality from the Proposed Action, when combined
42 with other actions both on and off the installation, would be less than significant.

1 **3.14.4 Noise**

2 Foreseeable future activities related to noise include ongoing military, mining activities, and
3 livestock grazing that occur on the LHTA. The Broadwater County 2020 Growth Policy Update
4 (Broadwater County 2020) identified that the county has experienced an approximate 40%
5 increase in population over the last 20 years and anticipates growth to continue into the future.
6 Much of the new development in the county will likely be in rural areas outside of the City of
7 Townsend, which could create additional noise-sensitive receptors (residences) in areas currently
8 experiencing military noise from LHTA. Additional development around the LHTA may be
9 mitigated through public outreach with the Broadwater County in sharing the recent Installation
10 Compatible Use Zone Study (MTARNG 2021b), which depicts noise exposure maps of areas most
11 affected by military noise where development could be discouraged.

12 The Proposed Action would increase the noise exposure to some rural residents, primarily along the
13 ingress and egress routes north of LHTA, and foreseeable future actions may increase the numbers
14 of residents in these areas. However, noise levels would remain below the 65 dB L_{dnmr} (and DNL)
15 threshold where land use guidelines for noise-sensitive uses are restricted (i.e., residential, school,
16 etc.). Cumulative impacts on the noise environment from the Proposed Action, combined with other
17 actions both on and off the installation, would be less than significant.

18 **3.14.5 Earth Resources**

19 Foreseeable future activities comprise ongoing military training, mining activities, and livestock
20 grazing that occurs on the LHTA. Potential future expansion of infrastructure in support of training
21 at the LHTA may occur on or off the installation, though none is currently foreseeable. Projects
22 proposed in the Broadwater County Capital Improvements Plan, will likely include site grading,
23 trenching and excavation, building construction, application of architectural coatings, and paving.
24 Environmental protection measures and appropriate BMPs would be implemented to minimize soil
25 erosion and sedimentation during construction or demolition until vegetation or other stabilizing
26 methods become established. The Proposed Action does not include construction and would
27 therefore not overlap the primary impacts of the foreseeable future actions. Therefore, cumulative
28 impacts on earth resources from the Proposed Action, when combined with other actions both on
29 and off the installation, would result in less than significant effects on earth resources.

30 **3.14.6 Water Resources**

31 Foreseeable future activities comprise ongoing military training, mining activities, and livestock
32 grazing that occurs on the LHTA. Potential future expansion of infrastructure in support of training at
33 the LHTA may occur on or off the installation, though none is currently foreseeable. While the exact
34 location of potential future expansion of LHTA infrastructure has not been determined, construction
35 would comply with applicable laws, regulations and policies protecting water resources and floodplain
36 management. Construction that results in the disturbance of one acre or more of total land would be
37 required to obtain a Storm Water Discharge Permit, including preparation of a Stormwater Pollution
38 Prevention Plan to avoid and minimize erosion and impacts to water quality. Site development for all
39 projects of 5,000 square feet or greater would be designed with consideration of Unified Facilities
40 Criteria (3-210-10, Low Impact Development) and comply with stormwater requirements (Section
41 438, Energy Independence and Security Act) (MTARNG 2020a). Similarly, foreseeable developments
42 in Broadwater County would comply with applicable laws, regulations and policies protecting water
43 resources, stormwater discharge, and floodplain management. The Proposed Action is not expected to

1 contribute to degraded water quality at LHTA and it is unlikely that MC would migrate off-site.
2 Therefore, the Proposed Action, when combined with other actions both on and off the installation,
3 would not have a significant cumulative impact on water resources.

4 **3.14.7 Biological Resources**

5 Foreseeable future activities comprise ongoing military training, mining activities, and livestock
6 grazing that occurs on the LHTA. Potential future expansion of infrastructure in support of training
7 at the LHTA may occur on or off the installation, though none is currently foreseeable. While the
8 exact location of potential future expansion of LHTA infrastructure has not been determined,
9 existing resource protection guidelines (MTARNG 2021a) and compliance with applicable laws and
10 regulations would avoid or minimize effects on listed or special status species or sensitive habitats.
11 Similarly, foreseeable developments in Broadwater County also would comply with applicable laws,
12 regulations and policies protecting sensitive biological resources and habitats. Therefore, the
13 Proposed Action, when combined with other actions both on and off the installation, would not result
14 in a significant cumulative impact on biological resources.

15 **3.14.8 Cultural Resources**

16 Foreseeable future activities comprise ongoing military training, mining activities, and livestock
17 grazing that occurs on the LHTA. Potential future expansion of infrastructure in support of training
18 at the LHTA may occur on or off the installation, though none is currently foreseeable. While the
19 exact location of potential future expansion of LHTA infrastructure has not been determined,
20 MTARNG would coordinate and consult with the MT SHPO prior to new construction and road
21 improvement projects that would have the potential to affect cultural resources.

22 The entirety of the LHTA has been surveyed for the presence of cultural resources, therefore, the
23 likelihood of encountering unidentified archaeological resources would be minimal. However, in
24 the event of an unanticipated discovery during ground-disturbing construction and operations, the
25 following specific actions would occur (MTARNG 2020b):

- 26 • The Project Manager would cease work immediately and the discovery would be reported
27 to the LHTA unit commander or facility manager.
- 28 • The unit commander or facility manager would notify the Range Control Officer, secure
29 the location, and ensure that all cultural items are left in place and that no further
30 disturbance is permitted to occur.
- 31 • The Range Control Officer would then contact the Cultural Resources Manager to inspect
32 the site and would continue to follow *Standard Operating Procedure No. 5: Inadvertent*
33 *Discovery of Cultural Materials* per the ICRMP (MTARNG 2020b).

34 In accordance with BMPs incorporated as part of the Proposed Action (see Section 2.2.4), the
35 NRHP-eligible Pilgrim Site (24BW675), be avoided. There are no foreseeable cumulative impacts
36 associated with the Proposed Action that would affect cultural resources.

37 **3.14.9 Socioeconomics, Environmental Justice and Protection of Children**

38 Foreseeable future activities comprise ongoing military training, mining activities, and livestock
39 grazing that occurs on the LHTA. Potential future expansion of infrastructure in support of training
40 at the LHTA may occur on or off the installation, though none is currently foreseeable. Foreseeable
41 future actions in Broadwater County include several construction projects including substantial

1 development in the cantonment area at the LHTA. Due to the limited construction industry in
2 Broadwater County, these activities would likely require workers from outside the county. The
3 largest population center within commuting distance is Helena, Montana, which would likely
4 support much of the construction employment and housing. Construction activities would stimulate
5 spending on equipment and materials and increase employment; however, many of the
6 socioeconomic benefits would not benefit the local economy of Townsend or Broadwater County.
7 Some construction workers may seek out housing closer to the project and some spending and
8 purchases would occur in the local community; these would represent a short-term beneficial impact
9 to the area. The Proposed Action does not include construction and would therefore not overlap the
10 primary impacts of the foreseeable future actions, although there may be additional long-term minor
11 beneficial impacts from spending associated with additional training activities.

12 **3.14.10 Infrastructure and Utilities**

13 Foreseeable future activities comprise ongoing military training, mining activities, and livestock
14 grazing that occurs on the LHTA. Potential future expansion of infrastructure in support of training
15 at the LHTA may occur on or off the installation, though none is currently foreseeable.
16 Infrastructure effects related to foreseeable future construction projects in Broadwater County
17 would not overlap with the effects of the Proposed Action since all Proposed Action related
18 personnel, helicopters, vehicles, and equipment would be transported to and from the site on any
19 given training day, and permanent use of utilities at the site is not part of the Proposed Action.
20 Therefore, the Proposed Action, when combined with other actions both on and off the installation,
21 would have no significant impact on infrastructure and utilities.

22 **3.14.11 Hazardous Materials and Hazardous Waste**

23 Foreseeable future activities comprise ongoing military training, mining activities, and livestock
24 grazing that occurs on the LHTA. Potential future expansion of infrastructure in support of training
25 at the LHTA may occur on or off the installation, though none is currently foreseeable. The Proposed
26 Action is not expected to contribute to any hazardous materials or hazardous waste outside of the
27 LHTA and it is unlikely that MC would migrate off-site. Therefore, it would not contribute to any
28 potentially negative impacts from foreseeable projects outside of LHTA. Potential future expansion
29 of LHTA infrastructure on or off the installation would not occur in any areas with UXO or that had
30 not been cleared of UXO. Reasonably foreseeable future projects within Broadwater County would
31 incorporate appropriate BMPs and environmental protection measures to limit and control hazardous
32 materials and wastes into their design and operations plans. Therefore, the Proposed Action, when
33 combined with other actions both on and off the installation, would not result in a significant
34 cumulative impact on hazardous materials and wastes management.

35 **3.14.12 Safety and Occupational Health**

36 Foreseeable future activities comprise ongoing military training, mining activities, and livestock
37 grazing that occurs on the LHTA. Potential future expansion of infrastructure in support of training
38 at the LHTA may occur on or off the installation, though none is currently foreseeable. Foreseeable
39 future actions in Broadwater County include several construction projects. Safety and occupational
40 health effects related to those construction projects are not similar to the effects of the Proposed
41 Action and would primarily impact different groups of people. In the event of future infrastructure
42 expansion at the LHTA, there would be an increase the number of people accessing the area, and
43 construction and training activities would be required to coordinate with any live-fire training

1 activities to avoid any safety conflicts. Public access to the LHTA is controlled, but not restricted,
2 during live fire training in accordance with a MOU between MTARNG and Broadwater County that
3 ensures training ranges and OWG Road are clear before and during any live-fire activity. Therefore,
4 cumulative impacts on safety and occupational health from the Proposed Action, combined with
5 other actions both on and off the installation, would be less than significant.

6 **3.15 Summary of Best Management Practices and Standard Operating**
7 **Procedures**

8 The proposed helicopter aerial gunnery and convoy training took into consideration several factors
9 including existing land uses, terrain, access, and environmental constraints to avoid and minimize
10 safety and environmental impact risks to the extent practical. Several BMPs and SOPs were
11 incorporated into the description of the Proposed Action (Section 2.2.4). Table 3-13 provides a
12 compilation of those measures and their applicability to the evaluated resource issue areas. .

1 **Table 3-13. Summary List of BMPs and SOPs to Avoid and Minimize Effects of the Proposed Helicopter Gunnery Training at the LHTA.**

BMPs and SOPs	Applicable Resource Area											
	Airspace	Land Use	Air Quality	Noise	Earth Resources	Water Resources	Biological Resources	Cultural Resources	Socioeconomics	Infrastructure & Utilities	Hazardous Waste & Materials	Safety & Occupational Health
Safety												
The proposed SUA R-4601 would be established and managed in accordance with FAA JO 7400.2N, Procedures for Handling Airspace Matters; AR 385-63, Range Safety; AR 95-2, Air Traffic Control, Airfield/Heliport, and Airspace Operations; and a Letter of Agreement between the Salt Lake City ARTCC and The Adjutant General, State of Montana.	X											X
Per the SUA Proposal, the designated Range OIC is responsible to ensure all firing ceases prior to civilian aircraft penetration of the RA. A designated RSO must be present on all live-fire ranges. Designated safety observers will be in place to cover the entire RA and must have continuous and effective communication with the RSO, OIC, and Range Control Tower at all times. Surveillance must be maintained five minutes prior to and during all times the hazardous activity is in progress. Visibility must be sufficient to permit visual surveillance extending to a minimum of 5 mi in all directions beyond the RA. If, at any time, communication is lost, hazardous activities will cease until reliable communication is re-established. Hazardous activities in the RA will cease if a nonparticipating aircraft approaches the area.	X											X
Per the SUA Proposal, aircraft involvement in any training will be controlled through communication, coordination, regulation, SOPs, safety briefings, and inspections. Aircraft will have constant communications contact with Range Control Tower.	X											X
Per the SUA Proposal, no hazardous weapons training would be allowed unless the cloud ceiling is at least 1,000 ft above the maximum ordinate altitude within the restricted area, no projectile may enter a cloud formation, and visibility is sufficient to permit visual surveillance extending to a minimum of 5 mi in all directions beyond the restricted area.	X											X

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1 **Table 3-13 (Continued)**

BMPs and SOPs	Applicable Resource Area											
	Airspace	Land Use	Air Quality	Noise	Earth Resources	Water Resources	Biological Resources	Cultural Resources	Socioeconomics	Infrastructure & Utilities	Hazardous Waste & Materials	Safety & Occupational Health
Safety/Environmental												
Per the MOU between MTARNG and Broadwater County, SOPs protect travelers on OWG Road when live fire training occurs. The WDZ for the proposed AGR overlaps existing SDZs and will have no additional effects on the MOU. SOPs include the following elements: The road guard will flag down an approaching traveler to inform them of the danger of proceeding along OWG Road during live fire training. If the traveler turns around, training will continue. If the traveler wishes to continue down OWG Road through the SDZ, the road guard will allow them to do so and will immediately inform the OIC to put the range(s) in a “check fire” status. All live fire will cease and weapons will be cleared until the training unit can verify the traveler is out of the SDZ. Once the traveler is verified as being out of the SDZ, live fire training will resume. If it cannot be verified that the traveler has cleared the SDZ, the range will remain in “check fire” and the training unit will dispatch a vehicle to verify the location of the traveler. If the traveler will not clear the SDZ, the training unit will contact the Sheriff’s Office for assistance. Once the traveler is verified as being out of the SDZ, live fire training will resume. Road signs will be posted every 1,640 ft along the affected portion of OWG Road informing travelers that they are within the SDZ area of live fire military ranges.		X										X
Helicopter flight paths to and from and over the LHTA will be in accordance with FAA standards (14 CFR § 91.119, Minimum Safe Altitudes) and Advisory Circular 91-36D (VFR Flight Near Noise-Sensitive Areas), as well as within the Military Overflight Awareness Area between Helena and LHTA to minimize impacts to noise-sensitive areas on the ground to the extent practical. Helicopter flights will avoid Townsend unless required in an emergency. Every attempt will be made by pilots to fly friendly and avoid excessive overflight of populated areas.	X			X								X
The firing direction and axis for the proposed West AGR were sited to take advantage of natural terrain and topography, which would contribute to containment of fired ammunition and separation for civilian aircraft, nonparticipating ground personnel, and environmental constraints.	X	X			X	X	X	X				X

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1 **Table 3-13 (Continued)**

BMPs and SOPs	Applicable Resource Area											
	Airspace	Land Use	Air Quality	Noise	Earth Resources	Water Resources	Biological Resources	Cultural Resources	Socioeconomics	Infrastructure & Utilities	Hazardous Waste & Materials	Safety & Occupational Health
Safety/Environmental (Continued)												
Prior to conducting ground-based weapons firing from the existing concrete HARM Pads within the MPTR, pilots will conduct a reconnaissance of the 7.62 mm SDZ to ensure the area is clear of persons on the ground, grazing livestock, and big game wildlife. Weapons familiarization and firing will not commence until the aircraft commander determines the SDZ is cleared for training and obtains clearance from Range Control.	X	X					X					X
Prior to aerial gunnery training, pilots will conduct a range clearing maneuver, consisting of multiple passes over the entire AGR WDZ, to ensure the area is clear of civilian and nonparticipating aircraft, vehicles and persons on the ground, grazing livestock, and big game wildlife prior to commencing gunnery training. Aerial gunnery training would not commence or would cease and not resume until the aircraft commander determines the WDZ area is cleared for training and obtains clearance from Range Control to commence aerial gunnery training.	X	X					X					X
The proposed West AGR and all air-to-surface weapon firing would be located entirely within the existing primary dudded impact area at the LHTA. All helicopter weapon familiarization and firing while on the ground would be from concrete HARM Pads located within the existing MPTR. Use of the existing training areas avoids and minimizes impacts associated with establishment and operation of a new gunnery range.	X	X			X	X	X	X			X	X
Helicopter gunnery will be conducted in accordance with existing joint-use and safety procedures to deconflict military training with permitted mining and grazing at LHTA.		X			X				X			X
Per LHTA SOPs, live-fire gunnery training will avoid times of extreme fire hazard. Use of tracer rounds will be restricted during times of elevated fire risk, as communicated by Range Control. All helicopter gunnery will use weapons outfitted with brass catchers to reduce potential range fires. During helicopter gunnery, firefighting equipment and personnel will be on hand to suppress fires that may occur.		X	X		X	X	X		X			X
Helicopter pilots will conduct a range clearing maneuver at the end of live weapons gunnery to check for smoke or fire and report to Range Control, who will immediately coordinate fire suppression activities, if applicable.		X	X		X	X	X		X			X

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1 **Table 3-13 (Continued)**

BMPs and SOPs	Applicable Resource Area											
	Airspace	Land Use	Air Quality	Noise	Earth Resources	Water Resources	Biological Resources	Cultural Resources	Socioeconomics	Infrastructure & Utilities	Hazardous Waste & Materials	Safety & Occupational Health
Safety/Environment												
All aircraft will avoid overflight of Graymont’s facilities and maintain a reasonable lateral separation from the active mining areas. The helicopter aerial gunnery firing direction is to the east away from Graymont’s mining areas.	X	X		X					X			X
Vehicles will avoid driving on road shoulders and no off-road driving is allowed.		X			X	X	X					X
Helicopter gunnery training flight planning and operations will comply with AFI 91-212_AFGM2020-01, Bird/Wildlife Aircraft Strike Hazard Management Program (12 June 2020, 31 May 2018) or similar guidance to reduce the potential for bird/wildlife hazards and mishaps. As part of the SOPs, Pilots would report any bird or other wildlife strike using FAA Form 5200-7, Bird/Other Wildlife Strike Report.	X						X					X
Environmental												
Minimize fuel leakage from vehicles.					X	X	X					
Maintain vehicles to reduce excessive burning of oil.			X									
Helicopter flight paths to, from and over the LHTA will be in accordance with FAA standards (14 CFR § 91.119, Minimum Safe Altitudes) and Advisory Circular 91-36D (VFR Flight Near Noise-Sensitive Areas), as well as within the Military Overflight Awareness Area between Helena and LHTA to minimize impacts to noise-sensitive areas on the ground to the extent practical. Helicopter flights will avoid Townsend unless required in an emergency. Every attempt will be made by pilots to fly friendly and avoid excessive overflight of populated areas.				X			X					
No aerial gunnery training will be scheduled during the 01 December to 30 April time period to avoid and minimize disturbance impacts to wintering big game wildlife. If winter training is desired/needed, then it would be restricted to the 16 January to 15 March time period (with no use during the 01 December to 15 January and 16 March to 30 April time periods) in compliance with recommendations by the MTFWP.							X					

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1 **Table 3-13 (Continued)**

BMPs and SOPs	Applicable Resource Area											
	Airspace	Land Use	Air Quality	Noise	Earth Resources	Water Resources	Biological Resources	Cultural Resources	Socioeconomics	Infrastructure & Utilities	Hazardous Waste & Materials	Safety & Occupational Health
Environmental (Continued)												
Certain areas may be off-limits due to special concerns, such as cultural resources, special status species, wetlands, seeps and springs, high biodiversity value, etc. These will be described as mine fields, friendly forces, towns, etc. in training scenarios to add to the realism of off-limits areas. They will be marked with siber (Seibert) stakes, off-limits signs, barbed wire, or barricades as necessary for each area.						X	X	X				
The USFWS recommends the following (or similar) conservation measures to manage potential bear attractants and reduce the risk of human-grizzly bear conflicts: (1) Promptly clean up any spills, litter, garbage, debris, etc.; (2) Store all food, food-related items, petroleum products, antifreeze, garbage, personal hygiene items, and other attractants inside a closed, hard-sided vehicle or commercially manufactured bear resistant container; (3) Remove garbage from the project site daily and dispose of it in accordance with all applicable regulations; (4) Notify the Environmental Program Manager of any animal carcasses found in the area; (5) Notify the Environmental Program Manager of any bears observed in the vicinity of the area.							X					
The helicopter aerial gunnery firing direction will avoid the Pilgrim site, a NHPA eligible prehistoric stone circle habitation site that occurs in the existing duded impact area and was mitigated in 1982, but continued avoidance is recommended.								X				
The helicopter aerial gunnery firing direction will avoid the Pilgrim site, a NHPA eligible prehistoric stone circle habitation site that occurs in the existing duded impact area and was mitigated in 1982, but continued avoidance is recommended.								X				
In case of inadvertent discovery of possible historical artifacts and features, human remains or burials - Implement SOP No. 5: <i>Unit personnel</i> : (1) Cease ground-disturbing activity, (2) Do not remove anything. Do not post photographs to social media, (3) Report any observations or discoveries immediately to the unit commander, (4) Secure the discovery location(s). <i>Unit Commander</i> : (1) Immediately notify the Range Control, (2) Await further instructions from the Range Control Officer, (3) Examine the location of the discovery to ensure that it has been properly secured. Take appropriate measures to further secure location if needed. (4) Coordinate with Range Control Officer on where activities can resume. (5) Give direction to the field troops, construction crew or non-MTARNG user regarding locations where training exercises or activity may continue.								X				

2

1 **Table 3-13 (Continued)**

BMPs and SOPs	Applicable Resource Area											
	Airspace	Land Use	Air Quality	Noise	Earth Resources	Water Resources	Biological Resources	Cultural Resources	Socioeconomics	Infrastructure & Utilities	Hazardous Waste & Materials	Safety & Occupational Health
Proposed BMPs (continued)												
Review future BLM land health assessments for potential adverse effects to upland health (soils, vegetation) related to helicopter gunnery training to identify whether additional BMPs or management measures are required to reduce impacts.					X							
In accordance with DoD Instruction 4715.14 (<i>Operational Range Assessments</i> , 2018), Fort Harrison (including LHFA) conducts periodic ORAs utilizing a conceptual site model (e.g., identifies MC sources, potential migration pathways, and off-range receptors) and develops a sampling strategy, when necessary. If a future ORA identifies a potential threat of MC migration off-range that may create a potential unacceptable risk to human health or the environment (e.g., water quality exceeds a regulatory standard), appropriate notifications would be made to regulatory authorities (EPA, MDEQ), and additional management practices would be implemented to prevent MC migration off-range. In the event of MC release off-range that exceeds an applicable regulatory standard, response would require additional regulatory notifications, management practices to prevent further MC migration off-range, and the release would be addressed, as appropriate.					X	X				X		

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1 **4.0 COMPARISON OF ALTERNATIVES AND CONCLUSIONS**

2 **4.1 Comparison of the Environmental Consequences of the Alternatives**

3 Table 4-1 presents a summary of potential effects and significance determinations for the
4 alternatives.

5 **Table 4-1. Comparison of Anticipated Environmental Effects of the Alternatives.**

Resource Issue Area	Alternative 1	Alternative 2	No Action
Resources Eliminated from Detailed Analysis			
3.1.1 Visual Effects and Aesthetic Resources	Negligible.	Negligible.	No effect.
Resources Analyzed in Detail			
3.2 Airspace	Less than significant effect.	Less than significant effect.	No effect.
3.3 Land Use	Less than significant effect.	Less than significant effect. OWG Road may constrain helicopter-convoy training, and uncertain future constraint from inactive private mining claim.	No effect.
3.4 Air Quality and Climate Change	Less than significant effect.	Less than significant effect.	No effect.
3.5 Noise	Less than significant effect.	Less than significant effect.	No effect.
3.6 Earth Resources	Less than significant effect on soils. No impact on topography, geology, Prime Farmlands or Farmlands of Statewide Importance.	Less than significant effect on soils. No effect on topography, geology, Prime Farmlands, or Farmlands of Statewide Importance.	No effect.
3.7 Water Resources	No effect on floodplains, wetlands, or Wild and Scenic Rivers. Less than significant effect on groundwater and surface waters.	No effect on floodplains, wetlands, or Wild and Scenic Rivers. Less than significant effect on groundwater and surface waters.	No effect.
3.8 Biological Resources	No effect on wetlands or special status species. Less than significant impact on vegetation, wildlife, or sensitive species.	No effect on wetlands or special status species. Less than significant impact on vegetation, wildlife, or sensitive species.	No effect.
3.9 Cultural Resources	No adverse effects to historic, architectural, archaeological or to traditional cultural properties.	No adverse effects to historic, architectural, archaeological or to traditional cultural properties.	No effect.
3.10 Socioeconomics, Environmental Justice, and the Protection of Children	Minor long-term beneficial impacts on local businesses. No effects on Environmental Justice populations or children.	Minor long-term beneficial impacts on local businesses. No effects on Environmental Justice populations or children.	No effect.
3.11 Infrastructure and Utilities	Less than significant effect.	Less than significant effect.	No effect.
3.12 Hazardous Materials Hazardous Waste	Less than significant effect.	Less than significant effect.	No effect.
3.13 Safety and Occupational Health	Less than significant effect.	Less than significant effect.	No effect.

1 **4.2 Conclusions**

2 The No Action Alternative would not satisfy the purpose of, and need for, the project as it would
3 not enable the AFGSC 40 HS airmen and MTARNG to meet essential aerial gunnery proficiency
4 training requirements.

5 As summarized in Table 4-1, impacts of the Proposed Action alternatives on all evaluated
6 resources would be less than significant. As impacts would be less than significant, no mitigation
7 would be required.

8 The Proposed Action alternatives would result in a minor benefit to socioeconomics. The effects
9 of the two action alternatives would be essentially the same, although Alternative 2 has the
10 potential to constrain proposed helicopter-convoy training by its location crossing OWG Road and
11 an existing mining claim (although currently inactive). Therefore Alternative 1 is the Preferred
12 Alternative.

13 The significance determinations considered the implementation of BMPs and SOPs as part of the
14 Proposed Action. Ongoing resource management programs at the LHTA (e.g., ICRMP, INRMP,
15 Land Management Assessments, ORA Program) also were considered in the context of minimizing
16 potential impacts of the Proposed Action on evaluated resources. Applicable BMPs and SOPs are
17 identified for each evaluated resource area in Section 3.0 and summarized in Section 3.15, *Summary*
18 *of Best Management Practices and Standard Operating Procedures*.

19 As noted in Section 3.9 and Section 3.15, The NRHP eligible Pilgrim Site (24BW675) will be
20 avoided during helicopter aerial gunnery training. Initially the Proposed Action included target
21 placement within the proposed West AGR, but that element was subsequently dropped and the
22 firing direction was limited from west to east at existing targets located in the southern portion of
23 the area, which is away from the Pilgrim Site. In addition, a 315-ft hill separates the target area from
24 the stone tipi rings within the Pilgrim Site. The USAF sent letters to MT SHPO and Tribal Nations
25 pursuant to Section 106 of the NHPA during initial scoping and has sent letters with completion
26 of this EA requesting concurrence with a determination of no adverse effect on historic properties
27 located within the APE of the Proposed Action, but not for LHTA as a whole (letters provided in
28 Appendix A.2).

29

1 **5.0 LIST OF PREPARERS**

2 This EA was prepared by Tierra Data, Inc. in association with Cardno Stantec, under contract with
 3 AEM Group, Inc. (James Finetti, Project Manager). This EA was prepared under contract with the
 4 USACE, Omaha District (Anthony Briganti, Project Manager). Names of preparers and their
 5 qualification are provided below.

