Melrose Air Force Range

Environmental Assessment for the Comprehensive Range Plan

July 2011

Report Documentation Page

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
JUL 2011		**00-00-2011 to 00-00-2011**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
Environmental Assessment (EA) for the Comprehensive Range Plan (CRP) Melrose Air Force Range (AFR), New Mexico	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **27th Special Operations Wing,Cannon AFB,NM,88103**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT **unclassified**	b. ABSTRACT **unclassified**	c. THIS PAGE **unclassified**	**Same as Report (SAR)**	**229**	

Environmental Assessment (EA) for the Comprehensive Range Plan (CRP)

Melrose Air Force Range (AFR),

New Mexico

July 2011

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FINDING OF NO SIGNIFICANT IMPACT

NAME OF THE PROPOSED ACTION

Environmental Assessment (EA) to assess the potential environmental impacts associated with the implementation of the Comprehensive Range Plan (CRP) dated February 2009 for Melrose Air Force Range, New Mexico.

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

Alternative 1, the Proposed Action consists of a number of range improvements to be made to Melrose Air Force Range (AFR) for better utilization of the Air Force, United States Special Operations Command (USSOCOM), Air Force Special Operations Command (AFSOC), and the 27th Special Operations Wing's (27 SOW's) mission goals. These improvements occur primarily in the construction of facilities, improved and unimproved Landing Zones (LZs), concrete pads for training activities, small arms firing range, fencing, etc. It is expected that these projects would be completed over a period of years. Implementation of an extended Exclusive Use Area would require the movement of the existing Exclusive Use Area to meet Krider Road on the east side.

Alternative 2 is the same as the Proposed Action with the exception of relocating of the improved runway and taxiway, hangars, and the Permanent Exercise Facilities (PEF) to the southeast area of the range.

Alternative 3 consists of those projects contained in the Proposed Action, but does not extend the Exclusive Use Area to Krider Road.

Under the No Action Alternative, specific construction or repair projects associated with the CRP would not be implemented. Selection of the No Action Alternative represents continued use of the existing Melrose AFR and existing range facilities for training at current levels.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

The public and agency scoping process focused the analysis on the following environmental resources: land use, infrastructure, socioeconomics and environmental justice, cultural, biological, water, air quality, hazardous materials and waste, safety, and noise. As indicated in Chapter 4.0, neither the Proposed Action nor any of the action alternatives would result in significant impacts to any resource area.

Airspace and Range Management - Construction of new (LZs, runways, and drop zones) would change air traffic patterns in the airspace overlying the range. However, construction of the new range control tower and coordinated scheduling would assure deconfliction of air traffic and improve coordination of ground and air assets that are using the range.

Noise - C-130 type aircraft orbiting at an altitude of approximately 6,000 to 11,000 feet Above Ground Level (AGL) are not expected to increase noise levels under the restricted airspace. Domestic or wild animals in areas subject to aircraft operations or impulse noise would be expected to avoid the specific impact area and habituate to noise levels. The proposed expanded

small arms range would increase noise from various size weapons up to 50 caliber machine guns including those fired from CV-22 aircraft. This noise would be less than the noise from munitions usage on live-fire targets, but could still result in annoyance to residents in the periphery of the range.

Safety - Implementation of the Proposed Action would slightly increase the short-term safety risk associated with construction contractors performing work at the chosen project sites during the normal workday since the level of such activity would increase. As part of normal operations, contractors would be required to establish and maintain a safety plan for construction activities. Construction of new and improved facilities such as the range control tower and improved LZs and small arms ranges would enhance the overall safety at Melrose AFR by providing new facilities with updated safety features and equipment. The Center Scheduling Enterprise (CSE) range-scheduling tool enhances the ability of range schedulers to deconflict incompatible activities on the range. In addition, improvements to LZs and continued implementation of wildfire management practices would lessen the potential for wildfires resulting from range activities. The risk of fire from flare use is minimal and therefore not significant due to the low failure rate of flares, procedures that limit flare use to a minimum altitude of 5,000 feet AGL during a yellow or above fire condition, placement of additional fire management resources at Melrose AFR, and observance of expanded fire management practices. Additionally, a new weapons safety foot print analysis was evaluated for AC-130U gunships to safely use their 25 mm munitions on the existing Jockey impact area. Using the Weapons Danger Zone program, analysis showed that 25 mm munitions on the AC-130U can be safely employed between 3,000 and 15,000 feet AGL within the existing footprint of the Jockey impact area. The 25 mm munition would be approved for use on Melrose AFR within the parameters of the Weapons Danger Zone analysis. The Jockey impact area will remain at its current dimensions.

Air Quality - Since the project site for each alternative is a long distance from any designated Prevention of Significant Deterioration (PSD) Class I air quality area, the Proposed Action and Alternatives would not produce air quality impacts to these areas. Additionally, the emissions from aircraft associated with the Proposed Action or action alternatives would not exceed those already analyzed and considered in the Record of Decision for the AFSOC Beddown EIS.

Physical Resources - The limited areas of proposed construction on Melrose AFR and the depth to bedrock and to the aquifer in the locations of the proposed facilities make it unlikely that impacts could occur to geologic resources or groundwater. The potential impacts to physical resources (primarily soil and water) are due to soil disturbance resulting in erosion or loss of vegetation, the creation of impervious surface leading to increased stormwater runoff, and potential surface or groundwater contamination or degradation. The slight increase in surface water runoff would be managed through the implementation of basic control measures for storm water that would prevent erosion, control sediment loss, and keep other pollutants from running off the site. Using Best Management Practices (BMPs) and other preventative measures, potential impacts to water resources resulting from the Proposed Action and Alternatives would be minimal and therefore not significant.