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1 **6.0 PERSONS AND AGENCIES CONSULTED/COORDINATED**

2 The following USAF and cooperating agencies' staff were consulted/coordinated with during the
3 preparation of this document. The request inviting cooperating agency participation and response
4 correspondence is provided in Appendix A.1, *Cooperating Agency Request Example and Received*
5 *Correspondence*.

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- Joseph Bert, Team Manager, Environmental/Community Involvement/Correspondence/NAS Analytics (AJV-W250)
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- Greg Nairn, Aviation Technical Systems Specialist

Representatives to FAA Western Service Center

- Lt. Col. Wesley Skenfield, Department of the Air Force
- Travis Cornett, DoD
- SFC Jennifer Warren, Department of the Army

1 USAF consulted/coordinated with the following federal, state and local agencies or groups and
2 federally recognized Native American Tribal Nations during EA development scoping and
3 preparation of this EA. Example interagency and Tribal government-to-government scoping
4 letters, consultation letters, and requests for review/comment on the EA during the 30-day public
5 review period and received correspondence are included in Appendix A.2, *Agency/Tribal Nation*
6 *Coordination and Consultation Requests and Received Correspondence.*

Federal Agencies

- 8 • Bureau of Land Management, Butte Field Office, Montana
- 9 • Helena-Lewis and Clark National Forest, Forest Supervisor
- 10 • U.S. Army Corps of Engineers, Montana Region
- 11 • U.S. Environmental Protection Agency, Montana Operations Region 8
- 12 • U.S. Fish and Wildlife Service, Ecological Services, Montana Field Office

State Agencies

- 14 • Montana Department of Environmental Quality
- 15 • Montana Department of Fish, Wildlife & Parks
- 16 • Montana Department of Natural Resources & Conservation
- 17 • Montana State Historic Preservation Office

Local Agencies

- 19 • Broadwater County Community Development and Planning
- 20 • Broadwater County Development Corporation
- 21 • City of Townsend
- 22 • Lewis and Clark County Community Development & Planning Department

1 **Elected Officials**

- 2 • Broadwater County Commissioners

3 **Native American Tribes**

- Blackfeet Nation Tribe
- Chippewa Cree Tribe
- Confederated Salish & Kootenai Tribes
- Crow Tribe of Indians
- Fort Belknap Indian Community
- Fort Peck Assiniboine & Sioux Tribes
- Little Shell Chippewa Tribe
- Northern Cheyenne Tribe

4 The USAF also sent the same example agency letters during EA development scoping and request
5 for review/comment on the EA during the 30-day public review period (Appendix 2) to the
6 following local landowners, mining permit holders, or grazing allotment permit holders on LHTA;
7 received comments are included in Appendix A.3, *Received Public Comments*. A Notice of
8 Availability of the EA for public review was published in three local newspapers (Broadwater
9 Reporter, Great Falls Tribune, Helena Independent Record) (Appendix A.3); the received public
10 comments will be included in Appendix A.3 of the EA after the public review period.

11 **Local Landowners or Permit Holders**

- 12 • Graymont Western, Inc.
- 13 • F. Cougill
- 14 • L. McDonald
- 15 • Round Grove Ranch

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Appendix A

Correspondence and Received Comments

- A.1 Cooperating Agency Request Letter Example and Received Correspondence**
- A.2 Agency and Tribal Nation Coordination/Consultation Request Letters and Received Correspondence**
- A.3 Landowner/Permit Holder Coordination Example Letters, Published NOAs and Received Public Comments**

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A.1 Cooperating Agency Request Letter Example and Received Correspondence

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE GLOBAL STRIKE COMMAND

23 Jan 18

MEMORANDUM FOR DIRECTOR, AIRSPACE SERVICES (MR. MAURICE HOFFMAN)
AIR TRAFFIC ORGANIZATION, AJV-1

FROM: HQ AFGSC/A4C
841 Fairchild Avenue
Barksdale AFB LA 71110

SUBJECT: Cooperating Agency Request for Helicopter Aerial Gunnery Training at Limestone Hills Training Area, MT

1. The Air Force requests the Federal Aviation Administration's (FAA) formal participation as a cooperating agency in the preparation of an environmental assessment (EA) for the Helicopter Aerial Gunnery Training at Limestone Hills Training Area, MT, as prescribed in the President's Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Regulations, 40 CFR Part 1501.6, *Cooperating Agencies*.
2. The gunnery range is proposed to meet the 40th Helicopter Squadron (HS), the Air Force Security Forces (SFS), and the Air Force Global Strike Command (AFGSC)'s training mission requirements. The proposed action would build and operate a new aerial helicopter gunnery range, as well as establish restricted airspace within Lime Stone Hill Training Area's boundary. In addition to Air Force use, the National Guard Bureau has also expressed interest in using the range for training. Your agency has been identified as an agency that may have an interest in the proposed project as the owner of the gunnery range real property, jurisdiction by law and/or special expertise.
3. The Air Force requests that the FAA participate in various portions of the EA development. Specifically, the Air Force asks for your support as a cooperating agency by:
 - a. Participating in the scoping process
 - b. Assuming responsibility, upon request by the Air Force, for developing information and preparing analyses on issues for which the FAA has special expertise;
 - c. Making staff support available to enhance interdisciplinary review capability;
 - d. Responding, in writing, to this request.
4. The Air Force requires that the support of cooperating agency be timely to avoid unnecessary delays in the NEPA process. For further questions regarding this memo, our point of contact is Mr. Robert Brown, 341 CES/CEIE, DSN: 632-7099, robert.brown@us.af.mil.

A handwritten signature in black ink, appearing to read "B. C. Lee", is positioned above the typed name and title.

BRIAN C. LEE, GS-15, DAF
Senior Civil Engineer



NATIONAL GUARD BUREAU

111 SOUTH GEORGE MASON DRIVE
ARLINGTON, VA 22204-1373

ARNG-IEZ

16 APR 2018

MEMORANDUM FOR HQ AFGSC/A4C, (ATTN: Mr. Brian C. Lee), 841 Fairchild Avenue Barksdale AFB, Louisiana 71110-2269

SUBJECT: Agreement to Participate as a Cooperating Agency on an Environmental Assessment (EA) for the Proposed Construction and Operation of a Helicopter Aerial Gunnery Range at Limestone Hills Training Area (LHTA), Montana

1. The Army National Guard Installations & Environment Directorate (ARNG-IEZ) accepts the formal invitation from the United States Air Force (USAF) to participate as a cooperating agency in the preparation of an EA for the proposed construction and operation of a Helicopter Aerial Gunnery Range at the LHTA, Montana.
2. The ARNG-IEZ will provide the Air Force Global Strike Command (AFGSC) with the following support, consistent with 40 CFR §1501.6, *Cooperating Agencies*:
 - a. Timely review and comment on the draft EA, final EA, and all associated documents to reflect the views and concerns of the ARNG.
 - b. Assistance and guidance to Montana Army National Guard to support the AFGSC's scoping process.
 - c. Decision-making and approval authority for the National Guard Bureau's Finding of No Significant Impacts (FNSI) associated with the final EA.
3. As we work through this process, ARNG-IEZ will assist the Limestone Hills Training Area in the development of support agreements to address AFGSC's use of this ARNG training area.
4. Point of contact is CPT Wilford U. Griego, NEPA/ECOP Team Lead, ARNG-Installations & Environment, wilford.u.griego.mil@mail.mil, or 703-607-7990.

A handwritten signature in black ink, appearing to read "ERIK T. GORDON", is positioned above the typed name.

ERIK T. GORDON
COL, GS
I&E, Army National Guard



U.S. Department
of Transportation
**Federal Aviation
Administration**

January 25, 2018

Mr. Brian C. Lee
GS-15, DAF, Senior Civil Engineer
HQ AFGSC/A4C
841 Fairchild Avenue
Barksdale AFB, Louisiana 71110

Dear Mr. Lee:

Thank you for your memorandum of January 23, 2018 requesting that the Federal Aviation Administration (FAA) participate as a cooperating agency in the Air Force's Environmental Assessment (EA) for the Proposed Helicopter Aerial Gunnery Training at Limestone Hills Training Area, Montana, and for continuing to partner with the FAA on the analysis of Special Use Airspace (SUA) and the review of airspace impacts for this Air Force proposal in accordance with the National Environmental Policy Act (NEPA) and its implementing regulations at 40 C.F.R. Part 1500.

Since this Air Force proposal may involve the use of SUA, the FAA accepts the Air Force's request to act as a cooperating agency in accordance with the guidelines set forth in the Memorandum of Understanding (MOU) between the FAA and the Department of Defense (DoD) Concerning SUA Environmental Actions, dated October 4, 2005, and in accordance with the NEPA regulations at 40 C.F.R. Section 1501.6 regarding cooperating agencies, and with the FAA Order 7400.2L, Chapter 32, Appendix 8 – *FAA Special Use Airspace Environmental Processing Procedures*, which outlines the process by which the FAA works with the DoD as a cooperating agency on projects involving SUA.

FAA's participation in the development of the EA for this proposed action resides under the jurisdiction of the FAA's Western Service Center, Operations Support Group, at 1601 East Valley Road, Renton, Washington 98057. Mindy Wright is the Operations Support Group Manager for the Western Service Center who will assign an environmental specialist to coordinate NEPA document development and reviews. The Western Service Center's environmental specialist will be the focal point for matters related to the review of the Air Force's NEPA documentation for this project and any related airspace issues which will be tracked and coordinated by the FAA Headquarters Environmental Policy Group (AJV-114).

While Appendix 8 of the FAA Order 7400.2L indicates that the airspace review and environmental impacts review should be conducted in tandem as much as possible, they are still separate processes. Approval of either the aeronautical portion or the environmental impact analysis portion of the NEPA document does not automatically indicate approval of the entire proposal. Enclosed are Appendices 7 and 8 from the FAA Order 7400.2L for additional details.

A copy of the Air Force's request for FAA's cooperating agency status and this reply are being forwarded to Ms. Mindy Wright of the Western Service Center's Operations Support Group. Ms. Wright can be contacted at (425) 203-4500 or at mindy.wright@faa.gov for further review of the NEPA document(s).

For questions regarding NEPA document processing and coordination with the Service Center, please contact either me in the Airspace Policy Group (AJV-11) at (202) 267-1209, or Paula Miller (202) 267-7378 in AJV-114.

Sincerely,



Rodger A. Dean
Manager, Airspace Policy Group
Air Traffic Organization
Federal Aviation Administration

Enclosures:
Chapter 32, Appendices 7 and 8 from FAA Order 7400.2L

Appendix 7. FAA/DOD Memorandum of Understanding

MEMORANDUM OF UNDERSTANDING BETWEEN THE FEDERAL AVIATION ADMINISTRATION AND THE DEPARTMENT OF DEFENSE Concerning Environmental Review of Special Use Airspace Actions

I. Purpose and Scope.

The purpose of this Memorandum of Understanding (MOU) is to describe the guidelines for compliance with the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321) and the Council on Environmental Quality (CEQ) Regulations (40 CFR Parts 1500–1508) without unnecessary duplication of effort by the Federal Aviation Administration (FAA) and the Department of Defense (DOD). This MOU promotes early coordination between FAA and DOD during the environmental review process associated with the establishment, designation, and modification of Special Use Airspace (SUA); permits the application of “lead agency” and “cooperating agency” procedures to environmental assessments (EA) and findings of no significant impact as well as to environmental impact statements (EIS); and provides for the issuance of environmental documents for the development, designation, modification, and use of SUA.

II. Definitions.

The definitions contained in the CEQ Regulations (40 CFR Parts 1500–1508), FAA Orders, and relevant DOD and/or Service guidance are applicable to this MOU.

III. Designation of Lead and Cooperating Agency.

A. Introduction: The actions taken by DOD and FAA in the establishment, designation, or modification of SUA are subject to environmental impact evaluation pursuant to NEPA, as implemented by the CEQ regulations. The CEQ regulations encourage a lead agency be designated where related actions by several Federal agencies are involved.

The lead agency, in such instances, is responsible for consultation with other agencies, for coordination of appropriate environmental studies and evaluations, and for preparation of any NEPA-related determinations or documents in cooperation with other Federal agencies. Each agency recognizes the need to eliminate duplication. The cooperating agency assumes responsibility to independently review the environmental documents prepared by the lead agency and to assess whether the environmental documents meet the standards for adequacy under NEPA.

The DOD and the FAA will ensure appropriate consideration of all actions and impacts, including cumulative impacts. The resultant environmental documents of the lead agency are accepted and used in decisions and planning by all agencies involved with the proposed action.

B. Designation of lead agency. When the DOD proposes that the FAA establish, designate, or modify SUA, the DOD shall serve as the lead agency for the evaluation of environmental impacts and the preparation and

processing of environmental documents. However, when the FAA proposes the establishment, designation, or modification of SUA affecting DOD, the FAA shall serve as the lead agency for the evaluation of environmental impacts and the preparation and processing of environmental documents.

C. Designation of cooperating agency. When the DOD proposes that the FAA establish, designate, or modify SUA, the FAA shall act as a cooperating agency for the evaluation of environmental impacts. However, when the FAA proposes the establishment, designation, or modification of SUA affecting DOD, the DOD shall act as a cooperating agency for the evaluation of environmental impacts.

IV. Level of Environmental Documentation

A. General. Environmental documentation will be processed in accordance with applicable FAA Orders, and DOD and/or Service directives.

B. Categorical Exclusions. Where the actions of one agency are subject to a categorical exclusion (CATEX), and the actions of the other agency, with respect to the same SUA request, require an EA, the agency requiring the EA will prepare the appropriate environmental documentation. The applicability of a CATEX to parts of the actions of one of the agencies will be noted in the environmental document. The background information in support of CATEXs, identified by either DOD or FAA, shall be forwarded to the agency requiring preparation of the EA and may be used by either agency, as allowed by their respective regulations/directives.

When the categorical exclusion of the proponent is not listed in FAA Order 1050.1, Chapter 5, which would require FAA to prepare the environmental documentation; FAA budget constraints may delay processing and implementation of a proponent’s proposal.

V. General Guidance

A. Scheduling. Whenever an action under this MOU requires cooperation or coordination between the FAA and DOD, the two agencies shall agree on a schedule to ensure that required actions are taken on a timely basis. Each agency will notify the other of any difficulty with meeting scheduled deadlines or any need to revise the schedule.

B. Resolution of disagreements. If the FAA and DOD fail to reach agreement at the normal working level on any issue relating to environmental processing of SUA proposals, the matter will be referred, in ascending order, as outlined in the table below. At any time, the FAA’s Office of the Chief Counsel and the Office of the General Counsel of the Service Department involved shall be consulted for assistance with legal issues.

Equivalent Levels of Responsibility for Resolution of Disagreements	
FAA Administrator Vice President, Mission Support Services	Service Secretary Policy Board on Federal Aviation (PBFA) Principal Member
Director, System Operations & Safety	PBFA Alternate Principal Member
Manager, System Operations & Safety, Environmental Programs	PBFA Working Group Member

VI. Effective Date. This MOU shall become effective on the last signature date below and shall remain in effect until otherwise rescinded or modified by both signatory parties. If either party determines that it is necessary to amend this MOU, the other party shall be notified in writing of the specific change(s) desired, with proposed language and the reason(s) for the amendment. The proposed amendment shall become effective upon written agreement of both parties.

SIGNED: DATE: October 4, 2005

Carl P. McCullough Michael A. Cirillo Department of Defense Federal Aviation
Administration

FAA/DOD Memorandum of Understanding

Appendix 7-3

Appendix 8. FAA Special Use Airspace Environmental Processing Procedures

1. GENERAL.

This appendix provides guidance for FAA participation in the environmental review of proposed special use airspace (SUA) actions. The requirements in this appendix are in addition to the airspace proposal processing procedures contained in this order. The aeronautical and environmental processes for SUA proposals involve some overlap and the actions taken, or modifications made, to the proposal in one process may affect the actions required and/or the outcome of the other process.

2. BACKGROUND.

a. The SUA program is designed to accommodate national security requirements and military training activities wherein activities must be confined because of their nature, or wherein limitations are imposed upon aircraft operations.

b. SUA proposals are subject to both NEPA and aeronautical processing requirements. Since the FAA is the approval authority for SUA actions, the agency cannot make a final decision on any particular SUA proposal prior to the completion of the NEPA and aeronautical processing phases.

3. POLICIES.

The following policies apply to the processing of SUA proposals:

a. In addition to responsibilities of a cooperating agency as defined in 40 CFR Parts 1500–1508, FAA must:

1. Provide to DOD information and technical expertise within the special expertise and jurisdiction of the FAA as it relates to the proposed action.

2. Resolve or respond to environmental issues raised during the NEPA process relating to aeronautical

issues.

3. If an EA or EIS is required, identify and evaluate the environmental impacts relating to the proposal.

4. Furnish to DOD the names of organizations, agencies, or other parties the FAA believes may be

interested in the DOD proposal.

5. Notify and coordinate FAA proposed airspace actions with DOD components that may be affected.

b. FAA Participation in NEPA Meetings. The FAA must participate in scoping, interagency, and public NEPA meetings conducted by the proponent. The Air Traffic Service Center Director (or the Director's Designee) with responsibility for Cooperating Agency participation will determine FAA representation in the meetings. When FAA personnel participate in such meetings:

1. The audience must be informed that FAA participation is to provide aeronautical technical expertise and is not to be construed as FAA endorsement or support of any SUA proposal, and that no decisions concerning the proposal will be made at the meeting.

2. If requested, the FAA will provide an overview of the procedures followed by the FAA for processing SUA proposals.

3. The FAA will advise the audience of the Service Center handling the processing of the aeronautical proposal. Additionally, the audience should be advised that written comments on the aeronautical aspects of the proposal should be submitted during the public comment period associated with the aeronautical circularization.

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c. **FAA NEPA Compliance Options.** In accordance with CEQ regulations, the FAA must participate in the NEPA process as a cooperating agency. The FAA may adopt an EA or EIS prepared by DOD if the FAA independently evaluates the information in the document and takes full responsibility for the scope and content that addresses FAA actions. Where the proponent's NEPA documentation is insufficient, additional NEPA documentation will be required before the FAA can make a final decision. The FAA may ask the applicant to correct any deficiencies and re-submit the assessment if the FAA is not satisfied (see FAA Order 1050.1, "Environmental Impacts: Policies and Procedures," paragraphs 2-2.1 and 2-2.2). The FAA must issue its own FONSI and/or ROD. See FAA Order 1050.1, paragraph 8-2.

d. **Time Limits for Final Environmental Impact Statements (EISs).** If three years have expired following the approval of a final EIS, and major steps towards implementation have not commenced, a written reevaluation of the adequacy, accuracy, and validity of the final EIS must be prepared by the proponent. Written reevaluations must comply with the requirements set forth in FAA Order 1050.1, paragraph 9-2. The proponent may also elect to prepare new documentation if circumstances dictate.

4. LEAD AND COOPERATING AGENCIES.

The FAA/DOD MOU provides for the application of "lead agency" and "cooperating agency" responsibilities in the SUA environmental process. When the DOD is the proponent, the DOD will serve as lead agency for the evaluation of SUA environmental impacts and the preparation and processing of environmental documents.

a. The DOD, as lead agency, will determine whether an SUA proposal:

1. Is a major action significantly affecting the quality of the human environment requiring an environmental impact statement (EIS);

2. Requires an environmental assessment (EA); or,

3. Is categorically excluded in accordance with FAA Order 1050.1, paragraphs 5-6.1 through 5-6.5.

These determinations must be coordinated with the FAA at the earliest possible time to prevent delay in preparation of any required NEPA documentation.

b. The appropriate FAA Service Center, as identified in response to a request to participate, will act as the point of contact for Cooperating Agency status during the evaluation of the proposal's environmental study. The FAA may use documents prepared by the proponent in its environmental process, provided the FAA has independently reviewed the scope and content of the documentation and assumes responsibility as described in subparagraph 3c, above. (See FAA Order 1050.1, paragraph 8-2.)

c. Where the actions of one agency are subject to a categorical exclusion and the actions of the other agency with respect to the same SUA is not subject to a categorical exclusion, then the other agency will prepare the appropriate environmental documentation. The applicability of a categorical exclusion to parts of the action will be noted in the environmental document. FAA budget constraints may delay processing and implementation of a proponent's proposal when the categorical exclusion of the proponent is not listed in FAA Order 1050.1, chapter 5.

5. SUA ENVIRONMENTAL CONCERNS.

In addition to other environmental considerations required under NEPA, CEQ regulations, and FAA Order 1050.1, the following are items the FAA expects to be considered, if applicable, in SUA environmental documents. This list should not be considered all-inclusive:

a. **Other Times by NOTAM.** When specified in the proposal, this provision permits access to the SUA area 24 hours per day. The environmental document must address the potential impact for use of the SUA during the "other times by NOTAM" period.

b. **Flares and Chaff.** Address the potential impact of flare and/or chaff use when this activity is specified in the SUA proposal.

- c. "No Action Alternative." Include discussion of this alternative.
- d. Coastal Zone Consistency Determination. Include if applicable.
- e. Proposed Airspace Parameters. The environmental analysis in the EA or EIS for the SUA proposal must match the airspace parameters contained in the SUA proposal (for example, boundaries, altitudes, times of use, and type and extent of activities).
- f. Non-participating Aircraft. Include a discussion of the effect of the SUA proposed action on non-participating aircraft, if applicable.
- g. Mitigation. As defined in CEQ regulations, mitigation includes:
 - 1. Avoiding the impact altogether by not taking a certain action or parts of an action;
 - 2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
 - 3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
 - 4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
 - 5. Compensating for the impact by replacing or providing substitute resources or environments.
- h. Cumulative Impacts. Cumulative impacts on the environment are those that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or Non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.
- i. Consultation. Consultation must be conducted in accordance with the National Historic Preservation Act, Section 106; the Endangered Species Act, Section 7; FAA Order 1210.20. "American Indian and Alaska Native Tribal Consultation Policy and Procedures," and other applicable laws, regulations, and Department of Transportation and FAA Orders.

6. INTERAGENCY SUA ENVIRONMENTAL PLANNING MEETING.

To facilitate early coordination between the FAA and the DOD proponent, the DOD proponent must make a request to the FAA for Cooperating Agency status as soon as the proponent decides to initiate the environmental process.

When the FAA is invited to participate as a cooperating agency, it is suggested that a planning meeting be held as soon as practical. The agenda of the meeting should be based on the type of SUA proposal, the extent of the planned environmental analysis.

- a. The appropriate Regional Military Representative (Milrep) will coordinate the proponent's request for a planning meeting with the appropriate Service Center Director (or his/her designee). Representatives of the FAA, the proponent, and the proponent's NEPA consultant, if any, should be invited to participate by the military representative.
- b. The meeting should include discussion of pertinent issues, including but not limited to:
 - 1. The type of SUA proposal to be submitted,
 - 2. Identification of points-of-contact and establishment of liaison between concerned parties,
 - 3. Determination of the appropriate type of environmental documentation,
 - 4. The appropriate extent of FAA participation,
 - 5. Identification of potentially significant impacts,
 - 6. Consideration of the need for scoping, interagency, and/or other public meetings,
 - 7. Setting processing milestones,
 - 8. Clarifying any questions the proponent may have regarding the FAA's requirements for the environmental analysis and documentation; and,
 - 9. Exchange of information on any environmental and/or aeronautical concerns in the area of potential

effect.

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c. At the meeting, the Service Center airspace representative should:

1. Brief attendees on the airspace processing procedures in Part 5 of this order that will apply to the SUA proposal.

2. Encourage the proponent to work proactively with aviation user groups and individuals to address aeronautical issues as they arise. This should ensure early consideration of aeronautical mitigation.

d. At the meeting, the Service Center environmental representative should:

1. Brief attendees on the environmental processing procedures in FAA Order 1050.1 and Chapter 32 of this order that apply to the SUA proposal.

2. Encourage the proponent to work proactively with other Federal, State, and Local agencies; Tribal Governments; and the public on environmental concerns as they arise. This will ensure that mitigation to address environmental concerns is considered early in the process.

3. Advise attendees that the FAA cannot render a final determination on the environmental effects of the SUA proposal until after completion of the proponent's environmental process, the FAA's aeronautical process, the FAA's independent review of the proponent's environmental documentation, and any additional environmental analyses conducted by the FAA.

e. The meeting format may be tailored to the needs of the specific proposal. It may be conducted by a teleconference, if permitted by the scope of the proposal or if necessary due to funding or other constraints.

f. Additional meetings should be scheduled as needed to discuss changes, revise milestones, share updated environmental and/or aeronautical impact data or public comments, discuss alteration of the proposal in order to mitigate valid aeronautical objections, incorporate agreements by the proponent to mitigate environmental impacts, or discuss other matters.

7. RELATIONSHIPS AND TIMING OF ENVIRONMENTAL AND AERONAUTICAL PROCESSES.

a. SUA proposals are subject to both environmental and aeronautical processing requirements. These processes are separate but closely related. Any actions by a proponent to mitigate environmental impacts, and/or changes to the proposal to address valid aeronautical objections, may alter the type and extent of environmental analysis required.

b. Normally, the SUA proponent will initiate the environmental process well in advance of submitting an actual SUA proposal to the FAA for review. The appropriate Milrep should inform the appropriate Service Center as soon as possible after receiving notice that a DOD proponent plans to initiate the environmental study process. A letter requesting FAA participation in the environmental study process as a Cooperating Agency should be forwarded to the Director of the Office of Mission Support, Airspace Services, at FAA Headquarters.

c. Proponents should submit SUA proposals to the FAA Service Center prior to completion of the NEPA process. This will enable the FAA to initiate the aeronautical processing phase prior to completion of any required NEPA documents, which will facilitate the earlier consideration of aeronautical factors that may result in modification of the proposal and may affect the environmental analysis. In all cases, the FAA will defer a final decision on the proposal until the required NEPA process is completed.

d. During the aeronautical processing of a proposal with alternatives, only the alternative submitted to the FAA in accordance with Part 5. of this order will be subjected to the aeronautical process described in this order (such as non-rulemaking circularization or Notice of Proposed Rulemaking (NPRM)) by the FAA. However, all reasonable alternatives, including the alternative of no action, must be evaluated in the environmental document.

8. SERVICE CENTER PROCEDURES.

a. Normally, FAA participation in the SUA environmental process will begin at the headquarters level with a request by the proponent of an SUA proposal for the FAA to participate in the process as a Cooperating Agency. However, the FAA point of contact will generally be a representative from the Air Traffic Organization at the Service Center level. Close coordination is required between the Service Center Airspace Specialist and Environmental Specialist throughout the process. This will ensure that FAA concerns are provided to the proponent for consideration, and that NEPA and DOT/FAA environmental requirements are met.

b. Once notified of the initiation of the environmental process by the SUA proponent, the Service Center environmental specialist should request that the proponent provide a minimum of five copies of all preliminary, draft, and final environmental documents for FAA review. The Service Center environmental specialist will forward three copies of the documents to FAA Headquarters (Mission Support, Airspace Services, and Airspace Policy Group).

c. To the extent practicable, the Service Center should provide FAA representation at pre-scoping, scoping, and/or other NEPA public meetings concerning the SUA proposal. If requested by the Service Center, representation from the headquarters Airspace Policy and/or Airspace Management Groups will be provided.

d. Service Center Airspace Specialist Responsibilities:

1. Coordinate requests from the Milrep to schedule an interagency SUA environmental planning meeting with the Service Center Director (or the Director's designee) and the environmental specialist.

2. Participate in interagency SUA environmental planning meetings as directed, by the Service Center Director (or the Director's designee). (See paragraph 6, above.)

3. Participate in pre-scoping, scoping and/or other public meetings as directed.

4. Provide information and assistance as required to the proponent regarding the aeronautical aspects of the proposal and processing procedures under Part 5 of this order.

5. Coordinate with and assist the environmental specialist in the review of environmental documents to ensure consideration of pertinent aeronautical issues. Compare the SUA proposal parameters with the analysis in the environmental document to ensure that the analysis is consistent with the proponent's airspace request. Provide corrections and/or comments to the environmental specialist for transmittal to the proponent.

6. Maintain liaison with the proponent's environmental team to determine if any comments received pertain to aeronautical issues; provide information regarding the aeronautical aspects of alternatives developed by the proponent.

7. Provide to the proponent aeronautical impact information obtained from the formal aeronautical study conducted in accordance with Chapter 21 of this order and during the aeronautical public comment period. As required, negotiate with the proponent to modify the proposal to mitigate valid aeronautical objections or adverse aeronautical impact.

8. Upon receipt of the SUA proposal, initiate processing in accordance with Part 5 of this order.

(a). Determine if an Informal Airspace Meeting will be held in accordance with the procedures in Part 5. of this order. If a meeting is planned, request participation by the proponent to explain and answer questions about the proposal.

NOTE:

Informal Airspace Meetings are optional for SUA proposals. Normally, they are held only if the Service Center determines that there is a need to obtain additional aeronautical facts and information relevant to the SUA proposal under study. Informal airspace meetings may also be held based on known or anticipated controversy of the proposal.

(b). Complete the appropriate rulemaking or non-rulemaking processing requirements as defined in Part 5 of this order.

9. In consultation with the Service Center environmental specialist and the Regional Counsel, review the proponent's decision document to ensure that it is consistent with any modifications made to the SUA proposal, if applicable, and that any agreed upon aeronautical mitigation measures are included.

10. If the Service Center airspace specialist recommends approval of the SUA proposal, submit the completed proposal package to the Airspace Policy Group for final review and determination. The Airspace and Rules Team will receive the SUA package from the Airspace Policy Group for review of any environmental documentation.

e. Service Center Environmental Specialist Responsibilities.

1. Coordinate as required with the Service Center Airspace Specialist regarding SUA matters.

2. Notify the Airspace Policy Group when informed of scheduled interagency SUA environmental planning meetings. Participate in such meetings as directed by the Service Center Director (or the Director's designee) (see paragraph 6 above).

3. Provide information as required to the SUA proponent regarding FAA environmental requirements and concerns.

4. In coordination with the Service Center Airspace Specialist, review the SUA proponent's environmental documents to ensure that applicable impact categories and any specific FAA environmental concerns are considered. After each review, forward any corrections and FAA comments to the proponent.

5. Review the proponent's final document to assess whether it meets the standards for an adequate document under NEPA, the CEQ regulations, DOT Order 5610.1C, and FAA Order 1050.1. Following consultation with the Regional Counsel, determine if the FAA considers the document adequate for adoption. Provide documentation of the results of this review and a recommendation regarding FAA adoption to the Airspace Policy Group.

6. If the proponent takes the position that a categorical exclusion (CATEX) applies to an SUA proposal: (a). Determine if FAA Order 1050.1, Chapter 5, Categorical Exclusions, lists the CATEX. Verify

that no extraordinary circumstances exist that would preclude use of the CATEX for the SUA proposal. Determine what additional environmental analysis would be required if the CATEX is not listed.

(b). Document the results of the review in subparagraph (a) above, and submit the findings to the Airspace Policy Group.

7. Retain the administrative record in accordance with FAA retention guidelines. If DOD is the lead agency for the proposed project, a copy of relevant documents in its administrative record should be obtained and included in the FAA record.

9. MISSION SUPPORT, AIRSPACE SERVICES, AIRSPACE MANAGEMENT GROUP PROCEDURES:

a. Review the proponent's environmental document(s) to verify that the analysis matches the parameters specified in the SUA aeronautical proposal and that any required environmental issues are considered. Conduct this review simultaneously with the Service Center's review as described in paragraph 8. Provide corrections and identify deficiencies to the Service Center Airspace and/or Environmental Specialist for transmittal to the proponent.

b. The Airspace Policy Group must review the proponent's environmental documents for content and compliance with NEPA, CEQ regulations, and applicable DOT and FAA Orders. Coordinate with the Airspace Policy Group as needed, regarding concerns, corrections, or other comments on aeronautical impacts. Provide FAA Headquarters comments to the Service Center Environmental Specialist for transmittal to the proponent.

c. Provide concurrent assistance and policy guidance regarding SUA environmental processing to the Service Center environmental specialist upon request.

d. Coordinate with the Airspace Policy Group as needed for additional information concerning the SUA proposal and aeronautical impact matters.

e. Review the proponent's Final EIS or EA/Finding of No Significant Impact (FONSI), and the Service Center environmental specialists' comments regarding compliance with NEPA, CEQ, and applicable DOT and FAA requirements. Determine if the document is suitable for adoption by the FAA. Prepare FAA adoption memorandum and provide a copy to the Airspace Policy Group for inclusion in the airspace docket or case file.

f. Review the proponent's and Service Center environmental specialist's comments regarding applicability of a CATEX. If the CATEX does not apply, determine if additional environmental analysis is required. Consider if CATEX documentation is required in accordance with FAA Order 1050.1, chapter 5. Provide a copy of the determination to Airspace Policy Group for inclusion in the airspace docket or case file.

g. As appropriate, coordinate with the FAA Office of the Chief Counsel, Airports and Environmental Law Division. See FAA Order 1050.1, paragraphs 2-2.1b(2)(b); 4-3.3, 5-2a(2) and b(10); 5-3e; 6-4a; 7-1.2b; 7-1.2d(3)(c); 8-2c; 8-7; 9-2e; 10-2b, d, e; 10-3b; 10-4a(2); 10-6a(2), b; 11-3; 11-4a, b.

h. Prepare a separate FAA FONSI and/or Record of Decision (ROD) if circumstances dictate. Provide a copy to the Airspace Policy Group for inclusion in the airspace docket or case file.

i. In the case of rulemaking SUA actions, assist the Airspace Policy Group by preparing the statement to be included in the ENVIRONMENTAL REVIEW sections of the NPRM and the Final Rule. In the case of non-rulemaking SUA actions, prepare the FONSI/ROD for the airspace case file for the non-rulemaking documentation and notify the public in accordance with FAA Order 1050.1, paragraph 6-2.2b.

10. MISSION SUPPORT, AIRSPACE SERVICES, AIRSPACE POLICY GROUP:

a. Upon receipt at headquarters, review the proponent's environmental document(s) from an airspace/aeronautical impact perspective to verify that the environmental analysis matches the parameters specified in the SUA proposal and that any required aeronautical issues are considered. Conduct this review simultaneously with the Service Center aeronautical review as described in paragraph 8 above.

b. Ensure that the Service Center airspace specialist provided a copy of the proposal, including any environmental documentation, to the Service Center environmental specialist.

c. Coordinate with the Airspace Policy Group, as required, to discuss the environmental analysis of the proposal.

d. Submit all SUA NPRMs, final rules, and non-rulemaking airspace determinations to the Airspace Management Group for coordination prior to issuance.

e. Insert the following statement in the environmental review section of SUA NPRMs:

"This proposal will be subject to appropriate environmental impact analysis by the FAA prior to any final FAA regulatory action."

f. Consult with the Airspace Policy Group to draft the text for the ENVIRONMENTAL REVIEW section for SUA final rules. In the case of rulemaking SUA actions, assist the Airspace Policy Group by preparing the statement to be included in the ENVIRONMENTAL REVIEW sections of the NPRM and the Final Rule. In the case of non-rulemaking SUA actions, prepare the FONSI/ROD for the airspace case file for the non-rulemaking documentation and notify the public in accordance with FAA Order 1050.1, paragraph 6-2.2b.

Note:

For “Direct-to-Final-Rule” actions which are categorically excluded under FAA Order 1050.1, the following statement may be inserted in the environmental review section of the Final Rule:

“This action is categorically excluded under FAA Order 1050.1, “Environmental Impacts: Policies and Procedures,” Paragraph (insert Paragraph Number). Therefore, this action is not subject to further environmental review.”

g. Coordinate with the Airspace Policy Group to determine the status of FAA adoption of the proponent’s environmental document(s). Obtain a copy of FAA adoption documentation for inclusion in the rulemaking docket file or non-rulemaking airspace case file.

h. Complete final airspace processing requirements in accordance with Part 5 of this order, including the final determination on the airspace request. In all cases the FAA must not issue a final decision until after the NEPA process is completed; the FAA has adopted the proponent’s EIS or EA, as applicable; and any additional FAA environmental requirements are satisfied.



DEPARTMENTS OF THE ARMY AND AIR FORCE

JOINT FORCE HEADQUARTERS - MONTANA

1956 Mt Majo Street (P.O. Box 4789)
Fort Harrison, Montana 59636-4789

NGMT-JFQ-AG

1 March 2018

MEMORANDUM FOR HQ AFGSC/A4C, 841 Fairchild Avenue, Barksdale AFB, LA 71110

SUBJECT: Cooperating Agency Request, Environmental Assessment (EA) for Helicopter Aerial Gunnery Training at Limestone Hills Training Area, MT

1. The Montana Army National Guard (MTARNG) has received your request to for us to be a cooperating agency in the United States Air Force (USAF) National Environmental Policy Act (NEPA) Environmental Assessment (EA) regarding the proposed USAF action of using Limestone Hills Training Area for aerial helicopter gunnery in order to meet the Air Force Global Strike Command (AFGSC) training mission requirements.
2. In response to the request in your memorandum dated 20 February 2018, the MTARNG will:
 - a. Continue to participate in the scoping process for the USAF NEPA EA.
 - b. Continue to provide information and prepare and conduct analyses on issues for which the MTARNG has special expertise but will not fund any current or additional studies as part of this federal action.
 - c. Continue to support the interdisciplinary reviews and provide specific comments related to those reviews in accordance with the requirements of 40 CFR 1503.3, and will inform USAF, or its agents, of whether such reviews and comments can be accomplished within the timelines requested by USAF.
 - d. Provide this memorandum as an affirmative written response for the request of being a cooperating agency.
3. POC for this memorandum is Col Beverly Schneider, State Staff Judge Advocate, 406.324.3325, beverly.g.schneider.mil@mail.mil. POC for environmental actions on MTARNG property is Ms. Rebekah Myers, 406.324.3087, rebekah.l.myers2.nfg@mail.mil.

A handwritten signature in black ink, appearing to read "M. Quinn".

MATTHEW T. QUINN

MG, MTNG

Director, Department of Military Affairs
The Adjutant General

A.2 Agency and Tribal Nation Coordination/Consultation Request Letters and Received Correspondence

A.2.1 Agency and Tribal Nation EA Development Scoping Coordination Letters and Received Correspondence

A.2.2 Agency and Tribal Nation EA Review and Consultation Request Letters and Received Correspondence

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Appendix Table A.2-1. List of Agencies and Tribal Nations Contacted during EA Development and Review.

Agency/Tribal Nation	Type	Mailing Address	Responses to October 2020 EA Scoping Letter (Appendix A.2.1)	Responses to November 2022 EA Review/Consultation Letters (Appendix A.2.2)	Responses to Follow-Up Review Request (Appendix A.2.2)
Bureau of Land Management	Federal	Mr. Scott Haight; Butte Field Office – BLM; 106 N. Parkmont, Butte, MT 59701			
Helena-Lewis and Clark National Forest	Federal	Mr. Bill Avery, Forest Supervisor; Helena-Lewis and Clark National Forest; 2880 Skyway Drive, Helena, MT 59602			
U.S. Army Corps of Engineers	Federal	U.S. Army Corps of Engineers, Montana Region; 10 West 15th Street, Suite 2200, Helena, MT 59626	X		
U.S. Environmental Protection Agency	Federal	U.S. Environmental Protection Agency, Montana Operations Region 8; 10 West 15th Street, Suite 3200, Helena, MT 59626			
U.S. Fish and Wildlife Service	Federal	U.S. Fish and Wildlife Service, Ecological Services, Montana Field Office; 585 Shepard Way, Suite 1, Helena, MT 59601	X		
Blackfoot Nation Tribe	Federal Tribal Nations	Mr. Harry Barnes, Chairman; Blackfoot Nation Tribe; PO Box 850, All Chiefs Square, Browning, MT 59417			
Chippewa Cree Tribe	Federal Tribal Nations	Mr. Harlan Baker, Chairman; Chippewa Cree Tribe; PO Box 544; Box Elder, MT 59521			
Confederated Salish & Kootenai Tribes	Federal Tribal Nations	Mr. Ron Trahan, Chairman; Confederated Salish & Kootenai Tribes; PO Box 278, 42487 Complex Blvd., Pablo, MT 59855			
The Crow Tribe of Indians	Federal Tribal Nations	Mr. Alvin Not Afraid, Jr., Chairman; The Crow Tribe of Indians; PO Box 159, Bacheeitch Avenue, Crow Agency, MT 59022			
Fort Belknap Indian Community	Federal Tribal Nations	Mr. Andrew Werk Jr., President; Fort Belknap Indian Community; 656 Agency Main Street, Harlem, MT 59526			
Fort Peck Assiniboine & Sioux Tribes	Federal Tribal Nations	Mr. Floyd Azure, Chairman; Fort Peck Assiniboine & Sioux Tribes, PO Box 1027, 501 Medicine Bear Road, Poplar, MT 59255			

Agency/Tribal Nation	Type	Mailing Address	Responses to October 2020 EA Scoping Letter (Appendix A.2.1)	Responses to November 2022 EA Review/Consultation Letters (Appendix A.2.2)	Responses to Follow-Up Review Request (Appendix A.2.2)
Little Shell Chippewa Tribe	Federal Tribal Nations	Mr. Gerald Gray, Chairman; Little Shell Chippewa Tribe; 625 Central Avenue West, Great Falls, MT 59401			
Northern Cheyenne Tribe	Federal Tribal Nations	Mr. L. Jace KILLSBACK, President; Northern Cheyenne Tribe; PO Box 128, 600 Cheyenne Avenue, Lame Deer, MT 59043			
Montana Department of Environmental Quality	State	Mr. Shaun McGrath, Director; Montana Department of Environmental Quality; 1520 East Sixth Avenue, Helena, MT 59620-0901			
Montana Department of Fish, Wildlife & Parks	State	Ms. Martha Williams, Director; Montana Department of Fish, Wildlife & Parks; 1420 East Sixth Avenue, Helena, MT 59620-0701	X		
Montana Department of Natural Resources & Conservation	State	Mr. John Tubbs, Director; Montana Department of Natural Resources & Conservation; 1625 11th Ave., Helena, MT 59601			
Montana State Historic Preservation Office	State	Mr. Peter Brown, Acting State Historic Preservation Officer; Montana State Historic Preservation Office; 1301 East Lockett Avenue, Helena, MT 9620	X		
Broadwater County Community Development & Planning	County	Broadwater County Community Development and Planning; 515 Broadway Street, Townsend, MT 59644	X		
Broadwater County Development Corporation	County	Broadwater County, Development Corporation; P.O. Box 698, Townsend, MT 59644			
Lewis & Clark County Community Development & Planning Department	County	Lewis and Clark County, Community Development & Planning Department; 316 N. Park Avenue, Helena, MT 59623			
City of Townsend	City	City of Townsend; 110 Broadway Street, Townsend, MT 59644			

Note: X = Received Response

Note: This table will be updated after the 30-day public review period in the final EA

A.2.1 Agency and Tribal Nation EA Development Scoping Coordination Letters and Received Correspondence

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**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 341ST MISSILE WING (AFGSC)**

Mr. John W. Hale, PE
Deputy Base Civil Engineer, 341st Civil Engineer Squadron
39 78th Street North
Malmstrom AFB, MT 59402-7536

Mr. Scott Haight
Butte Field Office – BLM
106 N. Parkmont, Butte, MT 59701

Dear Mr. Haight,

The purpose of this letter is to give you an opportunity to review and comment on a proposed action in which the BLM Butte Field Office may have an interest pursuant to NEPA, CEQ regs, 32 CFR 989. The United States Air Force (USAF), in cooperation with the National Guard Bureau (NGB), Montana Army National Guard (MTARNG), and the Federal Aviation Administration (FAA), is preparing an Environmental Assessment (EA) to analyze the potential environmental consequences associated with the USAF proposal to construct and operate a new helicopter aerial gunnery range within the MTARNG Limestone Hills Training Area (LHTA), Montana. An associated element of the proposed action is to establish restricted airspace over the LHTA to allow for the implementation of the proposed action. The LHTA is located approximately 33 miles southeast of Helena and 82 miles south of Great Falls, Montana. Attached is a vicinity map of Malmstrom AFB and LHTA.

The USAF proposes to construct and operate the new LHTA aerial gunnery range to meet training mission requirements for the 40th Helicopter Squadron (40 HS), the 341st Missile Wing Security Forces Squadron (341 SFS), and Air Force Global Strike Command (AFGSC). A key requirement is that the new range must be located within one (1) flight duty period¹ of the squadron's home station. Attached is a map showing proposed flight routes between Malmstrom AFB and LHTA as well as Helena for refueling. Flights between Helena and LHTA would be within the military overflight awareness area recognized in the 2014 Joint Land Use Study². This EA will, as required by laws and regulations, consider the potential environmental impacts of this proposed action.³

The site of the proposed USAF aerial gunnery training range would be in an existing ground-based live fire military training area within the boundaries of the LHTA. The 40 HS would train using UH-1N (Twin Huey) helicopters and the MH-139 (Grey Wolf) helicopter airframe when acquired. Live-fire operations for the AFGSC would include up to 80 sorties per year (individual aerial gunnery practice runs), resulting in up to 320,000 rounds fired per year. The range would be used for both day and night training. All firing would be contained within a weapons danger zone within the existing live fire training boundary.

¹ A Flight Duty Period begins when the aircrew reports for flying duties and ends when the aircrew lands and shuts down the aircraft; it is a maximum of 12 hours for rotary wing aircraft without auto flight control system (AFI 11-202V3_AFGM2018-01, *General Flight Rules*).

² The 2014 Joint Land Use Study was a cooperative land use planning effort involving local communities, state and federal agencies, property owners and the Montana National Guard to develop and implement strategies for reducing the impacts of incompatible activities on the community and military operations.

³ National Environmental Policy Act (NEPA) of 1969 [42 U.S.C. § 4321 et seq.]; Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA 40 CFR Parts 1500-1508; and Air Force Instruction (AFI) 32-7061, Environmental Impact Analysis Process (32 CFR Part 989).

DETER...ASSURE...STRIKE!

Once annually, Malmstrom AFB would schedule integrated training by the 40 HS and 341 SFS. The training exercise would include off-base convoy movement of up to 15 vehicles (mix of Humvees, BearCat armored personnel carriers, and general-purpose vehicles) on existing roads between the AFB and the LHTA with helicopter overflight surveillance while enroute. While at the LHTA, the convoy would use existing local roads, park along a designated portion of roadway, and training exercises would include tactical communication between the aircrew and SFS personnel as well as ground-based dry-fire training; no live-fire training would occur.

Once completed, the proposed USAF aerial gunnery range also would be utilized for day and night training by the MTARNG, who operates the LHTA. The MTARNG already uses the military overflight awareness area when flying helicopters between their base in Helena and the LHTA for training without aerial gunnery and would use the same flight paths to and from the LHTA for the live fire aerial gunnery training. It is estimated that MTARNG aircrews would conduct up to 80 sorties per year using UH-60 (Black Hawk) and CH-47 (Chinook) helicopter airframes, resulting in up to 300,000 rounds fired per year.

We invite you to submit any comments that you believe would assist us in developing the EA. In order to give your comments, concerns, and suggestions full consideration, we would appreciate receiving your response within 30 days of receipt of this letter.

Written comments should be addressed to Mr. Rob Brown, NEPA Program Manager, 341 CES/CENPL, 39 78th Street North, Malmstrom AFB, MT 59402-7536, or e-mailed to robert.brown.124@us.af.mil. Mr. Brown can be reached at (406) 731-7099 if you have any questions or need additional information pertaining to this correspondence.

Sincerely,

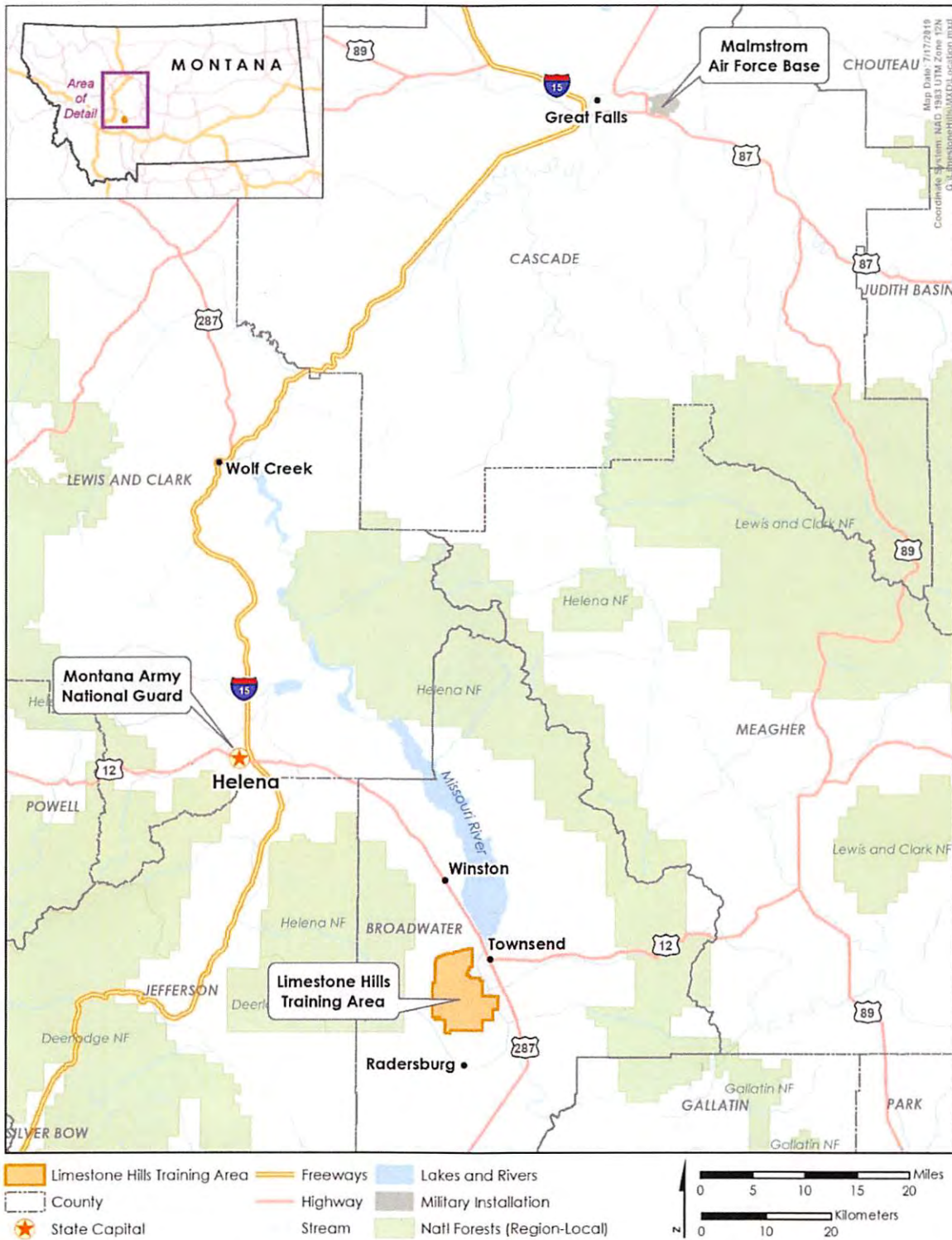
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W.1006835933 Date: 2020.10.21 09:20:54
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JOHN W. HALE, P.E., Deputy Base Civil
Engineer, 341st Civil Engineer Squadron

Attachments:

1. Vicinity Map
2. Flight Route Map

DETER...ASSURE...STRIKE!



Vicinity Map for Malmstrom AFB and Limestone Hills Training Area



**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 341st MISSILE WING (AFGSC)**

Mr. Tony Lucas, Installation Tribal Liaison Officer
341st Civil Engineer Squadron
39 78th Street North
Malmstrom AFB MT 59402-7536

Mr. Timothy Davis, Chairman
Blackfeet Tribe
PO Box 850, 640 All Chiefs Road – Tribal Headquarters, Browning, MT 59417

Cc: Mr. John Murray, Tribal Historic Preservation Office
Blackfeet Tribe
PO Box 850, 660 All Chiefs Road – Tribal Headquarters, Browning, MT 59417

Honorable Chairman Davis,

The purpose of this letter is twofold: to give you an opportunity to review and comment on a proposed action in which the Blackfeet Nation Tribe may have an interest; and to invite your Tribe to participate in government-to-government consultation with Malmstrom Air Force Base (AFB) and the Montana Army National Guard (MTARNG) pursuant to Department of Defense Instruction 4710.02, *Interactions with Federally Recognized Tribes*, AFI 190-2002, *Air Force Interactions with Federally Recognized Tribes*, and Section 106 of the National Historic Preservation Act (NHPA).¹

The United States Air Force (USAF), in cooperation with the National Guard Bureau (NGB), MTARNG, and the Federal Aviation Administration (FAA), is preparing an Environmental Assessment (EA) to analyze the potential environmental consequences associated with the USAF proposal to construct and operate a new helicopter aerial gunnery range within the MTARNG Limestone Hills Training Area (LHTA), Montana. An associated element of the proposed action is to establish restricted airspace over the LHTA to allow for the implementation of the proposed action. The LHTA is located approximately 33 miles southeast of Helena and 82 miles south of Great Falls, Montana. Attached is a vicinity map of Malmstrom AFB and LHTA.

The USAF proposes to construct and operate the new LHTA aerial gunnery range to meet training mission requirements for the 40th Helicopter Squadron (40 HS), the 341st Missile Wing Security Forces Squadron (341 SFS), and Air Force Global Strike Command (AFGSC). A key requirement is that the new range must be located within one (1) flight duty period of the squadron's home station.² Attached is a map showing proposed flight routes between Malmstrom AFB and LHTA as well as Helena for refueling. Flights between Helena and LHTA would be within the military overflight awareness area recognized in

¹ 54 U.S.C. § 306108, as implemented by 36 CFR Part 800.