Biological Resources - Some permanent loss of habitat within the construction footprints would occur. It is expected that habitats and individual wildlife that remain near construction activities

would be exposed to an increase in noise, dust, and other human intrusion during the construction phases. There is the potential, especially if ground-clearance occurs in the spring that young and other immobile animals may not be able to leave the area and may be harmed. This would be minimized by conducting site surveys prior to construction. Additionally, proposed construction projects will be sited to avoid areas of environmental concern whenever possible. The Black-Tailed Prairie Dog (BTPD) and burrowing owls, neither listed under federal Endangered Species Act (ESA), but regularly monitored on the range due to state concern. These occur primarily in the southeastern portion of the range. As of 2010 very little of the BTPD towns remained active. If Alternative 2 were chosen, sites would be surveyed for BTPD and burrowing owls before ground clearing activities would occur. No jurisdictional wetlands would be affected by project construction. The current location for several components of Alternative 1, including the proposed clear zone for the improved LZ taxiway is likely to overlap with a portion of habitat mapped in association with an inactive lek formerly used by lesser prairie chickens, which are a federal candidate species. As recommended by the New Mexico Department of Game and Fish (NMDGF), construction activities would not occur within one mile of active lesser prairie chicken leks during the breeding period of February 15 to July 1 between 3:00 AM and 9:00 AM. No threatened, endangered, or other sensitive species are known to occur in the proposed construction area and, therefore, no effects to sensitive species other than the lesser prairie chicken are anticipated. With the above restriction on construction activities, no significant impacts on the lesser prairie chicken are expected.

Cultural Resources - The Air Force has determined, and the New Mexico State Historic Preservation Office and the Advisory Council for Historic Preservation, have concurred that the following projects included in the proposed action will have no adverse effects on historic properties:

(1) Repair Cattle Guards and Fences: Enclose exclusive use area of range removing existing fences and installing 8.5 miles of new fence and gates.

(2) Unimproved C-130 Strip: Unimproved dirt landing zone 5,000 ft x 150 ft with 300 foot turnarounds at each end (Figure 2-1, Map Reference 9).

(3) Mountain Terrorist Village and Survival Training Complex: Four Cave Complex; Container based Mountain Village in area of cave complex; SERE Urban Training Area 500 ft x 700 ft using 60-containers; 3-story SERE Tower on 60 ft x 90 ft concrete pad (Figure 2-1, Map Reference 6, 6A and 8).

(4) SOF Operations Planning Facility: Temporary facility adjacent to Building 3160).

(5) Convoy Escort: Vehicle maneuvering area simulating rural road with series of obstacles using container construction to enabling weapons firing from vehicles (Figure 2-1, Map Reference 5).

For all other projects included in the proposed action or alternatives, the Air Force will complete National Historic Preservation Act (NHPA) Section 106 consultation requirements prior to the expenditure of any funds by following the standard operating procedures outlined in the Cannon Air Force Base Integrated Cultural Resources Management Plan (CRMP) 2009. This includes

consultation with the New Mexico State Historic Preservation Office regarding: the determination of areas of potential effects; determining the eligibility of cultural resources for listing on the National Register; and resolving adverse effects. To the maximum extent practical, facilities will be sited to avoid areas in which cultural resources are known to exist as shown in the site surveys of cultural resources at Melrose AFR. Therefore, no significant impacts on cultural resources are expected.

Land Use - Operations on the range could result in noise levels that could potentially affect range personnel, but use of personal protective equipment during operations would address any adverse impacts. Additionally, under the Proposed Action, the implementation of the actions described in the CRP and this EA would not be inconsistent or noncompliant with applicable land use plans and policies, would not prevent continued use or occupation of an area as appropriate, nor would they be incompatible with adjacent or nearby land use to the extent public health or safety is threatened. As such, no significant impacts are expected.

Socioeconomics - Approximately 25,000 acres will no longer be leased. The loss of the leased areas is not expected to affect regional farming output significantly; however, it could potentially have a detrimental effect on the lessee.

Environmental Justice - There are no permanent residents on the 60,010-acre Melrose AFR and all construction activities would be contained within the range boundary; therefore, there would be no disproportionately high and adverse environmental or human health impacts to minority, low-income, or children for any of the Alternatives discussed in this EA.

NO-ACTION ALTERNATIVE

Under the No Action Alternative, specific construction or repair projects associated with the CRP would not be implemented. Selection of the No Action Alternative represents continued use of the existing Melrose AFR and existing range facilities for training at current levels.

CONCLUSION

Based on the descriptions and analysis of this EA, which was conducted in accordance with the requirements of the National Environmental Policy Act (NEPA) (42 United States Code [USC] 4321-4347), Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] §§ 1500-1508), and 32 CFR Part 989, et seq., *Environmental Impact Analysis Process* (formerly known as Air Force Instruction [AFI] 32-7061); and after careful review of the potential impacts, I conclude implementation of the Proposed Action or Action Alternatives would not result in significant impacts to the quality of the human or the natural environment. Therefore, a Finding of No Significant Impact (FONSI) is warranted and an Environmental Impact Statement (EIS) is not required for this action.

KIRK W. SMITH, Colonel, USAF
Vice Commander, 27th Special Operations Wing

15 Jun 11
Date

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

Executive Summary

Pursuant to National Environmental Policy Act (NEPA) (42 United States Code [USC] 4321-4347), Council on Environmental Quality (CEQ), *Regulations for Implementing the Procedural Provisions of NEPA* (40 Code of Federal Regulations [CFR] §§ 1500-1508), and 32 CFR 989, *et seq*., *Environmental Impact Analysis Process* (cross-referenced as Air Force Instruction [AFI 32]-7061), the United States Air Force (Air Force), 27th Special Operations Wing (27 SOW) completed an Environmental Assessment (EA) to assess the potential environmental impacts associated with the implementation of the Comprehensive Range Plan (CRP) dated August 2008 for Melrose Air Force Range (AFR), New Mexico (CRP 2008).