² A Flight Duty Period begins when the aircrew reports for flying duties and ends when the aircrew lands and shuts down the aircraft; it is a maximum of 12 hours for rotary wing aircraft without auto flight control system (AFI 11-202V3_AFGM2018-01, *General Flight Rules*).

the 2014 Joint Land Use Study.³ This EA will, as required by laws and regulations, consider the potential environmental impacts of this proposed action.⁴

The site of the proposed USAF aerial gunnery training range would be in an existing ground-based live fire military training area within the boundaries of the LHTA. The 40 HS would train using UH-1N (Twin Huey) helicopters and the MH-139 (Grey Wolf) helicopter airframe when acquired. Live-fire operations for the AFGSC would include up to 80 sorties per year (individual aerial gunnery practice runs), resulting in up to 320,000 rounds fired per year. The range would be used for both day and night training. All firing would be contained within a weapons danger zone within the existing live fire training boundary.

Once annually, Malmstrom AFB would schedule integrated training by the 40 HS and 341 SFS. The training exercise would include off-base convoy movement of up to 15 vehicles (mix of Humvees, BearCat armored personnel carriers, and general-purpose vehicles) on existing roads between the AFB and the LHTA with helicopter overflight surveillance while enroute. While at the LHTA, the convoy would use existing local roads, park along a designated portion of roadway, and training exercises would include tactical communication between the aircrew and SFS personnel as well as ground-based dry-fire training; no live-fire training would occur.

Once completed, the proposed USAF aerial gunnery range also would be utilized for day and night training by the MTARNG, who operates the LHTA. The MTARNG already uses the military overflight awareness area when flying helicopters between their base in Helena and the LHTA for training without aerial gunnery and would use the same flight paths to and from the LHTA for the live fire aerial gunnery training. It is estimated that MTARNG aircrews would conduct up to 80 sorties per year using UH-60 (Black Hawk) and CH-47 (Chinook) helicopter airframes, resulting in up to 300,000 rounds fired per year.

We invite you to submit any comments that you believe would assist us in developing the EA. In order to give your comments, concerns, and suggestions full consideration, we would appreciate receiving your response within 30 days of receipt of this letter.

In addition, please let me know if the Tribe desires to engage in consultation on this proposal. In particular, we ask that you share with us any information on properties of religious and cultural significance or any other tribal resource that may be affected. A copy of the Cultural Resources Report for the project will be provided when it becomes available, as well as a copy of the Public Draft EA. Please let me know if you would like to receive those electronically.

³ The 2014 Joint Land Use Study was a cooperative land use planning effort involving local communities, state and federal agencies, property owners and the Montana National Guard to develop and implement strategies for reducing the impacts of incompatible activities on the community and military operations.

⁴National Environmental Policy Act (NEPA) of 1969 [42 U.S.C. § 4321 et seq.]; Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA 40 CFR Parts 1500-1508; and Air Force Instruction (AFI) 32-7061, Environmental Impact Analysis Process (32 CFR Part 989).

If you have any questions or need additional information regarding this proposed action, please contact me at (406) 731-7794; tony.lucas@us.af.mil; or 39 78th Street North, Malmstrom AFB, MT 59402-7536. Thank you in advance for your assistance in this effort.

Sincerely,

LUCAS.TONY. Digitally signed by
LUCAS.TONY.P.1038903582
Date: 2020.10.14 11:09:45
-06'00'
P.1038903582

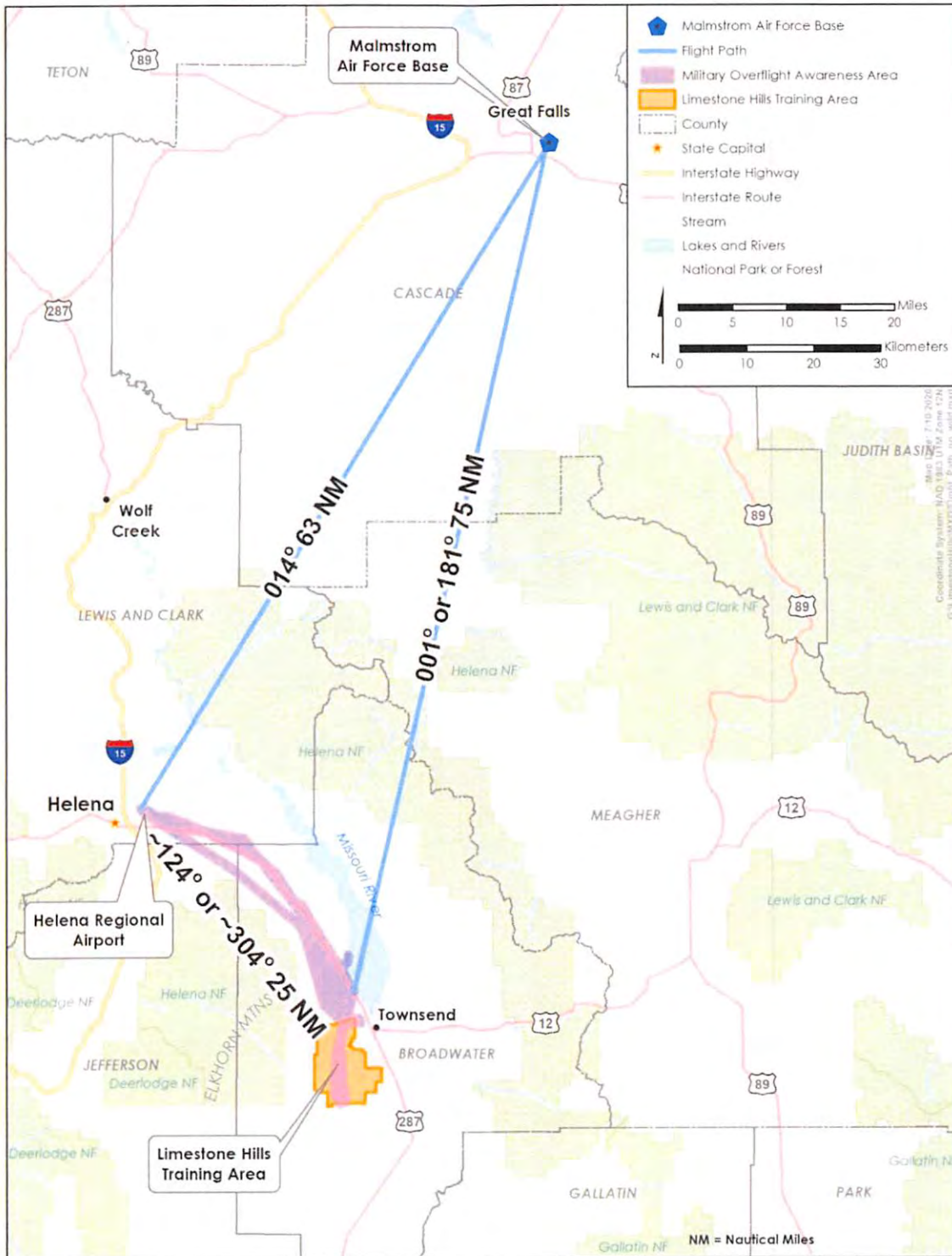
Tony Lucas, Installation Tribal Liaison Officer
Malmstrom AFB

Attachments:
Vicinity Map
Flight Route Map

DETER...ASSURE...STRIKE!



Vicinity Map for Malmstrom AFB and Limestone Hills Training Area



Proposed Helicopter Flight Paths to and from LHTA



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
HELENA REGULATORY OFFICE
10 WEST 15TH STREET, SUITE 2200
HELENA, MONTANA 59626

December 11, 2020

Regulatory Branch
Montana State Program
Corps No. **NWO-2020-02175-MTH**

Subject: Construct Helicopter Aerial Gunnery Range - Limestone Hills Training Area

Robert Brown
US Air Force
39 78th Street North
Malmstrom Air Force Base, Montana 59402-7536

Dear Mr. Brown:

We are responding to your request for comments regarding the above-referenced project. Specifically, you are proposing to construct and operate a new helicopter aerial gunnery range within the MTARNG Limestone Hills Training Area, Montana. The project is located at Latitude 46.249722°, Longitude -111.626111°, on the Missouri River, within Section 29, Township 6 N, Range 1 E, Broadwater County, Montana.

The mission of the U.S. Army Corps of Engineers (Corps) Regulatory Program is to protect the Nation's aquatic resources while allowing reasonable development through fair, flexible and balanced permit decisions. In particular, under Section 404 of the Clean Water Act, we work to protect the biological, physical, and chemical integrity of the Nation's aquatic resources. Projects are evaluated on a case-by-case basis to determine the potential benefits and detriments that may occur as a result of the proposal. In all cases an applicant must avoid and minimize impacts to aquatic resources to the greatest extent practicable.

Under the authority of Section 404 of the Clean Water Act (CWA), DA permits are required for the discharge of fill material into waters of the U.S. Waters of the U.S. include the area below the ordinary high-water mark of stream channels and lakes, or ponds connected to the tributary system, and wetlands adjacent to these waters. Isolated waters and wetlands, as well as man-made channels, may be waters of the U.S. in certain circumstances, which must be determined on a case-by-case basis.

Under the authority of Section 10 of the Rivers and Harbors Act of 1899, DA permits are required for structures or work in, over, or under waters of the U.S., or work which affects the course, location, condition or capacity of such waters. The law applies to any dredging or disposal of dredged materials, excavation, filling, rechannelization, or any other modification of a navigable water of the United States. Typical activities

requiring Section 10 permits include: construction of boat ramps, intake structures, cable or pipeline crossings, dredging and excavation. The Missouri River, is a navigable water of the U.S.

Based on the information provided in your submittal, we are unable to ascertain if regulated activities are proposed or if jurisdictional waters of the U.S. are present within the project area. If your final design includes the placement of fill material in any jurisdictional area described above, or otherwise requires authorization by a DA permit, please submit a Montana Joint Permit Application to this office prior to starting any work. After a review of the materials submitted, we will determine what type of permit, if any, will be required. You can obtain a Montana Joint Permit Application Form at the following address: <http://www.dnrc.mt.gov/licenses-and-permits/stream-permitting>. If you do not have internet access, please contact our office at the address below to obtain more information.

Note that this letter is not a DA authorization to proceed. It only informs you of your need to obtain a DA permit if waters of the U.S. will be affected. If waters of the U.S. will not be affected by a jurisdictional activity a DA permit will not be required for the project.

Please refer to identification number NWO-2020-02175-MTH in any correspondence concerning this project. If you have any questions, please contact Jerin Borrego at 10 W 15th Street, Suite 2200, Helena, MT 59626, by email at Jerin.E.Borrego@usace.army.mil, or telephone at 406-441-1364.

Sincerely,

Jerin Borrego

Date: 2020.12.11
16:36:01 -07'00'

Jerin E. Borrego
Regulatory Project Manager



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Montana Ecological Services Field Office
585 Shepard Way, Suite 1
Helena, Montana 59601-6287



In Reply Refer to:
FWS/IR05/IR07
M37 USAF 06E11000-2021-CPA-0010

November 25, 2020

Mr. Rob Brown, NEPA Program Manager
Department of the Air Force, 341st Civil Engineer Squadron
39 78th Street North
Malmstrom Air Force Base, Montana 59402-7536

Dear Mr. Brown:

Thank you for your October 22, 2020, letter, received in our office on November 6, 2020, inviting comment on the U.S. Department of the Air Force's (USAF) proposed construction and operation of a helicopter aerial gunnery range within the Montana Army National Guard's (MTARNG) Limestone Hills Training Area in Broadwater County, Montana (Project). You are preparing an environmental assessment for the Project in accordance with the National Environmental Policy Act of 1970. This response is provided by the U.S. Fish and Wildlife Service (Service) under the authority of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543), Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d, 54 Stat. 250), as amended, and the Migratory Bird Treaty Act (MBTA; 16 U.S.C. 703-712), as amended.

The USAF would construct the proposed helicopter aerial gunnery range within an existing ground-based live-fire military training area. The USAF's proposed live-fire operations would include up to 80 sorties and up to 320,000 rounds fired per year. In addition, MTARNG's proposed live-fire operations would include up to 80 sorties and up to 300,000 rounds fired per year. Flight paths would be established between Limestone Hills Training Area and both Malmstrom Air Force Base and the Helena Regional Airport, all in Montana.

INTERIOR REGION 5 MISSOURI BASIN

KANSAS, MONTANA*, NEBRASKA, NORTH DAKOTA,
SOUTH DAKOTA

*PARTIAL

INTERIOR REGION 7 UPPER COLORADO RIVER BASIN

COLORADO, NEW MEXICO, UTAH, WYOMING

Threatened and Endangered Species

The current list of candidate, proposed, threatened or endangered species, and designated critical habitat occurring in Broadwater County, Montana is as follows:

<i>Scientific Name</i>	<i>Common Name</i>	<i>Status*</i>
<i>Spiranthes diluvialis</i>	Ute Ladies' Tresses	LT
<i>Lynx canadensis</i>	Canada Lynx	LT
<i>Ursus arctos horribilis</i>	Grizzly Bear	LT
<i>Pinus albicaulis</i>	Whitebark Pine	C

*LE=Listed as Endangered, LT=Listed Threatened, P=Proposed, C=Candidate CH=Critical Habitat
Additional information may be obtained using the Service's Information for Planning and Consultation (IPaC) project-planning tool, at <https://ecos.fws.gov/ipac/>.

We recommend that the environmental assessment address potential effects to these species from construction and operation of the Project. Canada lynx and grizzly bears are wide-ranging species and may be present within the Project area. The enclosed guidance (U.S. Forest Service and U.S. Fish and Wildlife Service 2009) may assist you in considering the potential effects of helicopter use on grizzly bears. We do not currently have sufficient information on the exact location of, or habitats present within, the proposed aerial gunnery range to comment on the likelihood of presence of Ute ladies' tresses or whitebark pine. Records held by the Montana Natural Heritage Program indicate both species near, but not documented within, the Limestone Hills Training Area.

To reduce the risk of human-grizzly bear conflicts related to this Project, the Service recommends the following conservation measures:

1. Promptly clean up any project related spills, litter, garbage, debris, etc.
2. Store all food, food related items, petroleum products, antifreeze, garbage, personal hygiene items, and other attractants inside a closed, hard-sided vehicle or commercially manufactured bear resistant container.
3. Remove garbage from the project site daily and dispose of it in accordance with all applicable regulations.
4. Notify the Project Manager of any animal carcasses found in the area.
5. Notify the Project Manager of any bears observed in the vicinity of the project.

Securing potential bear attractants is the most effective way to prevent bears from becoming food conditioned. Storage of these attractants will limit human-caused grizzly bear mortality, grizzly bear-human encounters, and other conflicts.

If a Federal agency authorizes, funds, or carries out a proposed action, the responsible Federal agency, or its delegated agent, is required to evaluate whether the action "may affect" listed species or critical habitat. If the Federal agency or its designated agent determines the action "may affect, is likely to adversely affect" listed species or critical habitat, the responsible Federal agency shall request formal section 7 consultation with this office. If the evaluation shows a "may affect, not likely to adversely affect" determination, concurrence from this office is required. If the evaluation shows a "no effect" determination for listed species or critical habitat, further consultation is not

necessary. If a private entity receives Federal funding for a construction project, or if any Federal permit or license is required, the Federal agency may designate the fund recipient or permittee as its agent for purposes of informal section 7 consultation. The funding, permitting, or licensing Federal agency is responsible to ensure that its actions comply with the ESA, including obtaining concurrence from the Service for any action that may affect a threatened or endangered species or designated critical habitat.

Migratory Birds

The MBTA prohibits the purposeful taking, killing, possession, and transportation, (among other actions) of migratory birds, their eggs, parts, and nests, except when specifically permitted. If work is proposed to take place in migratory bird habitats that may result in take of migratory birds, their eggs, or active nests, the Service recommends that the project proponent take all practicable measures to avoid and minimize take, such as maintaining adequate buffers, to protect the birds until the young have fledged. Active nests may not be removed. The Service has developed, and continues to revise and develop, general and industry-specific conservation measures for avoiding and minimizing impacts to birds (<https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>). We recommend that the proposed project consider and incorporate these measures into project design, construction, and documentation as appropriate.

Bald and Golden Eagles

The Montana Natural Heritage Program indicates several historical records of bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) nesting to the east and south of the Limestone Hills Training Area. We are not aware of the current status of these nests, and suggest that you follow up with Montana Fish, Wildlife and Parks (FWP) to determine if active nests are present in the Project vicinity. If there are active eagle nests present within 0.5 mile of the project during planned construction activities, we recommend that the proponent complies with applicable recommended nesting season construction restrictions (February 1–August 15 or until young have fledged) at appropriate nest distance buffers specified in the *2010 Montana Bald Eagle Management Guidelines: An Addendum to Montana Bald Eagle Management Plan (1994)* (<http://fwp.mt.gov/fishAndWildlife/management/baldEagle/>) in order to avoid/minimize the risk for eagle take during construction. The cited Montana guidelines provide a variety of different recommended construction buffers during the nesting season, depending on the type of construction activities proposed and site-specific nest screening (visibility) considerations. Please contact this office if there are further questions regarding eagle nest issues.

The bald eagle and golden eagle are protected from a variety of harmful actions via take prohibitions in both the MBTA¹ (16 U.S.C. 703-712) and the BGEPA. The BGEPA, enacted in 1940 and amended several times, prohibits take of bald eagles and golden eagles, including their parts, nests, young or eggs, except where otherwise permitted pursuant to Federal regulations. Incidental take of eagles from actions such as electrocutions from power lines or wind turbine strikes are prohibited unless specifically authorized via an eagle incidental take permit from the Service.

BGEPA provides penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The BGEPA defines take to include the following actions: "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." The Service expanded this definition by regulation to include the term "destroy" to ensure that "take" also encompasses destruction of eagle nests. Also, the Service defined the term disturb which means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

The Service has developed guidance for the public regarding means to avoid take of bald and golden eagles:

- The 2007 National Bald Eagle Management Guidelines serve to advise landowners, land managers, and others who share public and private lands with bald eagles when and under what circumstances the protective provisions of BGEPA may apply. They provide conservation recommendations to help people avoid and/or minimize such impacts to bald eagles, particularly where they may constitute "disturbance," which is prohibited by the BGEPA.

<https://www.fws.gov/northeast/ecologicalservices/pdf/NationalBaldEagleManagementGuidelines.pdf>

- The 2013 Eagle Conservation Plan Guidance, Module 1- Land-based Wind Energy, Version 2 is specific to wind energy development and provides in-depth guidance for conserving bald and golden eagles in the course of siting, constructing, and operating wind energy facilities. Development of an Eagle Conservation Plan per these guidelines may serve as the basis for applying for an eagle incidental take permit for wind energy facilities. Applications for such eagle incidental take permits must include an Eagle Conservation Plan.

<https://www.fws.gov/migratorybirds/pdf/management/eagleconservationplanguidance.pdf>

¹ On December 22, 2017, the Department of the Interior's (DOI) Office of the Solicitor Memorandum M-37050 titled The Migratory Bird Treaty Act Does Not Prohibit Incidental Take (<https://www.doi.gov/sites/doi.gov/files/uploads/m-37050.pdf>) concludes that the MBTA's prohibitions on pursuing, hunting, taking, capturing, killing, or attempting to do the same apply only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs. The MBTA list of protected species includes bald and golden eagles, and the law has been an effective tool to pursue incidental take cases involving eagles. However, the primary law protecting eagles is the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S. Code § 668), since the bald eagle was delisted under the Endangered Species Act in 2007. Memorandum-37050 does not affect the ability of the Service to refer entities for prosecution that have violated the take prohibitions for eagles established by the BGEPA.

The Service also has promulgated new permit regulations under BGEPA:

- New eagle permit regulations, as allowed under BGEPA, were promulgated by the Service in 2009 (74 FR 46836; Sept. 11, 2009) and revised in 2016 (81 FR 91494; Dec. 16, 2016). The regulations authorize the limited take of bald and golden eagles where the take to be authorized is associated with otherwise lawful activities. These regulations also establish permit provisions for intentional take of eagle nests where necessary to ensure public health and safety, in addition to other limited circumstances. The revisions in 2016 included changes to permit issuance criteria and duration, definitions, compensatory mitigation standards, criteria for eagle nest removal permits, permit application requirements, and fees in order to clarify, improve implementation and increase compliance while still protecting eagles. <https://www.gpo.gov/fdsys/pkg/FR-2016-12-16/pdf/2016-29908.pdf>

The Service's Office of Law Enforcement carries out its mission to protect eagles through investigations and enforcement, as well as by fostering relationships with individuals, companies, industries and agencies that have taken effective steps to avoid take, including incidental take of these species, and encouraging others to implement measures to avoid take. The Office of Law Enforcement focuses its resources on investigating individuals and entities that take eagles without identifying and implementing all reasonable, prudent and effective measures to avoid that take.

Those individuals and entities are encouraged to work closely with Service biologists to identify available protective measures, and to implement those measures during all activities or situations where their action or inaction may result in the take of an eagle(s).

Additional Comments

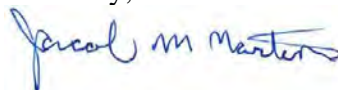
In addition to coordination with the Service, we recommend coordination with FWP and the Montana Natural Heritage Program. These agencies may be able to provide updated, site-specific information regarding fish, wildlife, and sensitive plant resources occurring in the proposed project area. Contact information for these two agencies is below:

Montana Fish, Wildlife and Parks
1420 East Sixth Avenue
P.O. Box 200701
Helena, Montana 59620-0701
Phone: (406) 444-2535

Montana Natural Heritage Program
1515 East 6th Avenue, Box 201800
Helena, Montana 59620-1800
Phone: (406) 444-5354

The Service appreciates your efforts to incorporate fish and wildlife resource concerns into your project planning. Should you have any questions or comments related to this correspondence, please contact Jacob Martin at (406) 449-5225, extension 215.

Sincerely,

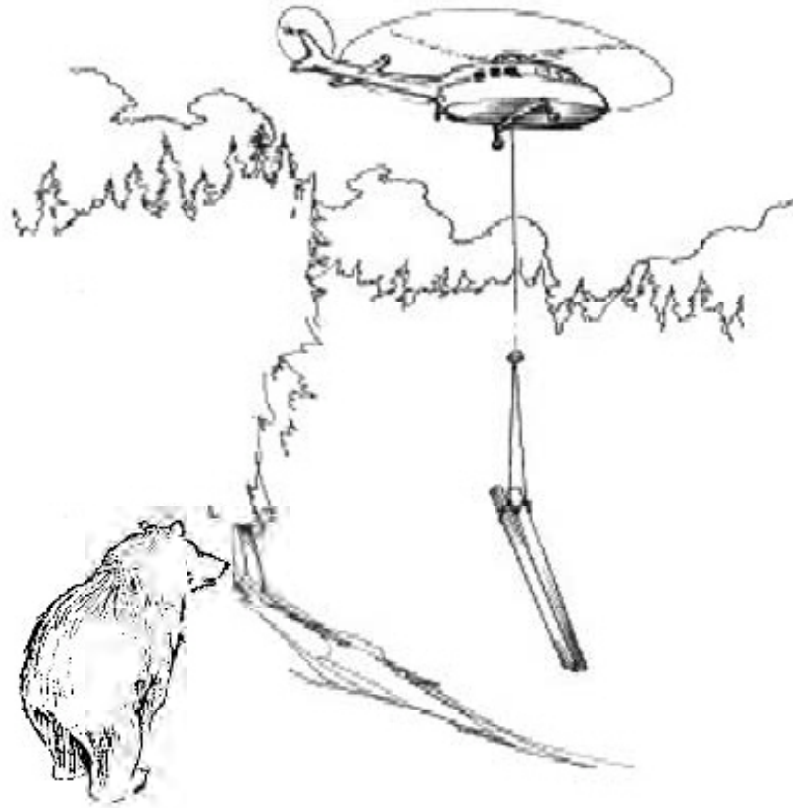


for Jodi L. Bush
Office Supervisor

References:

U.S. Forest Service and U.S. Fish and Wildlife Service. 2009. Guide to effects analysis of helicopter use in grizzly bear habitat; Montana/Northern Idaho Level I Terrestrial Biologists Team; FINAL - Version September 17, 2009. 10pp. plus appendix.

Guide to Effects Analysis of Helicopter Use in Grizzly Bear Habitat



**Montana/Northern Idaho Level I Terrestrial Biologists Team
FINAL - Version September 17, 2009**

Guide to Effects Analysis of Helicopter Use in Grizzly Bear Habitat

This Guide has been adopted by the Montana/Northern Idaho Level 1 Terrestrial Biologists Team for use throughout this geographic area. The Guide was prepared by the work group listed below, with support and input from the entire Level 1 Team.

Forest Service

Steve Anderson: Forest Wildlife Biologist, Flathead National Forest, Kalispell, MT

Wayne Johnson: Retired, former Forest Wildlife Biologist, Kootenai National Forest, Libby, MT

David Roberts: Retired, former Wildlife Biologist, Idaho Panhandle National Forests, Coeur d'Alene, ID

Bob Summerfield: Retired, former Grizzly Bear Coordinator, Regional Office, Missoula, MT, original work group chairman

Kristi Swisher: Threatened, Endangered, and Sensitive Species Program Leader, Regional Office, Missoula, MT

U.S. Fish and Wildlife Service

Ben Conard: Wildlife Biologist, Kalispell, MT

Bryon Holt: Fish and Wildlife Biologist, Spokane, WA

Anne Vandehey: Wildlife Biologist, Helena, MT

Background

The potential effects of motorized activities on grizzly bears have been the subject of much discussion and research, mostly in the context of roads and trails. Motorized use of roads and trails is recognized as one of the most influential factors affecting habitat security for grizzly bears because of a route's fixed, long-term presence on the landscape (IGBC 1998). Roads and other more permanent development can contribute to increased grizzly bear mortality, habituation to people, or long-term displacement from key habitat. Consequently, the management of human access to grizzly bear habitat through route restrictions is one of the most effective strategies to minimize human interactions with grizzly bears and potential bear mortality.

The potential effects of aircraft on grizzly bears have been less studied, with judgments based mostly on anecdotal observations. Aircraft typically exert temporary, audible effects in grizzly bear habitat without residual effects of roads or other physical features. Therefore, aircraft use does not generally result in the same level of effects to grizzly bears as those associated with roads or permanent developments. However, the lack of information and vague and inconsistent management direction relative to aircraft-supported activities in grizzly bear habitat has led to inconsistent approaches to effects analysis for aircraft use.

The primary purpose of this Guide is to help biologists conduct defensible, consistent effects analysis of proposed helicopter use in grizzly bear habitat. Most of the principles contained herein could apply to fixed-wing aircraft use as well. This Guide is only a reference for analyzing potential effects and how these effects can be consistently disclosed in a biological assessment (BA). **This Guide does not establish standards, policy, or other direction regarding how managers may, or may not, use helicopters in grizzly bear habitat.**

Key Literature Findings Regarding Effects of Aircraft of Bears

Following are some key findings of the few studies that addressed aircraft effects on bears. The appendix expands on this information to include a selection of references with summaries, for aircraft effects on other species, as well as other industrial and human-caused disturbances on bears.

IGBC (1987) summarizes numerous studies that have documented a wide variety of reactions by grizzly bears to aircraft disturbance due to factors such as the degree of habituation to aircraft, availability of cover, altitude, noise level and behavior of the aircraft. Individual bears may demonstrate different tolerances to helicopter disturbance. Overall, grizzly bears may be more sensitive to helicopter disturbance than to fixed-wing aircraft.

Bear responses may range from: (1) slight loss of habitat due to avoidance or displacement; (2) disturbance of bears during denning, causing abandonment of dens; and (3) physiological or behavioral stress (Harding and Nagy 1980; Reynolds, et al. 1986).

Many of the studies occurred in more open country than normally found in northwest Montana and Northern Idaho which could elicit different responses from bears or actually prevent a response from being noticed due to forested cover. Harding and Nagy (1980) mention there is no evidence to suggest that the current numbers and distribution of grizzly bears are being affected by hydrocarbon exploration or associated activities, but neither can they show that the population has not been affected. McLellan and Shackleton (1989a) observed bears responded more strongly to fixed-wing aircraft when it was less than 150 meters away. In timbered habitats, McLellan and Shackleton (1989b) found that an overt avoidance or displacement response required high intensity helicopter activity, such as carrying equipment within 200 meters of a grizzly bear. Reynolds et al. (1986) detected increased heart rates in grizzly bears when fixed-wing aircraft were within 100 meters above ground level (AGL) after den emergence.

So in summary, the available evidence suggests that aircraft flying at relatively low altitudes in occupied habitat can elicit a response by grizzly bears. Effects may range from a simple awareness of the aircraft (i.e., raising the head but otherwise continuing uninhibited) to short-term disturbance or flight response (resulting in physiological changes such as increased stress and energetic demands) to temporary displacement from an area.

A Consistent Approach to Effects Analysis

The effects of helicopter operations on grizzly bears will depend on a number of variables, plus consideration of any extenuating circumstances. It is inappropriate to believe there is a “cook book” or “one size fits all” answer, such as “*administrative flights will not affect grizzly bears.*” Each biologist preparing a BA is responsible to consider all relevant site-specific circumstances in arriving at and documenting the determination.

The biologist must consider (in part):

- Occupied or unoccupied grizzly bear habitat
- Sensitive habitat (e.g., spring range, post-denning area, important seasonal food sources)
- Time of year (denning or non-denning seasons)
- Core habitat or roaded habitat
- One flight, several flights, or extended operations
- Indirect effects of the overall operation (i.e., those that are caused by or will result from the proposed action and are later in time, but are still reasonably certain to occur)
- Actions interrelated to and interdependent upon the helicopter activity (i.e., what else is related to, or dependent upon, the flight?)...consider ground operations to support the helicopter as well as the intended purpose such as logging or communications tower maintenance

Furthermore, individual and population response by grizzly bears to human activity also includes the nature and extent of historical interactions with humans and the distribution of native habitats and foods (Mace and Waller 1996). In areas with relatively dense grizzly bear populations, the physiological cost to a bear caused by moving from preferred habitat (i.e., displacement) may be high because of the social intolerance of other bears. Conversely, if the grizzly bear population is low, moving from a disturbance would incur less cost because available habitats would be relatively abundant (McLellan and Shackleton 1989b).

Biologists should consider the following important factors in determining the effects of an action on fish and wildlife resources (USFWS and NMFS 1998, page 4-23):

Proximity of the action: To the species, management units, or designated critical habitat units.

Distribution: Geographic areas where the disturbance occurs (e.g., may be several small or one large area).

Timing: Relationship to sensitive periods of a species' lifecycle.

Nature of the effect: Effects of the action on elements of a species' lifecycle, population size or variability, or distribution; or on the primary constituent elements of the critical habitat, including direct and indirect effects.

Duration: The effects of a proposed action on listed species or critical habitat depend largely on the duration of its effects. Three potential categories of effects are: (1) a short-term event whose effects are relaxed almost immediately (pulse effect); (2) a sustained, long-term, or chronic event whose effects are not relaxed (press effect); or (3) a permanent event that sets a new threshold for some feature of a species' environment (threshold effect). For many species, a proposed action producing a single, short-term effect is less likely to jeopardize the continued existence of a species than a long-term chronic event or the permanent alteration of a species' habitat.

Disturbance frequency: The mean number of events per unit of time affects a species differently depending on its recovery rate. If the disturbance frequency is less than the species' recovery rate, the species might persist in the face of the disturbance. If the disturbance frequency equals the species' recovery rate, the species becomes more sensitive to the effects of other disturbances. If the disturbance frequency is greater than a species' recovery rate, the species will be unable to recover between disturbances. Disturbance frequency is an important consideration when evaluating the accumulating effects of proposed actions on listed species and/or designated critical habitat, particularly when it is combined with information on a species' recovery rate.

Disturbance intensity: The effect of the disturbance on a population or species as a function of the population or species' state after the disturbance. For example, a disturbance reducing the size of a population or critical habitat unit by 40 percent is more intense than a disturbance reducing population or unit size by 10 percent.

Disturbance severity: The effect of a disturbance on a population or species as a function of recovery rate; the longer the recovery rate, the more severe the disturbance. For example, a disturbance from which a species or habitat takes 10 years to recover is more severe than a disturbance requiring 2 years for recovery. A severe disturbance makes a population or species more susceptible to the effects of multiple actions.

Removing or minimizing potential effects of an action

By “deconstructing” a proposed action into its components, the biologist, working with the project proponents, can identify which components of the project may cause unacceptable effects or “stressors” to the species, and may recommend best management practices to avoid, minimize, or mitigate the stressor. For example, some helicopter operations might result in “no effect” if conducted during winter (denning period) and away from denning habitat. Likewise, effects might be lessened if conducted during the least important season of use such as lower elevations during late summer or fall while berries are out at higher elevations.

Arriving at an Appropriate Effects Determination

The final determination is made on the final project design, including measures to avoid or minimize potential adverse effects. If *potential* adverse effects were identified but avoided,

then the BA should disclose this fact. The final determination should be based on the final likely effects, not the original potential effects.

The Endangered Species Consultation Handbook (USFWS & NMFS 1998) glossary includes the following definitions:

No Effect – the appropriate conclusion when the action agency determines its proposed action will not affect listed species or critical habitat.

Not Likely to Adversely Affect – the appropriate conclusion when effects on listed species are expected to be discountable, or insignificant, or completely beneficial.

Discountable effects are those extremely unlikely to occur; they are possible but unlikely. Based on best judgment, a person would not expect discountable effects to occur.

Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Based on best judgment, a person would not be able to meaningfully measure, detect, or evaluate insignificant effects.

Beneficial effects are contemporaneous positive effects without any adverse effects to the species.

Likely to Adversely Affect – the appropriate conclusion if any adverse effect to listed species may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions, and the effect is not discountable, insignificant or beneficial. In the event the overall effect of the proposed action is beneficial to the listed species, but is also likely to cause some adverse effects, then the proposed action is “*likely to adversely affect*” the listed species. If incidental **take** is anticipated to occur as a result of the proposed action, a “*likely to adversely affect*” determination should be made. A “*likely to adversely affect*” determination requires the initiation of formal section 7 consultation.

Take - to **harass, harm**, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct. [ESA §3(19)]

- **Harm** is further defined by FWS to include *significant* habitat modification or degradation that results in death or injury to listed species by *significantly* impairing behavioral patterns such as breeding, feeding, or sheltering.
- **Harass** is defined by FWS as actions that create the *likelihood* of injury to listed species to such an extent as to *significantly disrupt* normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. [50 CFR §17.3]

General Agreement about Helicopter Effects on Grizzly Bears.

The Level 1 Team reached some general agreement after considering the common uses of helicopter operations, the results of the literature review, and the principles of the Consultation Handbook. Nevertheless, each biologist preparing a BA for proposed activities in grizzly bear habitat is responsible to consider all relevant circumstances in arriving at and documenting the determination.

A. Helicopter operations at altitudes greater than 500 meters AGL and with no landings generally should have “no effect” on grizzly bears.

Aircraft use > 500 meters AGL do not appear to elicit a behavioral response by bears. While these flights may take place over recovery zones or areas occupied by grizzly bears (proximity), the action’s effects do not extend to the ground (distribution). Therefore, helicopter use at high altitudes (> 500 meters AGL), which may or may not involve multiple passes or multiple days, and which do not involve landing in grizzly bear habitat, are not expected to have any affect on grizzly bears. Consequently, a “no effect” determination is reasonable for similar actions.

Each specific helicopter activity should be reviewed by a qualified biologist to determine if there are extenuating circumstances that would warrant a determination other than “no effect.”

Examples of helicopter operations > 500 meters AGL and with no landings:
<ul style="list-style-type: none">➤ Administrative reconnaissance flights➤ Cross-country travel

B. Helicopter operations at altitudes of less than 500 meters AGL, with or without landings generally “may affect” grizzly bears.

Low elevation flights (<500 meters AGL) typically elicit a response by bears. At issue is whether or not the response results in an adverse effect.

1. If the duration of helicopter use is short and the effects are relaxed almost immediately (see qualifiers below), then low altitude helicopter operations are generally “not likely to adversely affect” (NLAA) grizzly bears.

When aircraft are used at low altitudes (<500 meters AGL), bears become aware of the aircraft, may flee to cover, or may move away from an area. Helicopter use involving a short duration (e.g., one day) and low frequency (e.g., several trips) may affect grizzly bears, but because the disturbance is relatively minor in intensity and does not persist for long periods (or through a season), the consequences should be *insignificant*. In other words, the potential or actual effect on a grizzly bear could not be meaningfully measured, detected, or evaluated. The effect(s) should not cause injury, decrease

productivity, or significantly interfere with normal behavior patterns such as breeding, feeding, or sheltering. A “*not likely to adversely affect*” determination is reasonable for similar actions.

Helicopter operations that *may affect but are not likely to adversely affect* grizzly bears include all of the following features:

- Low altitude (<500 m AGL)
- With or without landings
- In proximity to grizzly bears or their habitat
- The effects are relaxed almost immediately once activity is complete, with no lingering effects (low frequency, e.g., “in and out” drop off and pick up)
- The duration is short (activity usually concludes within a 48-hour period)

Each helicopter activity must be reviewed by a qualified biologist to determine if there are extenuating circumstances that would warrant a determination other than “*not likely to adversely affect*.”

Examples of helicopter operations < 500 meters AGL, with or without landings:
<ul style="list-style-type: none">➤ Maintenance or supply of sites, such as fire lookouts, electronic sites, drill rig or other mineral operations➤ Transport of tools or materials for trail improvements➤ Wildlife surveys, captures, releases➤ Personnel drop off or pick up➤ Limited aerial herbicide/pesticide spraying (qualifiers above are met)➤ Limited prescribed burning (qualifiers above are met) with limited ground activity

2. If the duration of the low altitude helicopter use is extended (occurs over a 48-hour period), and the effects are not relaxed (multiple trips, passes, or sweeps each day), then the operation is generally “likely to adversely affect” (LAA) grizzly bears (see qualifiers below).

The threshold for a “*likely to adversely affect*” determination is when the potential or actual effect on a grizzly bear can be meaningfully measured, detected, or evaluated. An adverse effect is present if:

- the impact significantly interferes with normal behavior patterns such as breeding, feeding, or sheltering
- the bear is likely to experience injury or decreased productivity
- the bear is likely to experience disturbance with high energetic costs and no period for recovery

Examples of extended helicopter operations < 500 meters AGL, with or without landings:

- Helicopter logging in Core habitat or undisturbed habitat
- Prolonged maintenance or servicing drill rigs and other mining or seismic operations
- Heli-skiing within denning habitat and extended post-denning season
- Heli-touring along established flight paths if at high frequency and < 500 meters AGL
- Extended aerial herbicide/pesticide spraying
- Extended prescribed burning
- Extended fire suppression activities (*follow emergency consultation procedures*)

Discussion of Extenuating Circumstances and “Gray Areas”

Helicopter Effects in and to Core Habitat

Security is an important consideration in managing grizzly bear habitat. Secure habitat that is relatively free of human disturbances is necessary for grizzly bears to meet their life requisites for survival and reproduction. The IGBC (1998) defined security “core” habitat in the terms of specific proximity to motorized roads and trails and recommended prescriptions for a certain percentage of “core” grizzly bear in each Bear Management Unit or Subunit. Core habitat is intended to provide a secure area that bears are familiar with and can rely on to be relatively free from the chronic disturbances of roads.

Research has consistently shown that female grizzly bears select home ranges with large areas of “core.” This suggests the importance of areas relatively free of intense human disturbance within female grizzly bears home ranges. Thus, actions which compromise the purpose of core habitat are not easily characterized as “insignificant” or “discountable.”

When discussing helicopter effects and core habitat, it is important to distinguish between the effect to the bear, and the management implication (accounting) to the habitat.

Helicopter use in core habitat likely results in more pronounced disturbance reaction in grizzly bears since bears are not conditioned to expect disturbances from motorized equipment or vehicles in core habitat. The effect of the disturbance would vary depending on the helicopter operation and duration. Intense events of short-term duration, such as dropping supplies in a remote location, would have less severe impacts than an intense, long-term event such as conducting a large, green tree timber sale within core using helicopters.

However, when considering long-term habitat effects, aircraft activities which do not use or require roads may not pose the same chronic displacement effects or mortality risks that roads-based operation do. Helicopter use is a transitory event, whereas roads are typically chronic features on the landscape that facilitate access for people into bear habitat long after

a project is complete. Consequently, while short-term helicopter activities may impact grizzly bears in core habitat, they do not impart the same chronic habitat effects as roading core habitat. Thus, a “reduction in” or “loss of” in core habitat should not result from most helicopter projects except those that are recurrent (repeated over and over the same area). If repeated, low altitude flights continue into multiple seasons, the effects upon grizzly bear behavior (i.e., avoidance and more than just temporary displacement) may become more long lasting.

Helicopter Effects along Roads and in Roaded Habitat

The effects to grizzly bears of repeated, low altitude flight paths that follow open roads may be partially offset by the existing under-use of habitat in the immediate vicinity of the roads (i.e., due to the “avoidance” by grizzly bears of habitat in close proximity to open roads). This would be best quantified in a cumulative effects model that considers the chronic road effects as well as the disturbance effects of a helicopter.

Likewise, most Forests have management prescriptions for habitat that is roaded (open and total road densities) and security core habitat. These prescriptions presume that roaded habitat is used less by grizzly bears than its availability. “Major” activities like timber sales are routinely conducted in roaded habitats. If the effects of the proposed project would not impart any effects to grizzly bears in addition to those analyzed in a previous programmatic consultation (road densities and security core habitat standards or parameters are maintained) these proposed projects have justified a NLAA determination. In most cases, helicopter logging that occurs in roaded habitat may also warrant a NLAA determination so long as all roaded and core habitat effectiveness parameters indicate enough secure habitat is provided for grizzly bears.

Extenuating Circumstances

Even if the guidance provided above leads to a particular effects determination, extenuating circumstances may be present that justify a higher or lower effect determination.

Literature Cited

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APPENDIX

(Examples of scientific literature on the effects of aircraft on grizzly bears and other wildlife)

Bleich, Vernon C., R.T. Bowyer, A.M. Pauli, R.L. Vernoy, and R.W. Anthes. 1990. Responses of Mountain Sheep to Helicopter Surveys. California Fish and Game. 76(4): 197-204.

Abstract. Effects of helicopter surveys on distribution and movements of desert-dwelling mountain sheep, *Ovis canadensis*, were studied in San Bernardino County, California during April and June 1988. Adult males and females with radio collars moved about 2.5 times farther the day following a helicopter survey than on the previous day. Further, 35-52% of these animals changed polygons [8-83 kilometers super(2)] following sampling from a helicopter, whereas only 11% did so on the day prior to the survey. Likewise, some animals left the study area following surveys. Sampling intensity [0.8 min/km super(2) vs. 2.0 min/km super(2)] had little effect on movement of mountain sheep. Similarly, terrain type (steep vs. rolling) did not influence movement of female mountain sheep following helicopter surveys. Movement by mountain sheep during a helicopter survey may violate fundamental assumptions of several population estimators.

Côté, Steeve D. 1996. Mountain Goat Responses to Helicopter Disturbance. Wildlife Society Bulletin, 24(4): 681-685. (pdf)

Abstract. Mountain goat (*Oreamnos americanus*) responses to helicopter traffic were investigated at Caw Ridge (Alberta) from June to August 1995. A population of 109 marked individuals inhabited the ridge during the study. As measured by their overt responses, mountain goats were disturbed by 58% of the flights and were more adversely affected when helicopters flew within 500 meters. Eighty-five percent of flights within 500 meters caused the goats to move >100 meters; 9% of the flights >1,500 meters away caused the goats to move similar distances. Helicopter visibility and height above ground, number of goats in the group, group type (bachelor or nursery), and behavior of groups just prior to helicopter flights did not appear to influence reactions of goats to helicopters. Helicopter flights caused the disintegration of social groups on ≥ 5 occasions and resulted in 1 case of severe injury to an adult female. Based on these observations, restriction of helicopter flights within 2 kilometers of alpine areas and cliffs that support mountain goat populations is recommended.

Efroymson, Rebecca A. and G.W. Suter II. 2001. Ecological Risk Assessment Framework for Low-Altitude Aircraft Overflights: II. Estimating Effects on Wildlife Risk Analysis, 21(2): 263-274. (pdf)

Abstract. An ecological risk assessment framework for aircraft overflights has been developed, with special emphasis on military applications. This article presents the analysis of effects and risk characterization phases; the problem formulation and exposure analysis phases are presented in a companion article. The framework addresses the effects of sound, visual stressors, and collision on the abundance and production of wildlife populations. Profiles of effects, including thresholds, are highlighted for two groups of endpoint species: ungulates (hoofed mammals) and pinnipeds (seals, sea lions, walruses). Several factors complicate the analysis of

effects for aircraft overflights. Studies of the effects of aircraft overflights previously have not been associated with a quantitative assessment framework; therefore no consistent relations between exposure and population-level response have been developed. Information on behavioral effects of overflights by military aircraft (or component stressors) on most wildlife species is sparse. Moreover, models that relate behavioral changes to abundance or reproduction, and those that relate behavioral or hearing effects thresholds from one population to another are generally not available. The aggregation of sound frequencies, durations, and the view of the aircraft into the single exposure metric of slant distance is not always the best predictor of effects, but effects associated with more specific exposure metrics (e.g., narrow sound spectra) may not be easily determined or added. The weight of evidence and uncertainty analyses of the risk characterization for overflights are also discussed in this article.

Efroymsen, Rebecca A., W.H. Rose, S. Nemeth, G.W. Suter II. 2000. Ecological risk assessment framework for low-altitude over flights by fixed-wing and rotary-wing military aircraft. U.S. Department of Defense Strategic Environmental Research and Development Program. Environmental Sciences Division. Publication No. 5010. 115 pp. (pdf)

- Defines low-level as below 1500 feet above ground level (p.21).
- Identifies stressors from aircraft over flights as sound of aircraft, sight of aircraft, air movement from aircraft take off and landings.
- Caribou calf survival negatively correlated with over-flights less than 1 kilometers (0.6 miles) from animal location (p. 48).
- Mountain goats show at least moderate reaction to helicopter flights even at horizontal distances from flight path greater than 1500 meters (0.9 miles) (p.63).
- Slant distance is probably a better measure of exposure than sound (p.78).
- Mountain sheep changed use of vegetation types following exposure to helicopter over flights, suggesting potential impacts on growth (p.78).
- Caribou nursed less frequently when exposed to over flights (p.78).
- Behavioral effects of over flights related to animal movement, which may be related to abundance and production. Energy loss is an important predictor of production. If movement associated with over flights is combined with other high energy activities, growth may be impaired. Movements to new habitats alter abundance of local population, as well as potentially lowering foraging success (p.79).
- Response to over flights is dependent on the activity that the animal is engaged in at the time (p.79).
- Slant distance thresholds for ungulate behavioral effects from aircraft (p. 95).

Foster, Bryan R. and E.Y. Rahe. 1983. Mountain goat response to hydroelectric exploration in northwestern British Columbia. Environmental Management, Vol. 7, No. 2, pp 189-197. (pdf)

Abstract. The behavioral responses of more than 800 mountain goats, comprised of 195 social groups, were recorded during hydroelectric exploration activities (primarily aircraft) in northwestern British Columbia. Four categories of overt response were recorded during case tests, ranging from maintenance activity to severe flight. More than 80 percent (n = 667) of the observed goats elicited some form of

behavioral stress response, with 33 percent (n = 265) displaying a severe flight response to local rock or plant cover. Multiple regression analysis inferred goat responses to be statistically independent of the time of year, type, and vertical orientation of disturbance and group size. As expected, significant correlations ($p < 0.05$) existed between distance of disturbance, geographic area, cover availability, and degree of awareness. Responses were stimulated primarily by auditory and secondarily by visual cues. Repeated aerial and ground follow-up surveys documented temporary range abandonment and changing observability indices (habitat use and activity patterns) associated with areas of intense exploration activity. The assessed data offer mitigation possibilities and enable formulation of management guidelines to lessen project impacts during future exploration, construction, and operation phases.

Goldstein, Michael I., A.J. Poe, E. Cooper, D. Youkey, B.A. Brown, T.L. McDonald. 2005. Mountain Goat Response to Helicopter Overflights in Alaska. Wildlife Society Bulletin. 33(2): 688-699. (pdf)

Côté (1996) recommended a 2,000-meter buffer between mountain goats and helicopter activities to minimize adverse impacts. Foster and Rahe (1983) analyzed mountain goat response to hydro-electric exploration in British Columbia and recommended a 2,000-meter buffer to prevent an overt disturbance response to human activity. Aircraft on the TNF and CNF are expected to maintain a minimum landing distance of 805 meters from all observed mountain goats (USDA FS1997, 2002). While flying, aircraft are required to maintain a 500-meter minimum vertical distance from all observed goats. The probability of any mountain goat in a group becoming disturbed at 500 meters was 62% in EPWS, 52% on the KP, 38% in the CKT, and 25% in the ICE. At 1,000 meters, the probabilities decrease to 45% in EPWS, 25% on the KP, 18%, in the CKT, and 10% in the ICE. Taken another way, if managers wish to consider a measure of risk of disturbance at <25% (an arbitrary delineation) when permitting helicopter traffic, then the helicopter approach distance could be 1,234 meters in EPWS, 1,000 meters on the KP, 771 meters in the CKT, and 500 meters in the ICE. Managers would need to consider whether pilots could effectively judge these distances or if a distance such as 805 meters better facilitates judgment.

Hamilton, Dennis and Steve Wilson. 2001. Access management in British Columbia: a provincial overview. Ministry of Environment, Lands and Parks Habitat Protection Branch, Victoria, B.C. and Nanuq Consulting Ltd. Nelson, B.C. 29 pp. (pdf)

- Aircraft impacts involve two categories: over flights, and flights involving landings. Potential for impacts is greater when aircraft land, because aircraft make closer approaches to animals (p. 16).
- Most studies of the effects of aircraft have measured short-term behavioral reactions (p.17).
- Impacts from aircraft activity could include habitat impacts from fuel deposits and spills and wildlife impacts in the form of harassment and poaching.

Harding, L. and J.A. Nagy. 1980. Responses of grizzly bears to hydrocarbon exploration of Richards Island, Northwest Territories, Canada. In Bears- Their Biology and Management; a selection of papers from the Fourth International Conference on Bear Research and Management (1977), Kalispell, MT. Pages 277-280.

Abstract. Observations on numbers, distribution, locations of dens, and responses of grizzly bears (*Ursus arctos*) to industrial disturbances were noted on Richards Island, Northwest Territories, Canada, during 1972-75. During this period, 13-23 bears occupied the 2,460-km² study area. Bear responses to hydrocarbon exploration and related activities were observed 23 times, and 35 dens were located. Bears were distributed evenly over the study area during summer but avoided camps by 1 kilometer or more. Density was comparable to that of other arctic mountain and coastal bear populations, and no decline was apparent. Effects of industrial activities included slight loss of habitat, disturbance of denning areas resulting in abandonment of dens, and relocation of problem bears. It is predicted that proposed natural gas production facilities will not be compatible with continued survival of grizzly bears in Richards Island.

- No evidence to suggest that the current numbers and distribution of grizzly bears are being affected by hydrocarbon exploration or associated activities, but neither can we show that the population has not been affected.
- Individual bears are, however, being affected through: (1) slight loss of habitat due to avoidance of drilling and staging camps; (2) disturbance of bears during dormancy causing abandonment of dens; and (3) relocation of problem bears frequenting camps.

Harper, W.L., D.S. Eastman. 2000. Wildlife and commercial backcountry recreation in British Columbia: assessment of impacts and interim guidelines for mitigation. Wildlife Branch Ministry of Environment, Lands and Parks, Victoria, British Columbia. 80 pp. (pdf)

- Risk of impact to grizzly bear from helicopters is very high (p. 13).
- Aircraft disturbance of wildlife becomes a serious issue when frequency of aircraft disturbance is high (p. 15).
- Limit helicopter and fixed-wing flight altitudes to a minimum of 300 meters over grizzly bear habitat (p. 36).

IGBC. 1987. Grizzly Bear Compendium. National Wildlife Federation, Washington D.C. 540 pp. (partial pdf)

- Grizzly bears react strongly to both fixed-wing aircraft and helicopters (p. 71).
- Bears already fleeing aircraft when first spotted, including 1.0 miles distance and several at ½ mile (p.71).
- Grizzly bears may be more sensitive to helicopter disturbance than fixed-wing aircraft (p.71).
- Suggestions for minimizing disturbance: (1) minimize traffic during the denning period and emergence; (2) schedule helicopter flights between 1 hour after sunrise to 1 hour before sunset from 15 Apr to 15 Oct; (3) maintain a minimum of helicopter altitude of 600 feet; (4) establish helicopter flight patterns of less than ½ mile width; and (5) designate landing zones with adequate visual and topographic barriers (pg. 152).

Larkin, Ronald P. undated. Effects of military noise on wildlife: a literature review. http://nhsbig.inhs.uiuc.edu/bioacoustics/noise_and_wildlife. 87pp. (pdf)

- Helicopters usually elicit more vigorous behavioral responses and/or responses at greater distances than fixed-wing aircraft (Watson 1993) (p.37).
- Grizzly bears react very strongly to aircraft, often starting to run while the aircraft was some distance away. As aircraft over takes running bears they veer sharply away from the aircraft flight path (p. 18).

McLellan, Bruce N. and D.M. Shackleton. 1989. Immediate Reactions of Grizzly Bears to Human Activities. Wildlife Society Bulletin. 17(3): 269-274. (pdf)

With all stimuli pooled, bears showed stronger responses in open areas than in cover, independent of the bear-stimulus distance (<150 meters: U = 1,095, n = 50 and 27, P < 0.001; >150 meters: U = 630, n = 45 and 43, P = 0.002). Responses to people on foot and to moving vehicles were greater when bears were in the open than in cover. Although sample size was small, the trend was the same for machinery and helicopters. Reactions of bears to fixed-wing aircraft were not different whether they were in the open or in cover, although in 9 of 10 cases when a bear fled (responses 1 and 2) from a fixed-wing aircraft, it was in the open.

Reynolds, P.E., H.V. Reynolds, and E.H. Follman. 1986. Responses of grizzly bears to seismic surveys in northern Alaska. International Conference on Bear Research and Management 6:169-175. (pdf)

- Heart rates measured the same during mid-winter small fixed-wing aircraft over flights (500-700 meters above ground) as during undisturbed conditions.
- Just prior (3 days) to den emergence heart rate increased with small fixed-wing aircraft over flight (150 meters above ground).
- After den emergence responses included increased heart rate, running into den, sitting and looking up, lie down, walk away with small fixed-wing aircraft over flights (100 meters above ground).