ES.1 ALTERNATIVE 1 - PROPOSED ACTION

Alternative 1 - Is the Proposed Action and consists of a variety of range improvements at Melrose AFR including facilities and infrastructure construction, renovation projects, and ongoing maintenance and repair. Many of these projects were identified in the CRP. A current list of proposed projects is provided in Section 2.0 of this EA and additional refinements would occur throughout the planning and construction process. Additionally, two other alternatives (involve alternate locations of some facilities) and the No Action Alternative (maintaining the range as currently configured) was evaluated.

ES.2 PURPOSE AND NEED OF THE PROPOSED ACTION

The purpose of the Proposed Action is to implement the range improvements and infrastructure improvements contained in the CRP to allow Melrose AFR to provide continual support to all users while supporting the Special Operations Forces (SOF) mission.

The need to implement comprehensive plans on training ranges has become imperative due to the increased requirements and changing mission focus within the Air Force. There is a pressing need for a Melrose AFR vision to address the current and future needs of the Air Force, Air Force Special Operations Command (AFSOC), United States Special Operations Command (USSOCOM), and the Department of Defense (DoD).

The transfer in ownership from Air Combat Command (ACC) to AFSOC requires a shift of focus at Melrose AFR. The primary mission of Melrose AFR under ACC was to support tactical aircraft flying primarily daylight missions. Under AFSOC, the range would continue to support ACC and all users, but the focus would shift to support the daytime and nighttime activities for SOF. Additionally, Melrose AFR resources have attracted the interest of other branches of the military who are seeking better facilities to meet their training requirements. As a result, new weapons, tactics, and joint force training are creating demands on a range configuration originally designed for air-to-ground bombing and gunnery training.

ES.3 DESCRIPTION OF REASONABLE ALTERNATIVES

Alternative 1 – Is the Proposed Action, consists of a number of range improvements to Melrose AFR for better implementation of the Air Force, USSOCOM, AFSOC, and 27 SOW mission goals. These improvements occur primarily in the construction of facilities, improved and unimproved Landing Zones (LZs), concrete pads for training activities, small arms firing range, fencing, etc. It is expected that these projects would be completed over a period of years. Implementation of an extended Exclusive Use Area would require the movement of the existing Exclusive Use Area to meet Krider Road on the west side.

Alternative 2 - Is the same as the Proposed Action with the exception of the relocation of the improved runway and taxiway, hangars, and Permanent Exercise Facilities (PEF) to the southeast area of the range.

Alternative 3 - Consists of those projects contained in the Proposed Action, but does not extend the Exclusive Use Area to Krider Road.

No Action Alternative - Specific construction or repair projects associated with the CRP would not be implemented. Selection of the No Action Alternative represents continued use of the existing Melrose AFR and existing range facilities for training at current levels.

ES.4 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

This EA identifies, describes, and evaluates the potential environmental effects associated with the Proposed Action and Alternatives resulting from the implementation of the CRP.

The following resources are analyzed in this EA: airspace and range management, physical resources, biological resources, cultural resources, socioeconomics and environmental justice, air quality, safety, and noise. Chapter 4.0 addresses the potential environmental consequences of implementing the Proposed Action, Alternatives, or the No Action Alternative and the indirect and direct cumulative impacts of each alternative.

Airspace and Range Management – Construction of new LZs, runways, and Drop Zones (DZs) would change air traffic patterns in the airspace overlying the range. However, construction of the new range control tower and coordinated scheduling would assure deconfliction of air traffic and improve coordination of ground and air assets that are using the range.

Noise – C-130 type aircraft orbiting at an altitude of approximately 6,000 to 11,000 feet Above Ground Level (AGL) are not expected to increase noise levels under the restricted airspace. Domestic or wild animals in areas subject to aircraft operations or impulse noise would be expected to avoid the specific impact area and habituate to noise levels. The proposed expanded small arms range would increase noise from various size weapons up to 50 caliber machine guns including those fired from CV-22 aircraft. This noise would be less than the noise from munitions usage on live-fire targets, but could still result in annoyance to residents in the periphery of the range.

Safety – Implementation of the Proposed Action would slightly increase the short-term safety risk associated with construction contractors performing work at the chosen project sites during the normal workday since the level of such activity would increase. As part of normal operations, contractors would be required to establish and maintain a safety plan for construction activities. Construction of new and improved facilities such as the range control tower and improved LZs and small arms ranges would enhance the overall safety at Melrose AFR by providing new facilities with updated safety features and equipment. The Center Scheduling Enterprise (CSE) range-scheduling tool enhances the ability of range schedulers to deconflict incompatible activities on the range. In addition, improvements to LZs and continued implementation of wildfire management practices would lessen the potential for wildfires resulting from range activities. The risk of fire from flare use is minimal and therefore not significant due to the low failure rate of flares, procedures that limit flare use to a minimum altitude of 5,000 feet AGL during a yellow or above fire condition, placement of additional fire management resources at Melrose AFR, and observance of expanded fire management practices. Additionally, a new weapons safety footprint analysis was evaluated for AC-130U gunships to use their 25 mm munitions safely on the existing Jockey impact area. Using the Weapons Danger Zone program, analysis showed that 25 mm munitions on the AC-130U could be safely employed between 3,000 and 15,000 feet AGL within the existing footprint of the Jockey impact area. The 25 mm munition would be approved for use on Melrose AFR within the parameters of the Weapons Danger Zone analysis. The Jockey impact area will remain at its current dimensions.

Air Quality – Since the project site for each alternative is a long distance from this designated Prevention of Significant Deterioration (PSD) Class I air quality area, the Proposed Action and Alternatives would not produce air quality impacts to this area. Additionally, the emissions from aircraft associated with the Proposed Action or action alternatives would not exceed those already analyzed and considered in the Record of Decision (ROD) for the *AFSOC Beddown EIS*.

Physical Resources – The limited areas of proposed construction on Melrose AFR and the depth to bedrock and to the aquifer in the locations of the proposed facilities make it unlikely that impacts could occur to geologic resources or groundwater. The potential impacts to physical resources (primarily soil and water) are due to soil disturbance resulting in erosion or loss of vegetation, the creation of impervious surface leading to increased stormwater runoff, and potential surface or groundwater contamination or degradation. The slight increase in surface water runoff would be managed through the implementation of basic control measures for storm water that would prevent erosion, control sediment loss, and keep other pollutants from running off the site. Using Best Management Practices (BMPs) and other preventative measures, potential impacts to water resources resulting from the Proposed Action and Alternatives would be minimal and therefore not significant. No adverse hazardous materials and waste management environmental consequences are expected resulting from the implementation of the Proposed Action.

Biological Resources – Some permanent loss of habitat within the construction footprints would occur. It is expected that habitats and individual wildlife that remain near construction activities would be exposed to an increase in noise, dust, and other human intrusion during the construction phases. There is the potential, especially if ground-clearance occurs in the spring that young and other immobile animals may not be able to leave the area and may be harmed. This would be minimized by conducting site surveys prior to construction. Additionally, proposed construction projects would be sited to avoid areas of environmental concern whenever possible. The Black-Tailed Prairie Dog (BTPD) and burrowing owls, neither listed under federal Endangered Species Act (ESA) are regularly monitored on the range due to state concern. These occur primarily in the southeastern portion of the range. As of 2010, few BTPD towns remained active. If Alternative 2 were chosen, sites would be surveyed for BTPD and burrowing owls before ground clearing activities would occur. No jurisdictional wetlands would be affected by project construction. The current location for several components of the Proposed Action, including the proposed clear zone for the improved LZ taxiway is likely to overlap with a portion of habitat mapped in association with an inactive lek formerly used by lesser prairie chickens, which are a federal candidate species. As recommended by the New Mexico Department of Game and Fish (NMDGF), construction activities would not occur within one mile of active lesser prairie chicken leks during the breeding period of February 15 to July 1 between 3:00 AM and 9:00 AM. No threatened, endangered, or other sensitive species are known to occur in the proposed construction area and, therefore, no effects to sensitive species other than the lesser prairie chicken are anticipated. With the above restriction on construction activities, no significant impacts on the lesser prairie chicken are expected.

Cultural Resources – The Air Force has determined, and the New Mexico State Historic Preservation Office and the Advisory Council for Historic Preservation have concurred, that the following projects included in the proposed action will have no adverse effects on historic properties:

1. Repair Cattle Guards and Fences: Enclose Exclusive Use Area of range, removing existing fences, and installing 8.5 miles of new fence and gates.
2. Unimproved C-130 Strip: Unimproved dirt landing zone 5,000 ft x 150 ft with 300-foot turnarounds at each end (Figure 2-1, Map Reference 9).

3. Mountain Terrorist Village and Survival Training Complex: Four Cave Complex; Container based Mountain Village in area of cave complex; SERE Urban Training Area 500 ft x 700 ft using 60-containers; 3-story SERE Tower on 60 ft x 90 ft concrete pad (Figure 2-1, Map Reference 6, 6A, and 8).
4. SOF Operations Planning Facility: Temporary facility adjacent to Building 3160).
5. Convoy Escort: Vehicle maneuvering area simulating rural road with series of obstacles using container construction to enabling weapons firing from vehicles (Figure 2-1, Map Reference 5).

For all other projects included in the proposed action or alternatives, the Air Force will complete National Historic Preservation Act (NHPA) Section 106 consultation requirements prior to the expenditure of any funds by following the standard operating procedures outlined in the Cannon Air Force Base Integrated Cultural Resources Management Plan (ICRMP) 2009. This includes consultation with the New Mexico State Historic Preservation Office (SHPO) regarding the determination of areas of potential effects; determining the eligibility of cultural resources for listing on the National Register; and resolving adverse effects. To the maximum extent practical, facilities would be sited to avoid areas in which cultural resources are known to exist as shown in the site surveys of cultural resources at Melrose AFR. Therefore, no significant impacts on cultural resources are expected.

Land Use – Operations on the range could result in noise levels that could potentially affect range personnel, but use of personal protective equipment during operations would address any adverse impacts. Additionally, under the Proposed Action, implementation of the actions described in the CRP and in this EA would not be inconsistent or noncompliant with applicable land use plans and policies, would not prevent continued use or occupation of an area as appropriate, nor would they be incompatible with adjacent or nearby land use to the extent public health or safety is threatened. As such, no significant impacts are expected..

Socioeconomics – Approximately 25,000 acres will no longer be leased. The loss of the leased areas is not expected to affect regional farming output significantly; however, it could potentially have a detrimental effect to the lessee.

Environmental Justice – There are no permanent residents on the 60,010-acre Melrose AFR, therefore for all Alternatives, all construction activities would be contained within the range boundary; therefore, there would be no disproportionately high and adverse environmental or human health impacts to minority, low-income, or children for any of the Alternatives discussed in this EA.