Schoen, J.W., L.R. Beier, J.W. Lentfer, L.J. Johnson. 1987. Denning ecology of brown bears on Admiralty and Chichagof Islands. International Conference on Bear Research and Management. 7:293-304. (pdf)

Frequently, bears instrumented with motion sensor transmitters became active as we flew over their dens at an altitude of about 150 meters. These flights were in small, fixed-wing aircraft, which are much quieter than helicopters. Thus, in an area that receives intensive aircraft traffic, especially helicopter traffic, bears could be negatively affected by disturbance. These findings suggest that intensive development, including aircraft traffic, may reduce an area's suitability as brown bear denning habitat.

USDI Glacier National Park. 2003. Biological assessment to conduct additional administrative helicopter and fixed-wind flights in 2003. USDI National Park Service, GNP, West Glacier, MT. (pdf)

Low level flights have the potential to displace and/or disrupt normal behavior patterns of grizzly bears present along flight paths. Several studies have documented

the behavioral responses of grizzly bears to various types of aircraft disturbance. A summary of the literature by the Interagency Grizzly Bear Committee (IGBC 1987) concluded that there is wide variability in the reaction of grizzly bears to aircraft disturbances. Factors which may affect the way in which bears respond to aircraft include the degree of habituation to the activity, availability of escape cover, and the type, noise level, altitude, and movements of the aircraft involved. Impacts of aircraft on bears can include possible displacement, or physiological arousal without overt response. Bears may be less likely to flee from aircraft while they are feeding.

Much of the published research on responses of wildlife to helicopter overflights was conducted in Canada and Alaska to determine the impacts of oil and gas exploration on arctic mammals. The plant community, and therefore vegetative cover, is quite different in the open arctic tundra than in Glacier National Park, with the exception of the park's alpine areas. However, some inferences can be made about animal responses to the noise and sight of an approaching helicopter.

Some studies have indicated that grizzlies may be more sensitive to helicopters than to fixed-wing aircraft (**Harding and Nagy 1980**). During hydrocarbon exploration in the Northwest Territories, 61% of grizzly bear responses to fixed-wing aircraft were "overt" (running or hiding), as opposed to 88% for helicopters (Harding and Nagy 1980).

McCourt et al. (1974) noted that grizzly bears in the open tundra of Yukon and Alaska demonstrated greater response to small fixed wing aircraft and helicopters than either moose or caribou, and unlike the ungulates, the grizzly bears did not exhibit an increase in response with decreasing distance from the aircraft. The authors recommend avoiding low level flights over areas with known grizzly bear concentrations, and avoiding circling or hovering over bears with helicopters. They also recommend a 1,000-foot AGL minimum altitude for aircraft flying over open habitats.

Of 17 grizzly bear responses to helicopters used during hydrocarbon exploration activities in the Northwest Territories, 15 were "overt" (running or hiding), suggesting aversion and energy expenditure (Harding and Nagy 1980). These bears were accustomed to aircraft in the area, and some had been tranquilized and captured from the air; these bears appeared to have learned to avoid approaching aircraft by hiding or running away.

Kendall (1986) documented that 81% of grizzlies observed during low-level helicopter flights in the Apgar Mountains of GNP displayed a strong reaction. A "strong" reaction was defined as a bear moving faster than a slow walk, while a "mild" reaction was indicated when a bear did not move at all or slowly walked as the helicopter approached.

Aune and Kasworm (1989) monitored radio-collared grizzly bear movements in response to oil and gas exploration and seismic activities from 1980 to 1984, in an

area along Montana's Rocky Mountain East Front where bears have not likely habituated to aircraft and human activity. The seismic surveys were helicopter supported programs using a surface charge (blast) to measure seismic response of the subsurface. Aircraft flying within 1 km of a collared bear caused the bear to react, and seismic activities caused temporary displacement of bears, but the seismic activities did not cause the bears to be displaced from home ranges.

Researchers in Yellowstone (**Graham 1978**) and Glacier (**Peacock 1978**) National Parks observed that grizzlies often fled into timber when approached by fixed-wing aircraft.

Schleyer (1980) noted that grizzlies on day beds were not disturbed by fixed-wing aircraft monitoring flights.

During radio-tracking of bears in SE Alaska from a small fixed-wing aircraft, **Schoen et al. (1987)** noted that some bears became active when the aircraft flew over their dens at an altitude of about 150 m. Some bears in the arctic tundra of NE Alaska abandoned den construction due to helicopter disturbance, although most bears in this study apparently returned to the den or entered a new den (**Quimby 1974**). The denning season in GNP begins in October/November. Because of the tendency of grizzly bears in GNP to be more active during daylight hours in the fall than in spring or summer, fall flights could have a greater impact on bears.

Klein (1974) reviewed the potential energy losses of animals due to reactions to aircraft overflights. He found that at altitudes above 500 feet, no panic response was observed. He suggested that under extreme weather or stress conditions, the net result of several overflights could be deterioration in the condition of the animals. While his studies focused on caribou on the tundra, repeated stresses on any species can accumulate to cause a negative effect on the animals. Since the proposed flights will not be frequent and will only be at low levels for short periods, they are not expected to add extreme amounts of stress to grizzly bears in the park.

Although the total number of flights over the park in 2003 is large, the flights will be spread out over the park and will occur at various times, leaving plenty of space for relocation of disturbed animals. Areas for displacement are not always available to a bear, due to occupation by another bear, but this is relatively unlikely. In frequently disturbed locations, animals may be habituated to aircraft activities. The helicopter flights are to developed locations that may already experience some level of human activity. Fixed-wing flights can occur over any area of the park, but the effects of fixed-wing aircraft are believed to be less severe than helicopters.

USDI Glacier National Park. 2003. Environmental assessment to conduct additional administrative helicopter and fixed-wind flights in 2003. USDI National Park Service, GNP, West Glacier, MT. 49 pp. (pdf)

- Specifies mitigation measures (p.10):
 - Helicopters fly at a minimum of 500 feet above ground level

- Fixed wing aircraft fly at a minimum of 500 feet above ground level
- Identified minor to moderate short-term, site-specific and local adverse effects to grizzly bears IF individual animals flee from aircraft or are displaced from favorable foraging sites (p.15).
- Provides impact threshold definitions: negligible, minor, moderate, major and defines duration as short and long term (p.28).
- Provides detailed grizzly bear effects analysis (p.31-33).
- Aircraft over flights at altitudes above 500 feet did not elicit a panic response (p.32).



United States Department of the Interior



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<https://fws.gov/office/montana-ecological-services>

In Reply Refer To:

October 21, 2022

Project Code: 2023-0007553

Project Name: Limestone Hills Training Area Biological Assessment

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2))

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
 - USFWS National Wildlife Refuges and Fish Hatcheries
 - Migratory Birds
 - Wetlands
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Montana Ecological Services Field Office

585 Shephard Way, Suite 1

Helena, MT 59601-6287

(406) 449-5225

Project Summary

Project Code: 2023-0007553

Project Name: Limestone Hills Training Area Biological Assessment

Project Type: Military Operations

Project Description: Limestone Hills Training Area, Broadwater County Montana

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@46.27895715,-111.58523978333207,14z>



Counties: Broadwater County, Montana

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Canada Lynx <i>Lynx canadensis</i> Population: Wherever Found in Contiguous U.S. There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3652	Threatened
Grizzly Bear <i>Ursus arctos horribilis</i> Population: U.S.A., conterminous (lower 48) States, except where listed as an experimental population There is proposed critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/7642	Threatened
North American Wolverine <i>Gulo gulo luscus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5123	Proposed Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Ute Ladies'-tresses <i>Spiranthes diluvialis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2159	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\) list](#) or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31
Bobolink <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31

NAME	BREEDING SEASON
<p>Cassin's Finch <i>Carpodacus cassinii</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p>https://ecos.fws.gov/ecp/species/9462</p>	Breeds May 15 to Jul 15
<p>Clark's Grebe <i>Aechmophorus clarkii</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Jun 1 to Aug 31
<p>Evening Grosbeak <i>Coccothraustes vespertinus</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 15 to Aug 10
<p>Franklin's Gull <i>Leucophaeus pipixcan</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 1 to Jul 31
<p>Golden Eagle <i>Aquila chrysaetos</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p> <p>https://ecos.fws.gov/ecp/species/1680</p>	Breeds Jan 1 to Aug 31
<p>Lesser Yellowlegs <i>Tringa flavipes</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p>https://ecos.fws.gov/ecp/species/9679</p>	Breeds elsewhere
<p>Rufous Hummingbird <i>selasphorus rufus</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p>https://ecos.fws.gov/ecp/species/8002</p>	Breeds Apr 15 to Jul 15
<p>Western Grebe <i>aechmophorus occidentalis</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p>https://ecos.fws.gov/ecp/species/6743</p>	Breeds Jun 1 to Aug 31
<p>Willet <i>Tringa semipalmata</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Apr 20 to Aug 5

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (—)

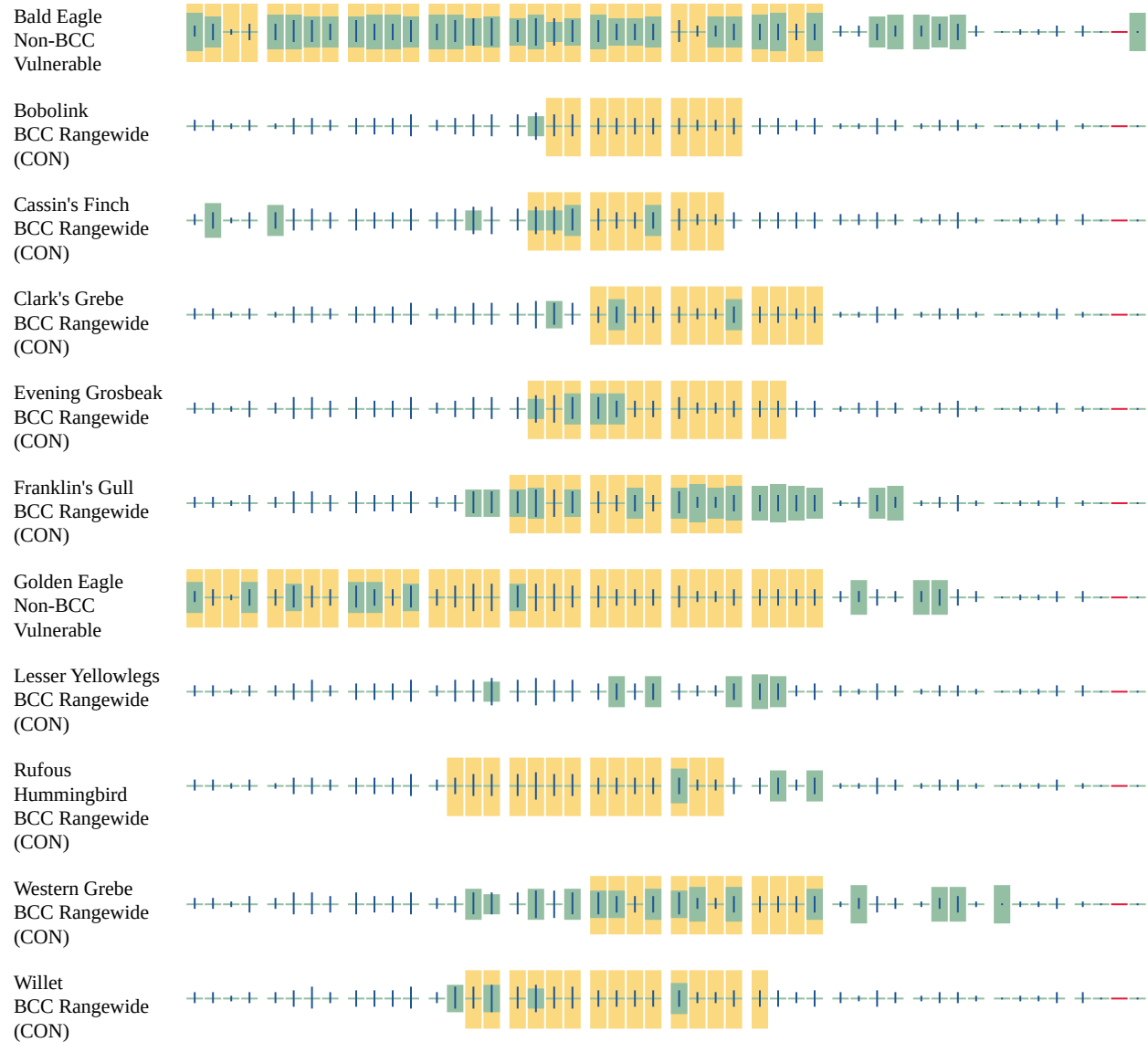
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

■ probability of presence ■ breeding season | survey effort — no data

SPECIES JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC



Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of

certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- [Riverine](#)

FRESHWATER EMERGENT WETLAND

- [Palustrine](#)
-

IPaC User Contact Information

Agency: Army Corps of Engineers
Name: Leif Rodney
Address: 44339 Plymouth Oaks Blvd
City: Plymouth
State: MI
Zip: 48170
Email: lrodney@aemgroup.biz
Phone: 7343549070

Lead Agency Contact Information

Lead Agency: Army Corps of Engineers



November 18, 2020

Mr. Rob Brown
NEPA Program Manager
341 CES/CENPL
39 78th Street North
Malstron AFB, MT 594020-7536

RE: EA for proposed LHTA USAF aerial gunnery training range

Mr. Brown:

Montana Fish, Wildlife & Parks (FWP) appreciates the opportunity to provide comments on the proposed USAF aerial gunnery training range at the MANG's Limestone Hills Training Area (LHTA). FWP supports the efforts and missions of our armed forces and understands and appreciates the need for adequate training of our armed forces personnel.

The proposed USAF aerial gunnery training will disturb and impact big game wildlife. The Limestone Hills area provides winter range for migratory herds of mule deer, elk and bighorn sheep from the Elkhorn mountains. There is also resident year-round use of the Limestone Hills by some animals of those species. The existing level of MANG training use in LHTA has a significant impact on the portion of the Limestone Hills area that is used by big game. Even though the new proposed aerial gunnery training range would utilize the existing foot print of the training area used by MANG personnel, additional live fire training exercises in the area, particularly in the form of aerial gunnery, could have further direct disturbance and cumulative impacts on big game use of the greater Limestone Hills area. Disturbance impacts from aerial gunnery would likely extend to an unknown distance beyond the actual training area.

If the decision is made to establish an aerial gunnery training range at the LHTA, then FWP would recommend the following:

- Training range area would be within the footprint of the existing ground-based live-fire training area. This appears to be what is proposed.
- No aerial gunnery training during the 12/1 – 4/30 time period to eliminate further disturbance impacts to wintering wildlife. If winter training is desired/needed, then FWP would ask that it be restricted to the 1/16 – 3/15 time period (i.e., no use during the 12/1 – 1/15 and 3/16 – 4/30 time periods) to minimize the impacts to migratory big game moving through the LHTA to winter range areas to the east and south of the live fire training area and then moving back to spring-fall range to the west of the LHTA.
- Restricted airspace over the area would only apply during periods of active training.

FWP again appreciates the opportunity to provide input on the proposed LHTA USAF aerial gunnery training range. If more detailed information regarding wildlife use of the area is needed, please contact Adam Grove, FWP Wildlife Biologist in Townsend, at adgrove@mt.gov.

Sincerely,

Mark Deleray
FWP Regional Supervisor – Region 3

November 4, 2020

Mr. Rob Brown
NEPA Program Manager
341 CES/CENPL
39 78th Street North
Malmstrom AFB, MT 59402-7536

Re: New Helicopter Aerial Gunnery Range Limestone Hills Training Area, Broadwater County, Montana

Dear Mr. Brown:

Thank you for your letter (received October 26, 2020) regarding the proposed new helicopter aerial gunnery range.

There are many cultural resources within the boundaries of the Limestone Hills Training Area. Most of these cultural resources have not been evaluated for National Register Eligibility. We suggest evaluating all cultural resources within the area of potential effect for this undertaking.

Due to the large number of precontact sites in this area we urge robust tribal consultation.

The National Historic Preservation Act Section 106 process should be completed before the EA is finalized.

If you have any questions or concerns, do not hesitate to contact me at (406) 444-7719 or Laura.Evilsizer@MT.gov. Thank you for consulting with us.

Sincerely,



Laura Evilsizer, M.A.
Review and Compliance Officer
Montana State Historic Preservation Office

BROADWATER COUNTY MONTANA



Broadwater County Commissioners

Darrel Folkvord ~ Mike Delger ~ Laura Obert

515 Broadway St. ▪ Townsend, MT 59644 ▪ commissioners@co.broadwater.mt.us

November 20, 2020

To: Mr. Rob Brown
341 CES/CENPL
39, 78th Street North
Malmstrom AFB, MT 59402-7536

RE: Proposed Aerial Gunnery Range within the Limestone Hills Training Area

Dear Rob,

Thank you for providing Broadwater County the opportunity to review and comment on the proposed Helicopter Aerial Gunnery range located in the Limestone Hills Training Area.

The Board of County Commissioner has solicited comments from our Airport Board and locally based pilots. Those comments and the Commissioners comments were discussed in a public meeting on November 19th, 2020.

We would like to share those comments for your consideration during this initial development phase.

The Airport Boards comment was,

The Townsend City County Airport Board has reviewed the USAF proposal to create a RESTRICTED airspace area at the Limestone Hills training area and we offer the following comments:

It is not clear how far east the area goes. If the east boundary goes to the river it would be a problem because many pilots try not to fly over Townsend so when flying downwind for runway 35 they fly south over the river. If the east boundary does not go to the river it would not affect the Townsend airport. We believe this area should be a MOA not a RESTRICTED area.

Laura Obert
Commissioner, District 1
lobert@co.broadwater.mt.us
406.980.2050

Mike Delger
Commissioner, District 2
mikedelger@outlook.com
406.521.0834

Darrel Folkvord
Commissioner, District 3
dfolkvord@co.broadwater.mt.us
406.980.1213

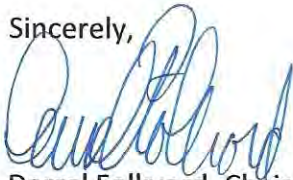
Comments from local pilots reflected similar concerns and suggestions of creating a MOA rather than restricted airspace. With that said during the conversations it was understood that when aerial gunnery was involved that it might change the complexity of the training area.

The Commissioners comments were:

- To ensure the LHTA was not expanded further to the east
- That defined boundaries and times of operation are established and clearly communicated to the public and aviators.
- It was also recommended the restriction area did not extend to the river to allow transiting aircraft to maneuver around the LHTA and also not interfere with the operations of the Townsend Airport or the Canyon Ferry Airport.

Thank you for your time and consideration. Please keep us informed of changes or actions to allow further comment.

Sincerely,



Darrel Folkvord, Chair

Broadwater County Board of County Commissioners



Mike Delger

Laura Obert

Laura Obert
Commissioner, District 1
lobert@co.broadwater.mt.us
406.980.2050

Mike Delger
Commissioner, District 2
mikedelger@outlook.com
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Darrel Folkvord
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A.2.2 Agency and Tribal Nation EA Review and Consultation Request Letters and Received Correspondence

(Note: Received Correspondence Will Be Included After the Public
Review Period)

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**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 341ST MISSILE WING (AFGSC)**



31 October 2022

Mr. Frederyck Cayer
Deputy Base Civil Engineer
39 78th Street N
Malmstrom AFB, MT 59402-7538

Butte BLM Field Office
Attn: Mr. Scott Haight
106 N. Parkmont
Butte, MT 59701

Dear Mr. Haight,

In the fall of 2020, the U.S. Air Force (USAF) located at Malmstrom Air Force Base, Montana (MT), sent your agency a letter requesting input on the proposed Environmental Assessment (EA) to establish and operate a helicopter aerial gunnery range and to establish restricted airspace at the Limestone Hills Training Area (LHTA), located near Townsend, MT. The proposed action is needed to meet mission training requirements for the 40th Helicopter Squadron and 341st Missile Wing Security Forces Group tasked with nuclear security at Malmstrom Air Force Base. The proposed aerial gunnery range does not require construction and will be located with existing weapon training ranges, and the proposed restricted airspace will only be activated during helicopter aerial gunnery training.

The USAF is the Federal lead agency for the proposed action and has prepared an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended; President's Council on Environmental Quality (CEQ) implementing regulations 40 Code of Federal Regulations (CFR) Parts 1500-1508 (85 Federal Register [FR] 43359, 16 July 2020, as amended by 87 FR 23453, 20 April 2022); and lead and cooperating agency regulations, policies, and procedures for implementing CEQ Regulations and NEPA. Cooperating Agencies include the Federal Aviation Administration (FAA) and the National Guard Bureau (NGB), which includes the Montana Army National Guard (MTARNG). As operator of the LHTA, MTARNG has submitted a proposal to the FAA requesting the establishment of the proposed restricted area to authorize essential military helicopter aerial gunnery training requirements for Department of Defense user's, including USAF and MTARNG aircrews. The EA considers all comments received during the scoping process and evaluates direct, indirect, and cumulative effects of three alternatives, including the no action alternative. The USAF has determined that the proposed action will not significantly impact the environment, therefore an Environmental Impact Statement is not required, and has prepared a draft Finding of No Significant Impact (FONSI).

The EA and draft FONSI are available at: <https://www.malmstrom.af.mil/About-Us/Environmental-Resources/> and will be available at local libraries in Great Falls (Great Falls Public Library), Helena (Lewis and Clark Library), and Townsend (Broadwater School and Community Library). A 30-day Public Comment period will be advertised in local newspapers to

begin on November 5, 2022. In order to give your comments, concerns, and suggestions full consideration, we would appreciate receiving your response by December 5, 2022. All received comments will be included in the final EA. Written comments should be addressed to Ms. Katie Rediske, NEPA Program Manager, 341 CES/CENP, 39 78th Street North, Malmstrom AFB, MT, 59402-7536, or e-mailed to 341CES.CEIE.NEPABWorkFlow@us.af.mil. Ms. Rediske can be reached at (406) 731-6150 if you have any questions pertaining to this correspondence.

Sincerely,

Frederick Cayer
341st Civil Engineer Squadron
Deputy Base Civil Engineer



**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 341st MISSILE WING (AFGSC)**



31 October 2022

Mr. Frederyck Cayer
Deputy Base Civil Engineer
39 78th Street N
Malmstrom AFB, MT 59402-7538

Mr. Peter Brown
State Historic Preservation Officer
Montana State Historic Preservation Office
1301 East Lockey Avenue
Helena, MT 59620

Dear Mr. Brown,

In the fall of 2020, the 341 Civil Engineer Squadron, Malmstrom AFB sent your agency a letter requesting your input on a proposed Environmental Assessment (EA) to establish an aerial gunnery range at the Limestone Hills Training Area (LHTA) located near Townsend, Montana (File: DOD/Air Force-2020-2020102605). The Proposed Action includes creation and operation of an aerial gunnery range to meet training mission requirements for the 40th Helicopter Squadron (40 HS), the 341st Missile Wing Security Forces Squadron (341 SFS), and Air Force Global Strike Command (AFGSC). Part of this action also includes creating a Special Use Airspace Restricted Area that will become active at the time of aerial gunnery training. As part of the EA, a cultural study was conducted within the LHTA boundaries.

In your response letter dated November 4, 2020, it was urged that robust tribal consultation and Section 106 process be completed. Malmstrom has reached out to the tribes and no responses have been received to date, additional attempts will be made prior to completing the EA. As for Section 106, this process has been completed. There are multiple cultural resources that lie within the LHTA boundary, as discussed in the cultural study. Based on the fact that the Proposed Action will occur within existing training ranges within the LHTA, it is expected that there will be No Effect to cultural resources from the Proposed Action. Multiple Best Management Practices are in place to protect cultural resources within the existing training ranges.

We will publish the Notice of Availability in local newspapers to begin the 30-day Public Comment period on November 5, 2022. The Draft EA will be available online at <https://www.malmstrom.af.mil/About-Us/Environmental-Resources/> and also at the local libraries in Great Falls (Great Falls Public Library, University of Providence Library), Helena (Lewis and Clark Library), and Townsend (Broadwater School and Community Library). As part of the EA process, a biological study was conducted within the LHTA boundaries, and is attached for your review.

Please submit any comments, regarding the Proposed Action in writing to 341 CES/CENP, Attn: Katie Rediske, 39 78th Street N, Malmstrom AFB, MT 59402, or by email to 341CES.CEIE.NEPAWorkflow@us.af.mil. In order to give your comments, concerns, and

suggestions full consideration, we would appreciate receiving your response by December 5, 2022. We welcome your advice and assistance in this effort.

Sincerely,

Frederyck Cayer
341st Civil Engineer Squadron
Deputy Base Civil Engineer



**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 341st MISSILE WING (AFGSC)**



31 October 2022

Mr. Frederyck Cayer
Deputy Base Civil Engineer
39 78th Street N
Malmstrom AFB, MT 59402-7538

U.S. Fish and Wildlife Service
Montana Field Office - Ecological Services
Attn: Mr. Ben Conard
585 Shepard Way, Suite 1
Helena, MT 59601

Dear Mr. Conard,

In the fall of 2020, the U.S. Air Force (USAF) located at Malmstrom Air Force Base, Montana (MT), sent your agency a letter requesting input on the proposed Environmental Assessment (EA) to establish and operate a helicopter aerial gunnery range and to establish restricted airspace at the Limestone Hills Training Area (LHTA), located near Townsend, MT. The proposed action is needed to meet mission training requirements for the 40th Helicopter Squadron and 341st Missile Wing Security Forces Group tasked with nuclear security at Malmstrom Air Force Base. The proposed aerial gunnery range does not require construction and will be located with existing weapon training ranges, and the proposed restricted airspace will only be activated during helicopter aerial gunnery training.

The USAF is the Federal lead agency for the proposed action and has prepared an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended; President's Council on Environmental Quality (CEQ) implementing regulations 40 Code of Federal Regulations (CFR) Parts 1500-1508 (85 Federal Register [FR] 43359, 16 July 2020, as amended by 87 FR 23453, 20 April 2022); and lead and cooperating agency regulations, policies, and procedures for implementing CEQ Regulations and NEPA. Cooperating Agencies include the Federal Aviation Administration (FAA) and the National Guard Bureau (NGB), which includes the Montana Army National Guard (MTARNG). As operator of the LHTA, MTARNG has submitted a proposal to the FAA requesting the establishment of the proposed restricted area to authorize essential military helicopter aerial gunnery training requirements for Department of Defense user's, including USAF and MTARNG aircrews. The EA considers all comments received during the scoping process and evaluates direct, indirect, and cumulative effects of three alternatives, including the no action alternative. The USAF has determined that the proposed action will not significantly impact the environment, therefore an Environmental Impact Statement is not required, and has prepared a draft Finding of No Significant Impact (FONSI).

Based on the Findings in the EA, and a technical study that evaluated biological resources within the LHTA boundary, Malmstrom has determined that the Proposed Action may affect, but not likely to adversely affect any listed species and there is no critical habitat in the area; we request your concurrence on our determination.