1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 Introduction

Comprehensive Range Planning is accomplished to identify current and projected capabilities and limitations and guide sustainable range development (AFI 13-212). The Air Force Special Operations Command (AFSOC) vision for Melrose Air Force Range (AFR) captures AFSOC's objective to create the United States Special Operations Command's (USSOCOM) premier training complex, relevant and sustainable, focusing on interoperable joint combat.

To achieve this vision and accomplish this goal, AFSOC proposes implementation of its Melrose AFR, New Mexico Comprehensive Range Plan (CRP). The CRP provides information in directing resources, defining direction, and measuring success at Melrose AFR. This Environmental Assessment (EA) analyzes the potential environmental consequences associated with the Proposed Action, Alternatives, and the No Action Alternative. The Proposed Action would involve implementing range projects identified in the CRP. Alternatives consist of various configurations of range components and facilities. Under the No Action Alternative, certain range improvements would not be performed.

This EA addresses the Proposed Action, Alternatives, and the No Action Alternative in accordance with the National Environmental Policy Act (NEPA) (42 United States Code [USC] 4321-4347), Council on Environmental Quality (CEQ), *Regulations for Implementing the Procedural Provisions of NEPA* (40 Code of Federal Regulations [CFR] §§ 1500-1508), and 32 CFR 989, *et seq*., *Environmental Impact Analysis Process* (cross-referenced as Air Force Instruction [AFI] 32-7061).

1.2 Background

There is a pressing need for range reconfiguration and new construction to meet AFSOC and other USSOCOM training requirements.

1.2.1 Melrose AFR

Melrose AFR is the primary air-to-ground training range used by the 27th Special Operations Wing (27 SOW). It is 32 miles west of Cannon Air Force Base (AFB) and currently occupies 60,010 acres. Melrose AFR is on relatively flat land composed of mixed-grass prairie and is bounded on two sides by a 200-foot tall mesa. Of the more than 60,010 acres comprising the range, approximately 10,127 acres comprise the impact area. Approximately eleven acres of the range supports facilities including a fire station, maintenance areas, and a camera station for monitoring ordnance practice. The remaining 49,883 acres comprise the buffer zone that the Air Force leases to ranchers and farmers for cattle grazing and irrigated agriculture (Figure 1–1). The agricultural lands are leased to local farmers and ranchers under varying use restrictions. The base Civil Engineer Squadron manages the leased land and the Special Operations Group manages the Exclusive Use Area.

The Air Force, the New Mexico Air National Guard (ANG), and the Navy and Marine Corps, have used Melrose AFR for bombing and gunnery practice since the Korean War. In 1952, the Air Force obtained 7,771 acres near Melrose, New Mexico and the land served as a bombing range for F-86 aircraft stationed at Clovis AFB (now Cannon AFB). Later, additional land was acquired as Air Force-owned real property through the Military Construction Authorization Act of 1967 (Public Law [P.L.] 89-568).

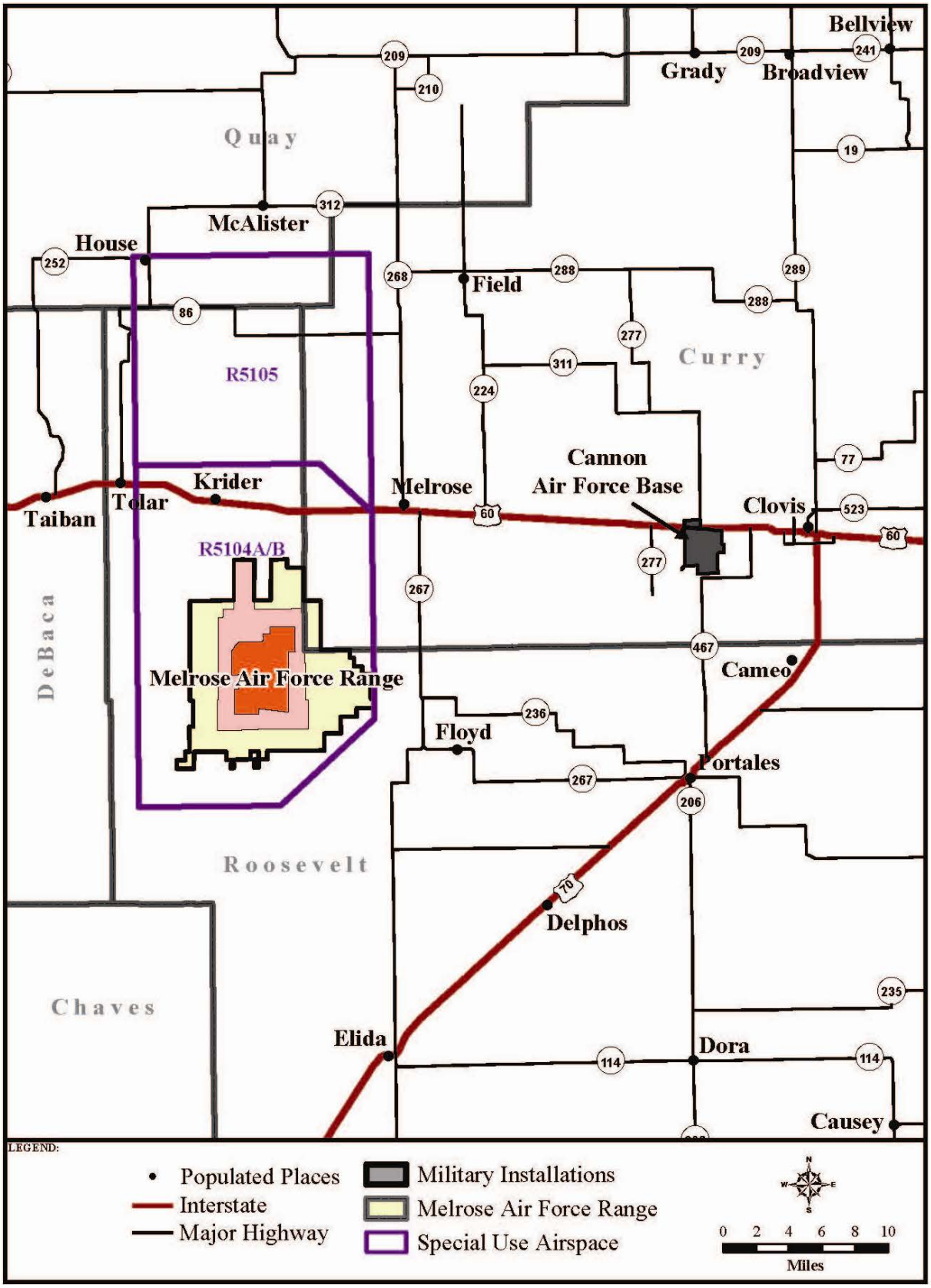

Figure 1−1. Cannon AFB and Melrose AFR

In May 2006, the Secretary of Defense directed transfer of Cannon AFB and Melrose AFR from Air Combat Command (ACC) to AFSOC effective October 1, 2007 causing major impacts on Melrose AFR. The primary mission of Melrose AFR under ACC was to support tactical aircraft flying primarily daylight missions. Under AFSOC, the range would continue to support ACC and all users, but the focus would shift to support the Special Operations Forces (SOF) day and nighttime activities.

1.2.2 Comprehensive Range Plan (CRP)

The Proposed Action consists of implementing and updating the CRP through a variety of range improvements, many of which were identified in the CRP. A current list of proposed projects is provided in Section 2.0 and additional refinement would occur throughout the planning and construction process.

1.3 Purpose of the CRP

The CRP provides information for Air Force planners to use in directing resources, defining direction, and measuring success in the implementation of AFI 13-212, *Range Planning and Operations* dated November 16, 2007.

The Air Force Ranges and Airspace Division (HQ USAF/A3O-BR) requires comprehensive range planning in accordance with AFI 13-212. Range planning is independent from installation planning for purposes of funding. Air Force range planning is an integrated program involving the Air Staff, the Major Command (MAJCOM), and the individual range. AFSOC has drafted Supplement 1 to AFI 13-212, which states that the Range Operating Agency (ROA) is primarily responsible for the CRP. The ROA is defined in AFI 13-212 as "The wing commander, or designated unit commander, responsible for operating a range".

As defined in AFI 13-212, a range is an area established for operations, training, research and development, and test and evaluation of military systems, personnel, tactics, munitions, and explosives. There are two types of ranges: Primary Training Ranges (PTRs) and Major Range and Test Facility Bases (MRTFBs). PTRs, such as Melrose AFR, are normally located near their primary users, accommodate basic training requirements, and consist of a limited land area (typically 5,000 to 100,000 acres). The primary function of an MRTFB is to enable Department of Defense (DoD) test and evaluation support missions, although they may also support other missions (operations, training, research and development, etc.).

The purpose of the Proposed Action is to implement the range and infrastructure improvements contained in the CRP to allow Melrose AFR to provide continual support to all users while supporting the SOF mission.

1.4 Need for the CRP

The need to implement CRPs on training ranges has become imperative due to the increased requirements and changing mission focus within the Air Force. There is a pressing need for the Melrose AFR vision to address the Air Force, AFSOC, USSOCOM, and overall DoD current and future needs. The CRP provides a focus and direction for the range complex, a justification for funding needs, and a standard by which to measure success of implemented programs. Additionally, a clearly organized vision and strategy for the range complex provides a decision framework for evaluating range development and use requests, as well as for protecting the capability of the complex to meet current and future training requirements. The need for the Melrose AFR CRP is driven by the following:

- The recent transfer in ownership from ACC to AFSOC would have major impacts on Melrose AFR. The primary mission of Melrose AFR under ACC was to support tactical aircraft flying

primarily daylight missions. Under AFSOC, Melrose AFR would continue to support ACC, but the focus would shift to support both the daytime and nighttime activities for the SOF.

- Utilization of Melrose AFR resources has attracted the interest of other branches of the military who are seeking better facilities to meet their training requirements.
- New weapons, tactics, and joint force training are creating demands on a range configuration designed for air-to-ground bombing and gunnery training.

In addition to hosting training from other AFSOC units, the 27 SOW would be able to work closely with the nearby 58 SOW at Kirtland AFB in New Mexico. The 58 SOW is the schoolhouse for training AFSOC's helicopter, MC-130, and CV-22 operators. The short distance between Kirtland and Cannon SOW units to Melrose AFR would mean shorter transit times and result in the ability to conduct more joint missions and allow more training opportunities for both the schoolhouse and the wing.

The need to implement comprehensive plans on training ranges has become imperative due to the increased requirements and changing mission focus within the Air Force. There is a pressing need for a Melrose AFR vision to address the current and future needs of the Air Force, AFSOC, USSOCOM, and DoD.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 Alternative 1 – Proposed Action

The Air Force proposes implementation of its CRP for Melrose AFR, which incorporates numerous range improvement projects that the Wing Commander has identified for the 27 SOW to achieve its current and future missions. Detailed descriptions of the improvement projects outlined in the CRP are provided in the following paragraphs and shown in Figure 2−1.