The EA and draft FONSI are available at: <https://www.malmstrom.af.mil/About-Us/Environmental-Resources/> and will be available at local libraries in Great Falls (Great Falls Public Library), Helena (Lewis and Clark Library), and Townsend (Broadwater School and Community Library). A 30-day Public Comment period will be advertised in local newspapers to begin on November 5, 2022. In order to give your comments, concerns, and suggestions full consideration, we would appreciate receiving your response by December 5, 2022. All received comments will be included in the final EA. Written comments should be addressed to Ms. Katie Rediske, NEPA Program Manager, 341 CES/CENP, 39 78th Street North, Malmstrom AFB, MT, 59402-7536, or e-mailed to 341CES.CEIE.NEPARWorkFlow@us.af.mil. Ms. Rediske can be reached at (406) 731-6150 if you have any questions pertaining to this correspondence.

Sincerely,

Frederick Cayer
341st Civil Engineer Squadron
Deputy Base Civil Engineer



**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 341ST MISSILE WING (AFGSC)**



31 October 2022

Mr. Tony Lucas
Installation Tribal Liaison Office
39 78th Street North
Malmstrom AFB, MT 59402-7538

Mr. Timothy Davis, Chairman
Blackfeet Tribe
PO Box 850, 640 All Chiefs Road – Tribal Headquarters
Browning, MT 59417

Cc: Mr. John Murray, Tribal Historic Preservation Office
Blackfeet Tribe
PO Box 850, 660 All Chiefs Road – Tribal Headquarters
Browning, MT 59417

Honorable Chairman Davis,

In the fall of 2020, the 341 Civil Engineer Squadron, Malmstrom AFB sent your Tribe a letter requesting input on a proposed Environmental Assessment (EA) to establish an aerial gunnery range at the Limestone Hills Training Area (LHTA) located near Townsend, Montana. The Proposed Action includes creating and operating an aerial gunnery range to meet training mission requirements for the 40th Helicopter Squadron (40 HS), the 341st Missile Wing Security Forces Squadron (341 SFS), and Air Force Global Strike Command (AFGSC). This Proposed Action also includes creating a Special Use Airspace Restricted Area that would be enacted at the time of aerial gunnery training.

We will publish the Notice of Availability in local newspapers to begin the 30-day Public Comment period on November 5, 2022. The Draft EA will be available online at <https://www.malmstrom.af.mil/About-Us/Environmental-Resources/> and also at the local libraries in Great Falls (Great Falls Public Library), Helena (Lewis and Clark Library), and Townsend (Broadwater School and Community Library). As part of the EA process, a cultural inventory was conducted within the LHTA boundaries; we have attached the Cultural Technical Study for your review.

Please submit any comments, regarding the Proposed Action in writing to 341 CES/CENP, Attn: Katie Rediske, 39 78th Street N, Malmstrom AFB, MT 59402, or by email to 341CES.CEIE.NEPAWorkflow@us.af.mil. In order to give your comments, concerns, and suggestions full consideration, we would appreciate receiving your response by December 5, 2022.

If you have any questions, contact Mr. Tony Lucas, Installation Tribal Liaison Officer at (406) 731-7794; tony.lucas@us.af.mil; or 39 78th Street North, Malmstrom AFB, MT, 59402-7536. We welcome your advice and assistance in this effort.

Sincerely,

Tony Lucas
Installation Tribal Liaison Officer
Malmstrom AFB

A.3 Landowner/Permit Holder Coordination Example Letter, Published Notice of Availability, and Received Public Comments

A.3.1 Comments Received During EA Development Scoping

A.3.2 Notice of Availability and Comments Received During 30-Day Public Review Period

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A.3.1 Comments Received During EA Development Scoping

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BROWN, ROBERT A GS-12 USAF AFGSC 341 CES/CENP

From: Cody Folkvord <headwatersfs@gmail.com>
Sent: Monday, November 9, 2020 2:04 PM
To: BROWN, ROBERT A GS-12 USAF AFGSC 341 CES/CENP
Subject: [Non-DoD Source] Helicopter Artillery Training

Rober, I left you a message and have not heard back from you. I own an aerial application business in the immediate area of the proposed Helicopter Artillery Training area. I think it is great what you are trying to do and will be very beneficial. However the verbiage in your document states "establish restricted airspace over LHTA" . Will this restricted airspace be indefinane? Will it outreach an area surrounding the LHTA? Will it be like an MOA when you can call in and ask if the area is hot? My main concern is that if the restricted airspace over reaches the atual LHTA it may interfere with our aerial application operations. Can you please clarify your exact intentions.

Cody Folkvord
Headwaters Flying Service
406-439-4179
406-285-3006
www.headwatersfs.com

From: [Kelly Ingalls](#)
To: [BROWN, ROBERT A GS-12 USAF AFGSC 341 CES/CENP](#)
Subject: [Non-DoD Source] Proposed helicopter aerial gunnery range in the LHTA
Date: Tuesday, December 1, 2020 8:45:32 AM

Dear Mr. Brown,

Thank you for the opportunity to comment on the proposed helicopter aerial gunnery range. As a holder of a grazing allotment and a private landowner in the LHTA I am most concerned about your proposed action.

Please provide me a map with a more detailed scale so I will know exactly where the aerial range is to be located. What time of the year will the aerial range be used? Typically our livestock is grazing in the LHTA from late October through the latter part of March. I often go out into the LHTA throughout the year to monitor the condition of the range, observe for livestock trespass on our BLM allotment, perform maintenance on allotment fences and livestock watering facilities, etc. Will I be in harm's way when performing these activities?

Will the range be used for night exercises?

How high above the ground will the helicopters be flying over the aerial range? I have been actively involved grazing livestock in the LHTA for the past 40 years and occasionally military helicopters during that time have "buzzed" our livestock, causing them to flee the area. What safeguards can the USAF provide to ensure that this doesn't happen?

Wildlife Services, under the Department of Agriculture, fly our allotment for predator control, usually with a helicopter. How will they have to coordinate their activities with you?

Thank you for the opportunity to comment on your proposal. I look forward to hearing from you.

Sincerely,
Kelly Ingalls
Round Grove Ranch Co.



Virus-free. www.avast.com

A.3.2 Notice of Availability and Comments Received During 30-Day Public Review Period

(Note: Received Correspondence Will Be Included After the Public
Review Period)

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NOTICE OF AVAILABILITY

Establishment of Helicopter Aerial Gunnery Range and Special Use Airspace Restricted Area at the Limestone Hills Training Area, MT

The U.S. Air Force (USAF) has prepared an Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI), pursuant to the National Environmental Policy Act (NEPA), that evaluates potential impacts associated with establishing and operating a helicopter aerial gunnery range (AGR) and special use airspace (SUA) restricted area (RA) at the Limestone Hills Training Area (LHTA), Broadwater County, Montana (MT). Aerial gunnery is only authorized in a SUA RA, as required by 14 Code of Federal Regulation Section 73.11, to protect nonparticipating aircraft (civilian, military) from the hazards of this training. The SUA RA would be designated as active by Notice to Air Missions when helicopter aerial gunnery is scheduled.

Malmstrom Air Force Base's 40th helicopter squadron and Security Forces Group are tasked with armed defense of the Minuteman III intercontinental ballistic missile complex at Malmstrom Air Force Base in Great Falls, MT. Currently, no AGRs exist in Montana and costly out-of-state deployments are required for aircrews to maintain their currency requirements. More frequent training is not practical due to scheduling constraints, distance logistics, and impact to home mission requirements. LHTA is the only federal training range near Malmstrom AFB with the possibility of establishing an AGR. Montana Army National Guard's aircrews also train out-of-state and would benefit from an AGR at LHTA.

The EA, draft FONSI and Technical Studies are available online at <https://www.malmstrom.af.mil/About-Us/Environmental-Resources/> or may be reviewed at the following libraries:

- Broadwater School and Community Library, 201 N. Spruce St., Townsend, MT 59644
- Lewis and Clark Library, 120 S. Last Chance Gulch, Helena, MT 59601
- Great Falls Public Library, 301 2nd Avenue North, Great Falls, MT 59601

The public comment period is 30 days from this posting. **All comments must be received by 05 December 2022 to be considered.** Email comments to: 341CES.CEIE.NEPAWorkFlow@us.af.mil or write to: Katie Rediske, 39 78th St N, Malmstrom AFB, MT, 59402.

From: broadwatercountynews@gmail.com
Sent: Wednesday, November 2, 2022 11:30 AM
To: Tierra Data, Inc.
Subject: Publishing a Legal Notice

Legal Notice

NOTICE OF AVAILABILITY

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GREAT FALLS TRIBUNE

PART OF THE USA TODAY NETWORK

Order Confirmation for Ad #: 0005474908

Customer: TIERRA DATA INC
Address: 10110 W LILAC RD
 ESCONDIDO CA 92026 USA
Acct. #: FAL-0000001056

OrderStart Date: 11/03/2022

Order End Date: 11/06/2022

<u>Tear Sheets</u>	<u>Affidavits</u>	<u>Blind Box</u>	<u>Promo Type</u>	<u>Materials</u>	<u>Special Pricing</u>	<u>Size</u>
0	1					1 X 74.00

Ad Order Notes:

Sales Rep: BWeaver

Order Taker: BWeaver

Order Created 11/02/2022

Product	# Ins	Start Date	End Date
FAL-gftribune.com	1	11/03/2022	11/03/2022
11-03-22, 11-04-22, 11-06-22, FAL-GreatFallsTribune	2	11/04/2022	11/06/2022
11-03-22, 11-04-22, 11-06-22,			

* ALL TRANSACTIONS CONSIDERED PAID IN FULL UPON CLEARANCE OF FINANCIAL INSTITUTION

NOTICE OF AVAILABILITY

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(0005474908) 11/4, 11/6

MNAXLP

Customer Ad Proof

102-60131479 Tierra Data

Order Nbr 129399

Publication	Helena Independent Record		
Contact	Tierra Data	PO Number	
Address 1	10110 W. LILAC ROAD	Rate	HEL Legal Open
Address 2			
City St Zip	ESCONDIDO CA 92026		
Phone	-		
Fax			
Section	Legal	Start/End Dates	11/04/2022 - 11/06/2022
SubSection		Insertions	3
Category	0701 Legals Helena	Size	86
Ad Key	129399-1	Salesperson(s)	HEL Legals
Keywords	NOA & PM (Draft)		
Notes			

Ad Proof

**NOTICE OF AVAILABILITY
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and Special Use Airspace Restricted Area
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November 4. 5. 6. 2022 129399 **MNAXLP**

APPENDIX B
Proposed SUA Restricted Area Description

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Proposed Regulatory SUA Description: R-4601 Limestone Hills Training Area, MT

Boundaries - Beginning	At latitude 46° 19' 12" N., longitude 111° 38' 00" W.; to latitude 46° 20' 10" N., longitude 111° 34' 00" W.; to latitude 46° 17' 30" N., longitude 111° 32' 10" W.; to latitude 46° 13' 30" N., longitude 111° 32' 10" W.; to latitude 46° 13' 30" N., longitude 111° 38' 00" W.; to the point of beginning.
Designated altitudes	Surface to 9,000 ft MSL.
Times of designation	7 am to midnight (one hour earlier daylight savings time) by NOTAM.
Controlling Agency	FAA, Salt Lake City Air Route Traffic Control Center
Using Agency	Adjutant General, State of Montana

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Appendix C

Additional Noise Figures

- C.1 L_{dnmr} Figures on 2020 Census Block Data**
- C.2 DNL Figures on 2020 Census Block Data
and on Land Use Data**
- C.3 Weapon Noise at LHTA**

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C.1 L_{dnmr} Figures on 2020 Census Block Data

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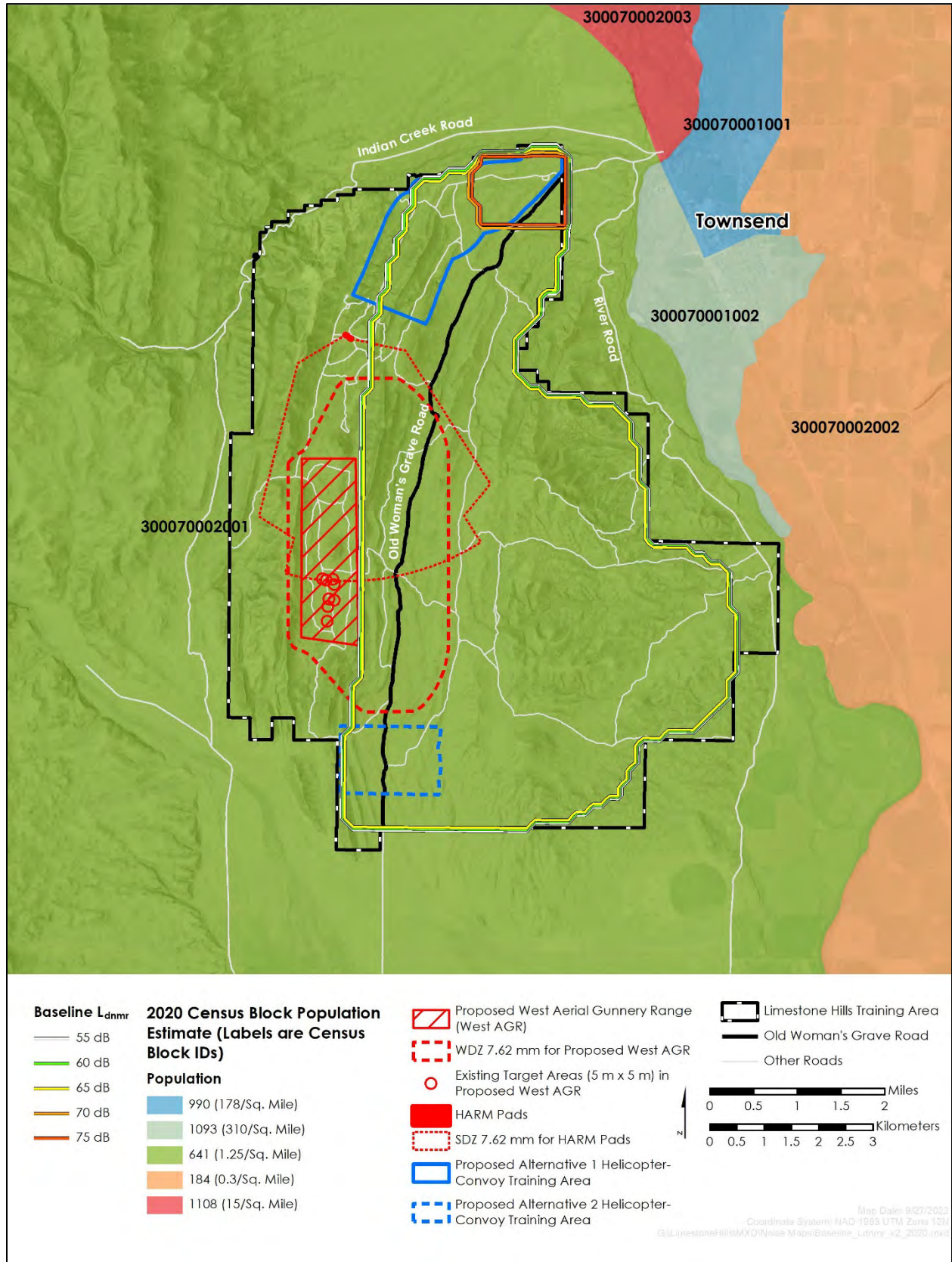
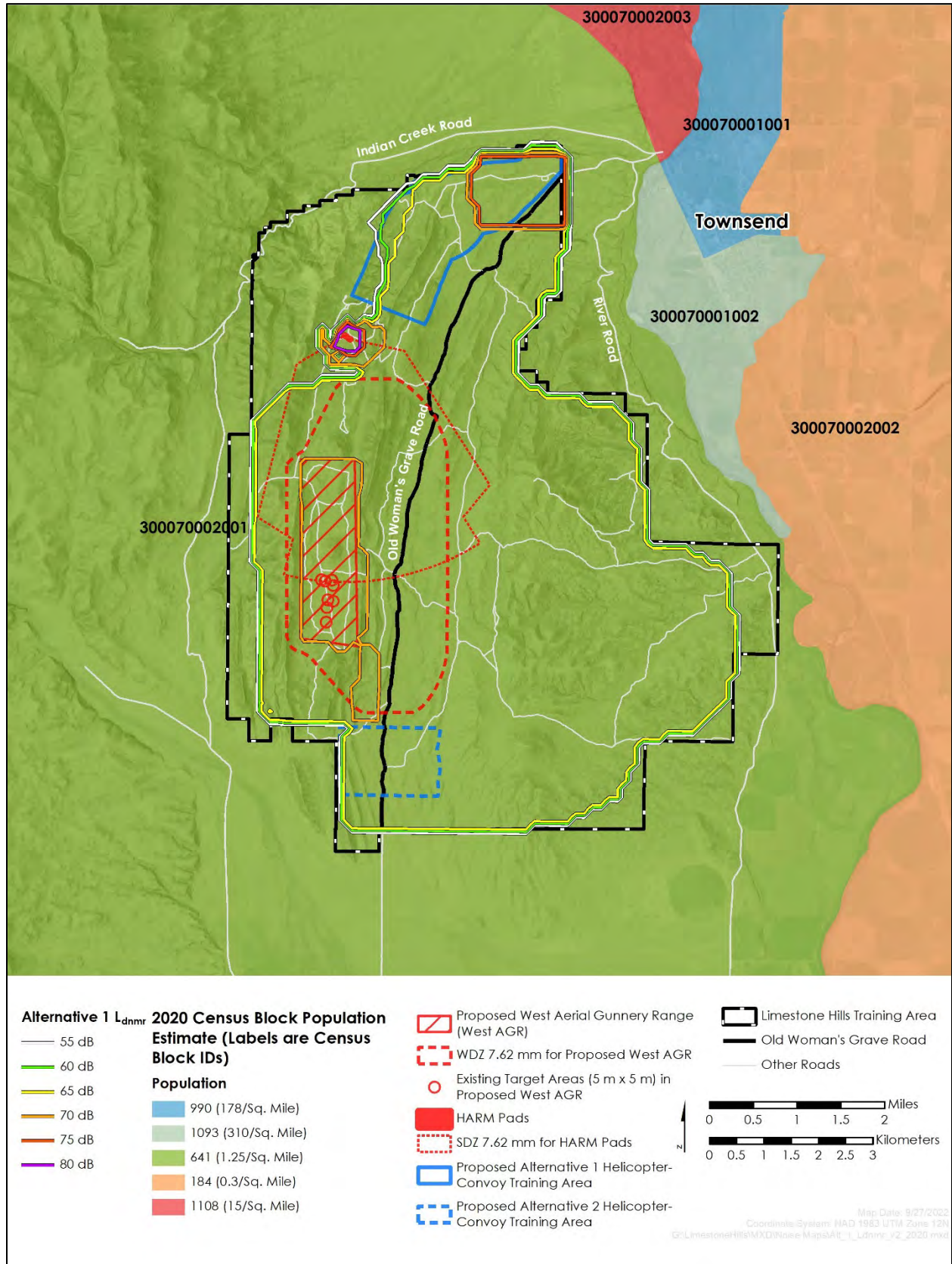
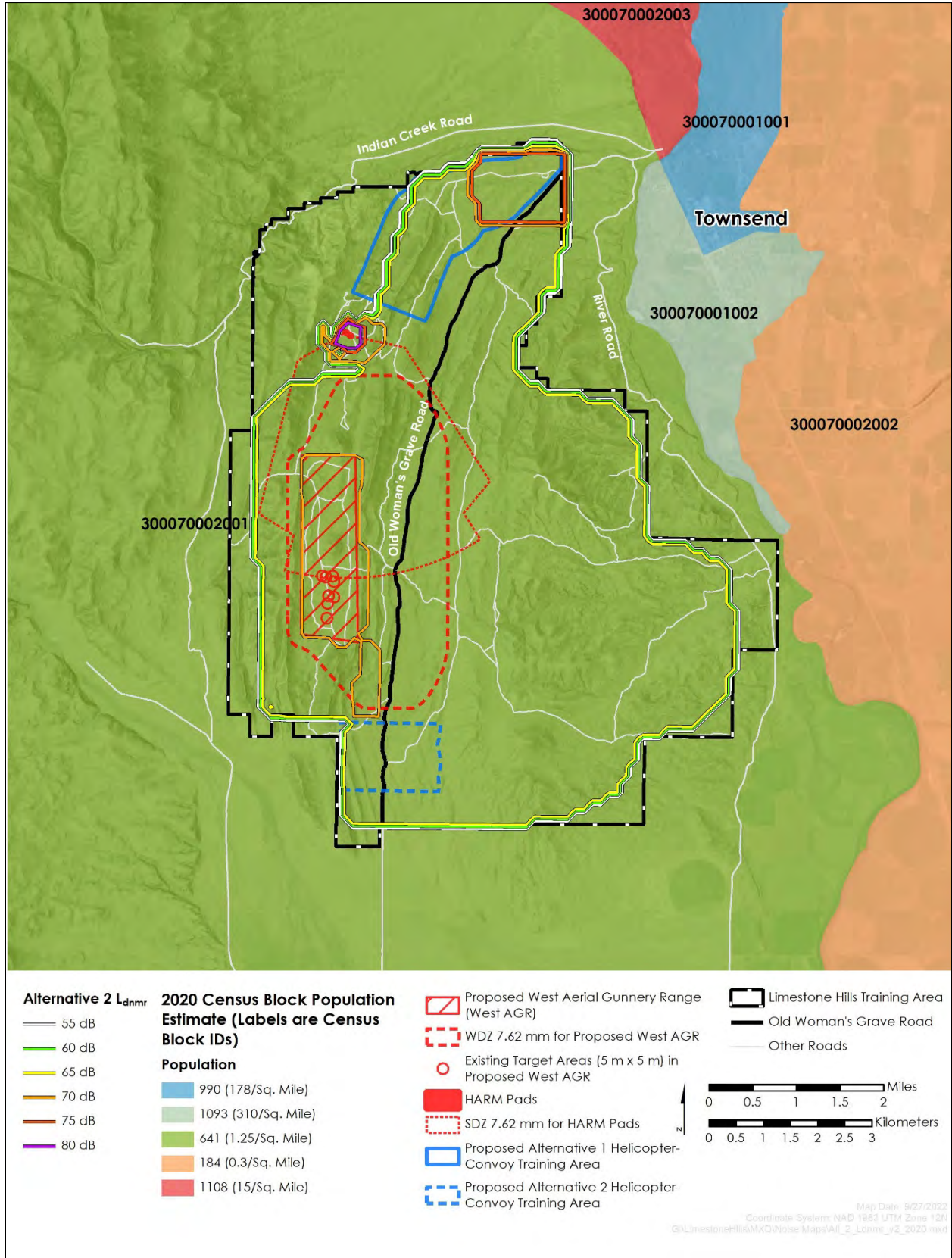


Figure C.1-1. Baseline L_{dnmr} Overlaid on 2020 Census Blocks at LHTA.



C.1-2. Alternative 1 L_{dnmr} Overlaid on 2020 Census Blocks at LHTA.



C.1-3. Alternative 2 L_{dnmr} Overlaid on 2020 Census Blocks at LHTA.

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C.2 DNL Figures on 2010 Census Block Data and on Land Use Data

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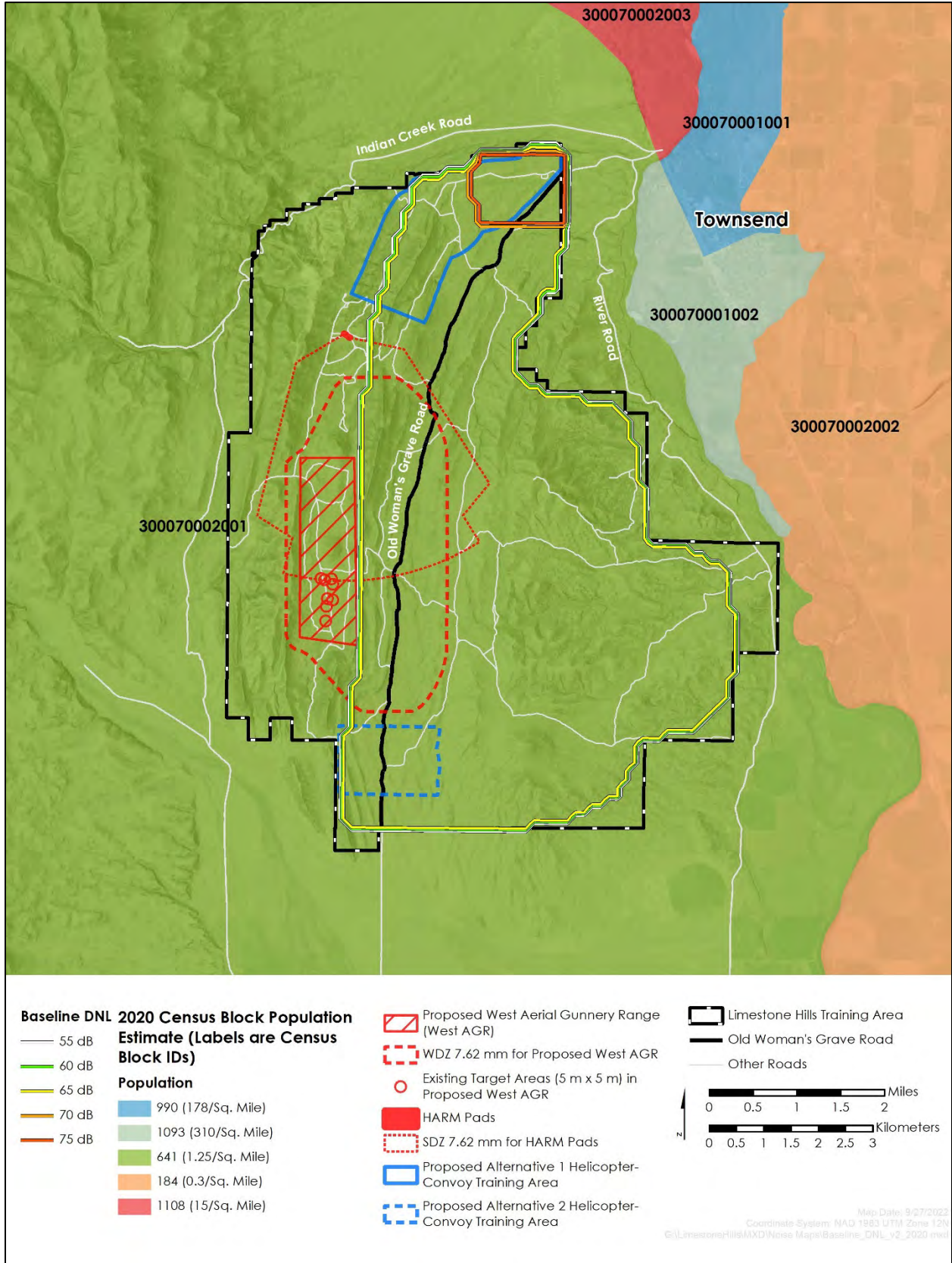


Figure C.2-1. Baseline DNL Overlaid on 2020 Census Blocks at LHTA.