Map Reference 1 – Compound (100 Ranch Area)/Civil Engineering Asset Management Natural Resource (CEAN) Compound – Construct one 3,750 square foot (sq ft) heavy-duty prefabricated steel facility with a concrete floor on a 300 ft x 300 ft fenced pad in the area of the old 100 Ranch Area Headquarters.

Map Reference 2 – Small Arms Range – Construct the Combat Arms Training and Maintenance (CATM) facility to support an open-air shoot house (up to 50-caliber with 28 shooting positions and 300 meter firing lanes) and close quarter combat training.

Map Reference 3 – Military Operations in Urban Terrain (MOUT) Site – This simulated city would consist of approximately 150 buildings constructed from approximately 675 Sealand containers and the associated urban facilities such as twelve, 4 ft x 4 ft x 4 ft concrete manholes for concealment, ambush, and hostage training scenarios. Additionally, unimproved roads would be constructed between the urban villages and city as well as the installation of a series of 2 ft x 2 ft x 2 ft reinforced concrete hand-holes to support Improvised Explosive Device (IED) training.

Map Reference 4 – Large High Altitude High Opening Drop Zone (DZ) – This area is located adjacent to the unimproved C-130 landing strip and consists of an approximate 2,000 ft x 4,000 ft area on flat terrain and free of hazards (such as power lines or fences).

Map Reference 5 – Convoy Escort – This area would be located to the west and adjacent to the clear zone and would consist of areas for simulated IEDs, pop-up targets, and areas for ground forces to deploy small arms fire (up to .50-caliber) including appropriate weapons safety fans.

Map References 6, 6A, and 7 – This area consists of the following:

- **Two Urban Villages –** The project includes the construction of two urban villages (map references 6, 6A, and 7) each with unimproved road networks, three roundabouts, and town centers with landscaping to mirror an urban setting. Unimproved roads between urban villages and the city would be constructed and a series of reinforced concrete hand-holes would be installed. Each urban village would consist of approximately 53 buildings constructed from approximately 220 Sealand containers.
- **Urban City –** The urban city would have an unimproved road network consisting of four roundabouts and a town center with landscaping to replicate an urbanized setting. The urban city would consist of approximately 150 buildings constructed from approximately 675 Sealand containers. Concrete manholes for concealment, ambush, and hostage training scenarios would also be installed.
- **Mountain Terrorist Village –** The mountain terrorist village would have a 480-acre footprint into the side of the Melrose Mesa. The village would be terraced and several caves would be

excavated. The caves would be built with reinforced concrete entrances, interconnecting tunnels, and have several exit/entry points within the village. An unimproved road network with blind alleys and a town center with landscaping to mirror a mountain setting would be constructed. The village would consist of approximately 22 buildings constructed from 125 Sealand containers. As with the urban facilities, concrete manholes would also be installed to permit concealment, ambush, IED, and hostage training scenarios.

Map Reference 8 – Survival, Evasion, Resistance, and Escape (SERE) Training Complex – Construct a 2.5 story heavy-duty prefabricated steel SERE urban training tower with a footprint of 20 ft x 80 ft. The project also includes the installation of an unimproved road network, one roundabout, and a town center with landscaping to replicate an urban environment. The urban village would consist of approximately 53 buildings constructed from 220 Sealand containers. In addition, six 4 ft x 4 ft x 4 ft concrete manholes would be installed at random locations for ambush, IED, and hostage training.

Map Reference 9 – Unimproved C-130 Strip – Project includes construction of an unpaved and unimproved parking area (400 feet x 1000 feet with two 280 feet x 80 feet taxiways), full depth stabilization, grading o proper profiles for operational requirements and surface drainage, and modifying site drainage to improve drainage away from the parking area. This parking area will be sited on Melrose AFR in an approved and exclusive DoD utilized area at the North end of the new unimproved LZ.

Map Reference 10 – Range Control Tower – Construct a 70 ft high control tower to enhance current air and range control capabilities.

Map Reference 11 – Permanent Exercise Facility (PEF) – This area consists of the following:

- **SOF LZ Storage Facility –** Construct a pre-engineered one story steel framed structure including the necessary concrete foundations to support the building.
- **SOF Mission Rehearsal Facility –** Construct a one-story, 4,000 sq ft pre-engineered Mission Rehearsal Facility that would be the focal point for Temporary Duty Assignment (TDY) SOF personnel to plan, prepare, and debrief after training exercises. New construction would provide a multipurpose open bay exercise facility capable of sustaining the continual influx of TDY and joint services personnel. Melrose AFR would be used to conduct training exercises for a variety of USSOCOM missions so this facility is necessary to provide adequate facilities on the range itself so TDY personnel would not have to lodge at the Cannon AFB main base, which is extremely limited and requires a 45-minute drive.
- **SOF Operations Planning Facility –** Construct a 5,000 sq ft metal building to be included in the PEF compound that contains a secure area for all tactical operational equipment, a planning room, large classroom to support visiting SOF personnel, drive-through garage for storage and building deployment pallets, communications storage room, restrooms with showers, and a laundry facility.
- **SOF PEF Compound Enclosure –** Enclose the three-acre PEF site with a six-foot high fence topped with three-strand barbed wire and containing two keyless entry access gates. The SOF PEF compound also includes a 100 ft x 100 ft paved marshalling yard, three concrete building pads, and a 25 ft x 25 ft utility pad.