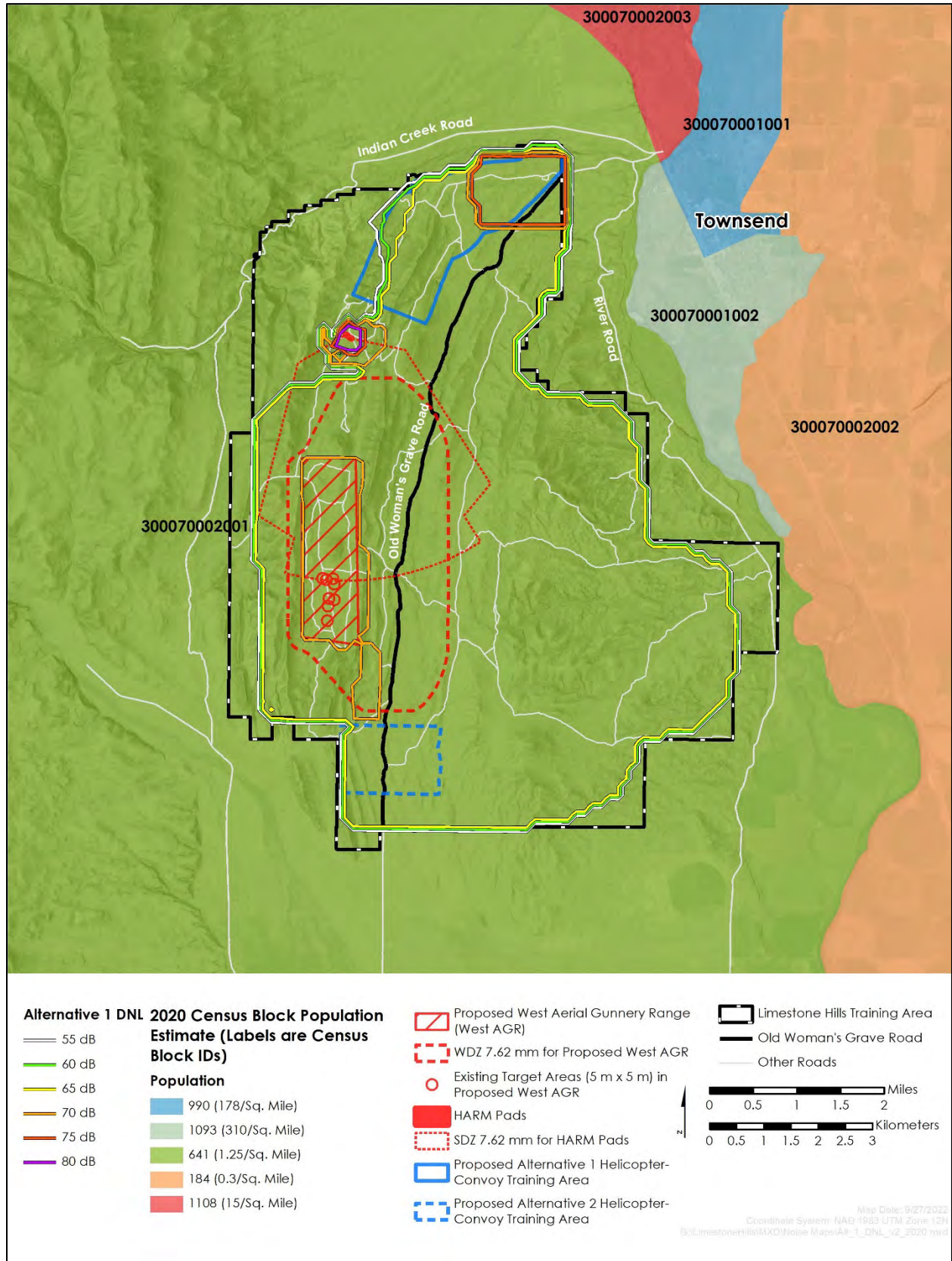


Figure C.2-2. Alternative 1 DNL Overlaid on 2020 Census Blocks at LHTA.

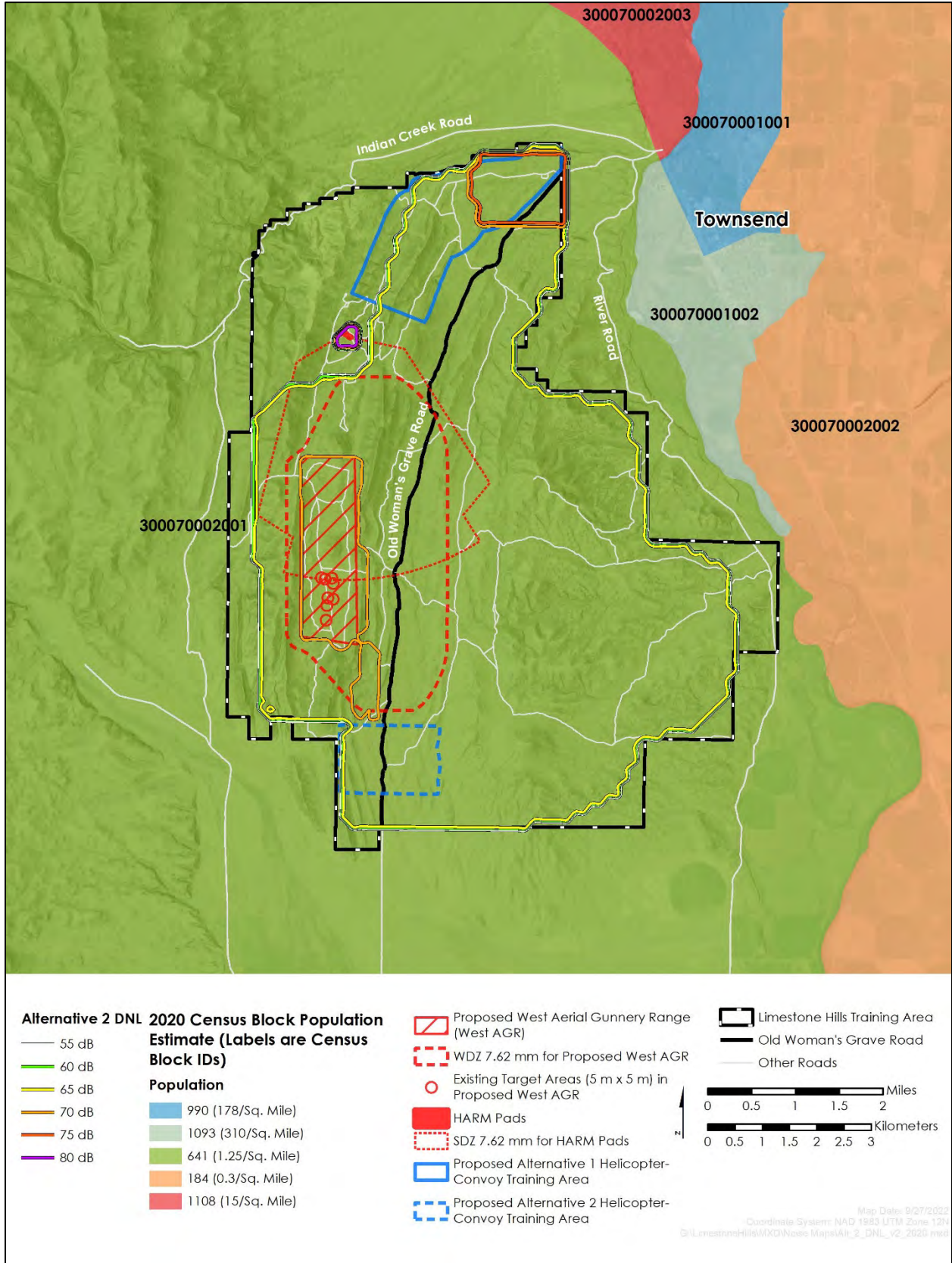


Figure C.2-3. Alternative 2 DNL Overlaid on 2020 Census Blocks at LHTA.

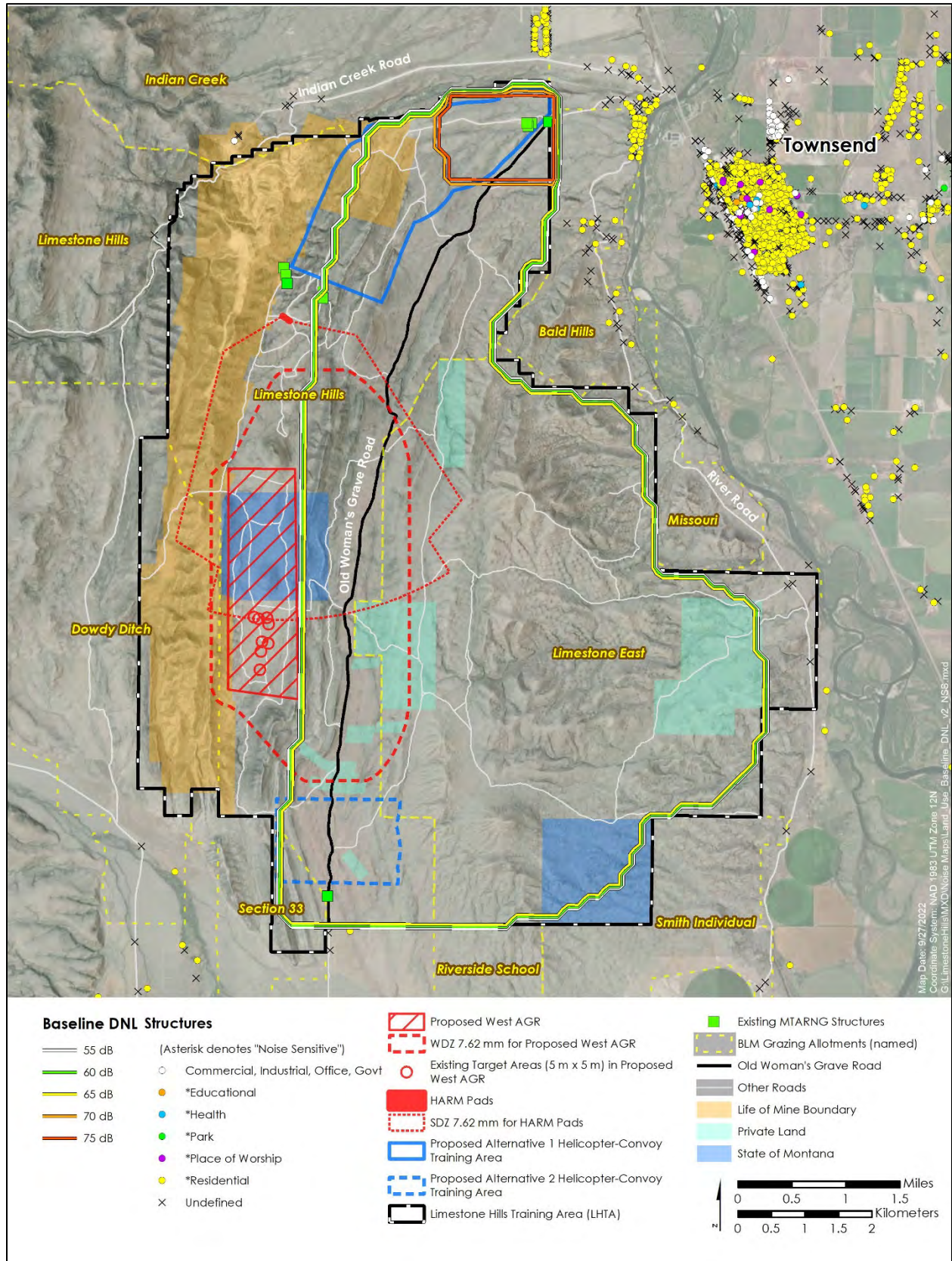


Figure C.2-4. Baseline DNL Overlaid on Land Use at LHTA.

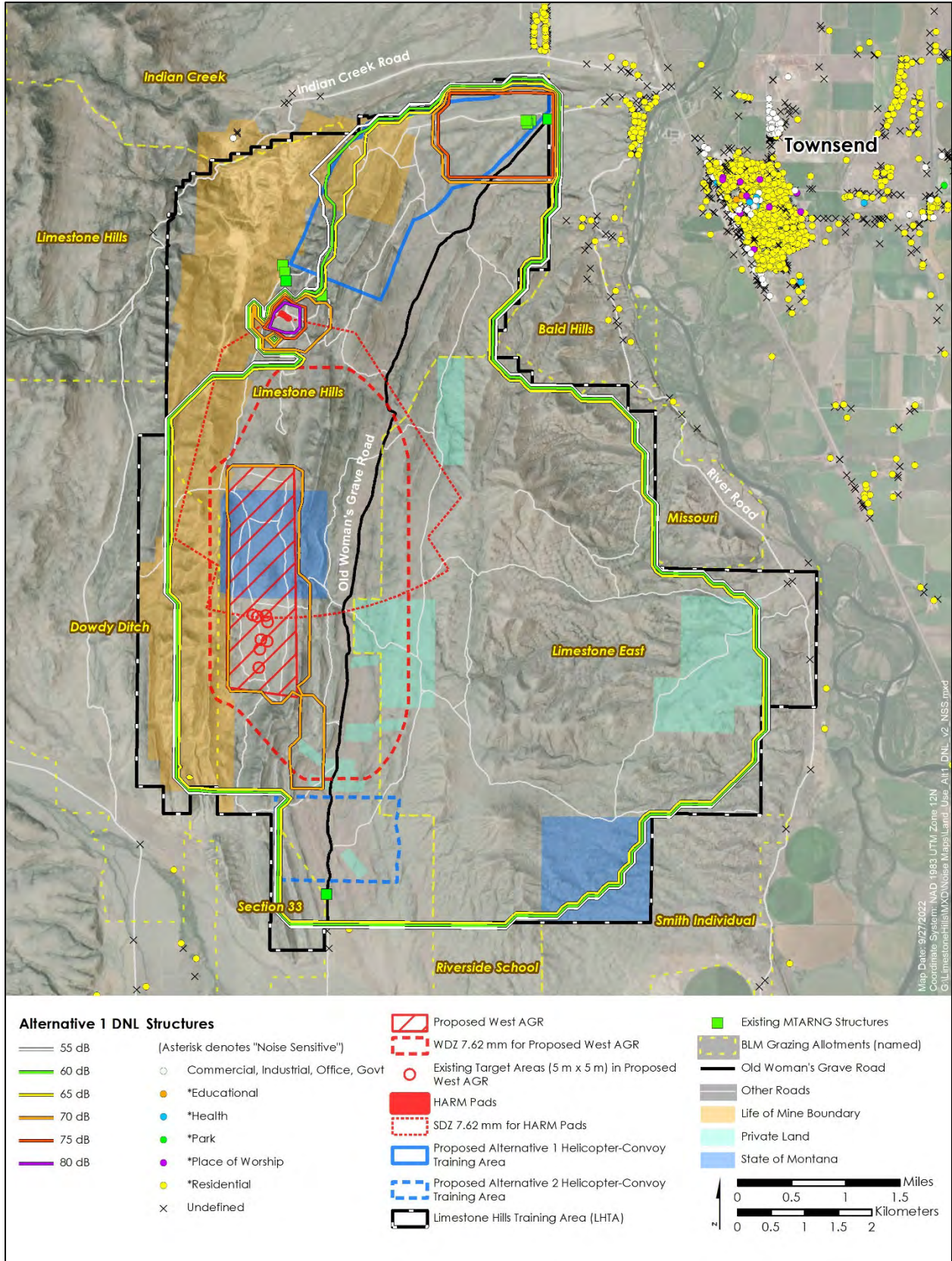


Figure C.2-5. Alternative 1 DNL Overlaid on Land Use at LHTA.

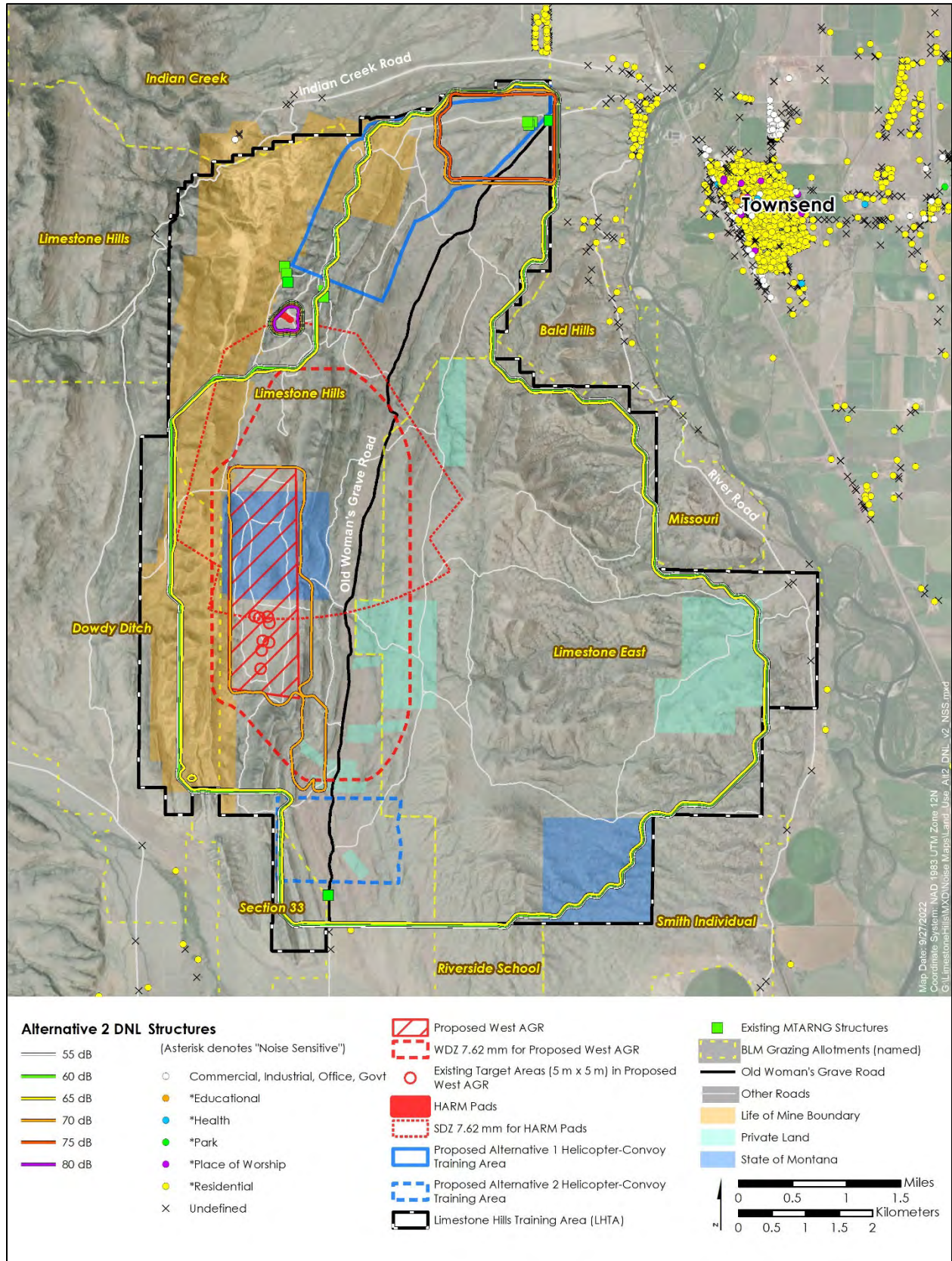


Figure C.2-6. Alternative 2 DNL Overlaid on Land Use at LHTA.

C.3 Weapon Noise at LHTA

(MTARNG 2020b)

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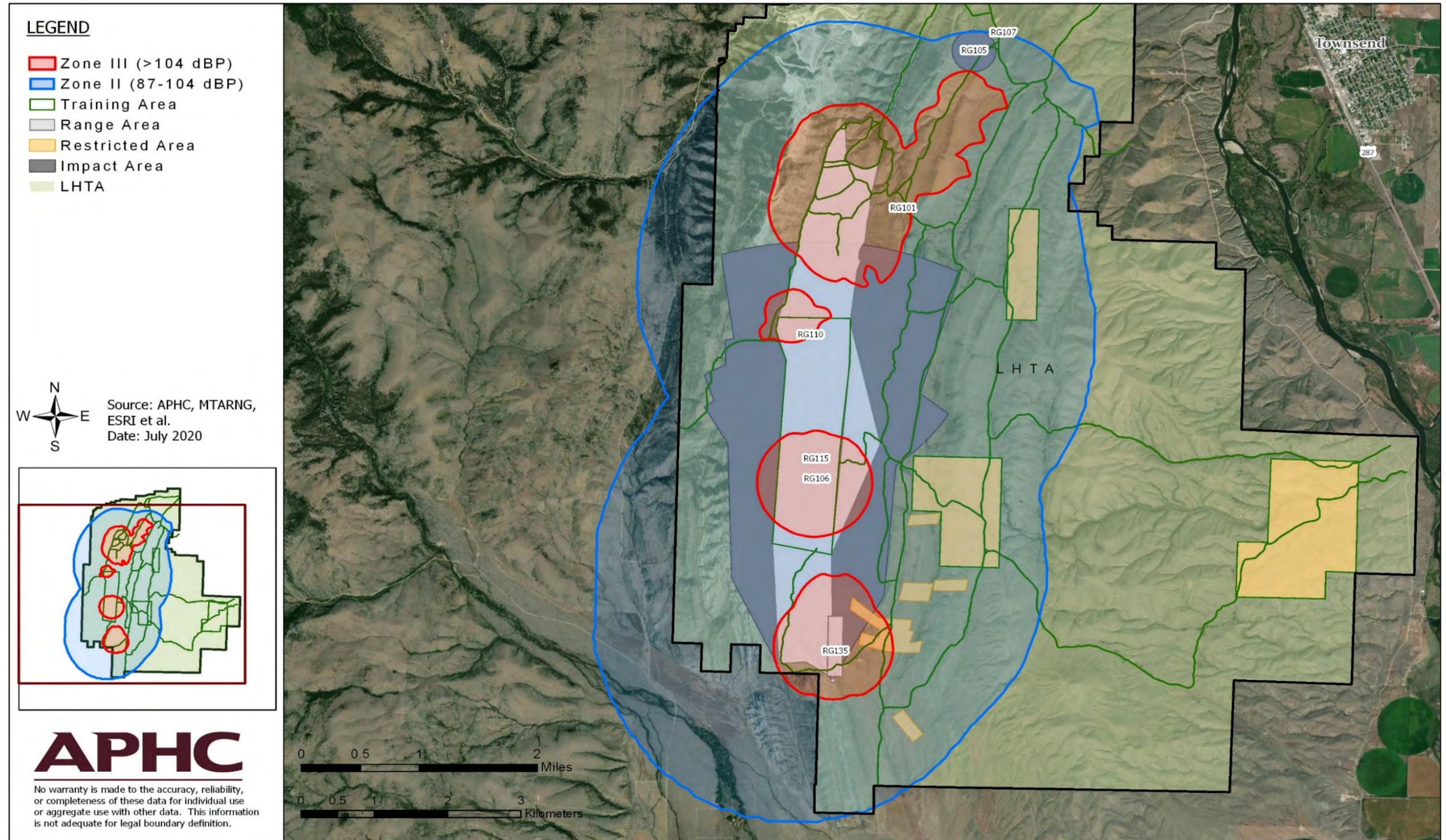


Figure C.2-1. LHTA Small Arms Noise Zones.

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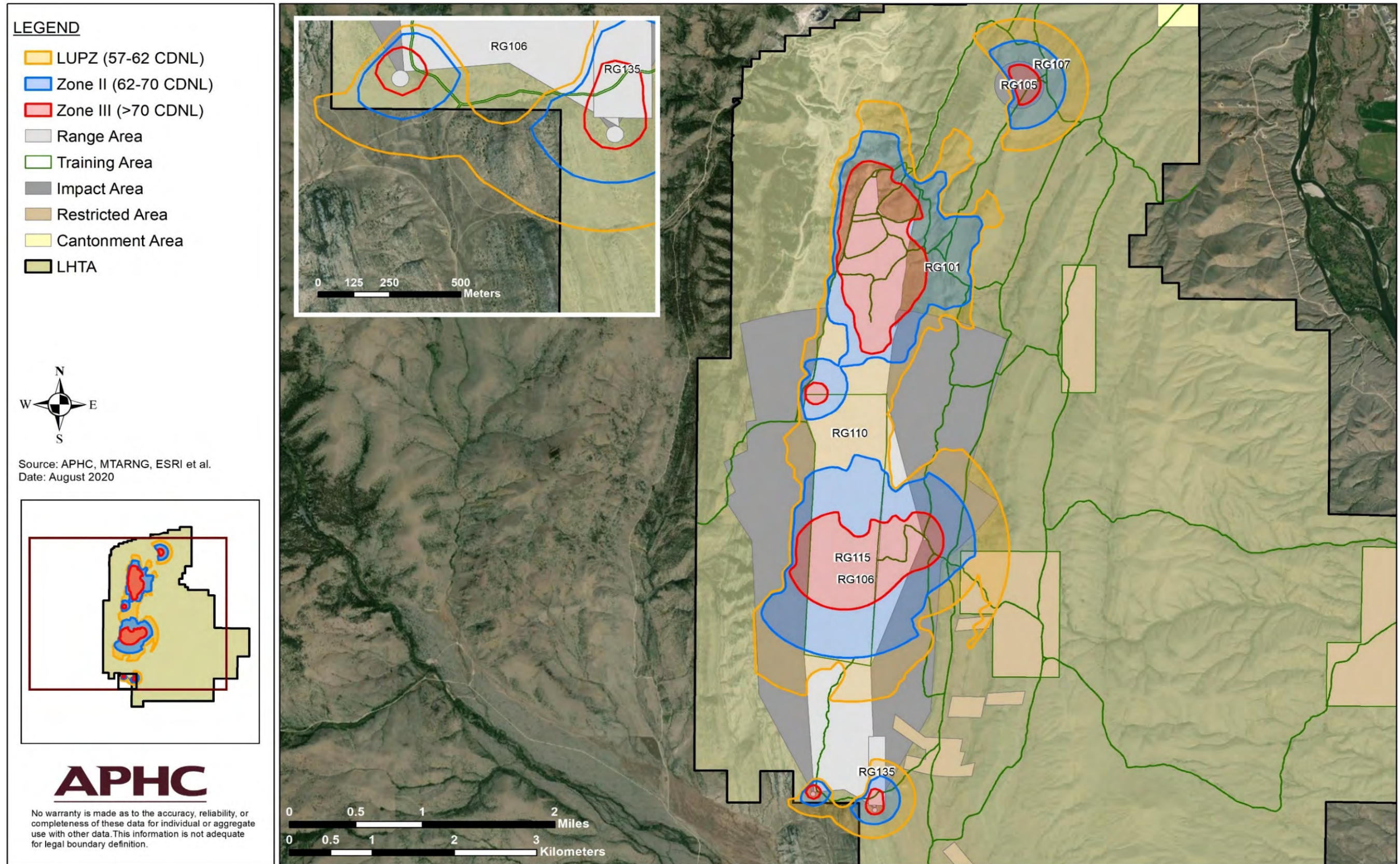


Figure C.2-2. LHTA Large Calibre Noise Zones (CDNL).

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