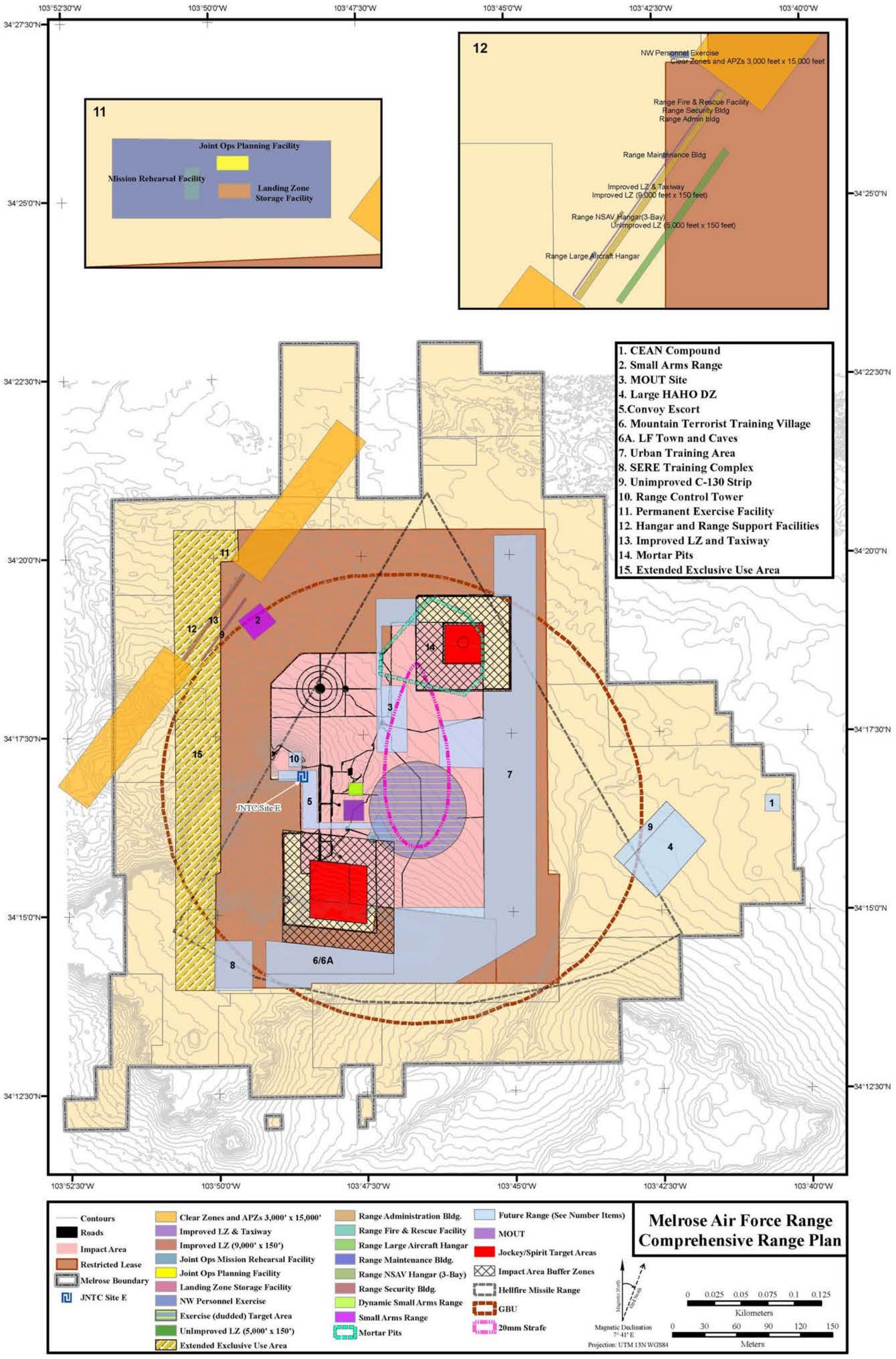

Figure 2–1. Alternative 1: Proposed Action – Melrose CRP Proposed Facility Locations

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Map Reference 12 – Hanger and Range Support Facilities – The following facilities (to be situated near the runways) to support the landing strip and runway are proposed:

- **C-130 Hangar –** Design and construct an 11,674 sq ft C-130 maintenance hangar with reinforced concrete footings, a foundation and footing slab, a structural steel frame, insulated metal walls and roof, fire suppression, hangar receiving apron, taxiway tie-in, utilities, site improvements, communications, and all necessary support. Project includes surveying, site work, tying utilities into existing utilities, storm water drainage, security fences and gates, keyless entry access, paint stripping, water, wastewater, back-up generator, pad, above-ground storage tank, bird airstrike countermeasures, and electrical connections. Construction must comply with both AFSOC anti-terrorism force protection and safety standards.
- **Non-Standard Aviation (NSAV) Hangers –** Construct a dual-bay maintenance hangar for maintaining NSAV and CV-22 aircraft. Includes construction of reinforced concrete footings, a foundation and footing slab, a structural steel frame, insulated metal walls and roof, fire suppression, hangar receiving apron, taxiway tie-in, utilities, site improvements, communications, and all necessary support. Project includes surveying, site work, tying utilities into existing utilities, storm water drainage, security, entry access, paint stripping, water, wastewater, back-up generator, countermeasures, and electrical connections. Construction must comply with both AFSOC anti-terrorism force protection and safety standards.
- **Range-Maintenance Facility –** Construct a 5,200 sq ft metal range maintenance facility adjacent to the improved runway. The project includes all installation and tying in of all communications (secure and non-secure) with antenna pad, utilities, fire suppression, Heating, Ventilation and Air Conditioning (HVAC), backup generator with pad, tank, improved roads, site improvements, landscaping, and all required facility support
- **Range Control Administration Facility –** Construct a 5,000 sq ft metal building to replace the existing facility. The project includes all installation and the tie-in of all communications (both secure and non-secure) with the antenna pad, utilities, fire suppression, HVAC, backup generator with pad, tank, improved roads, site improvements, landscaping, and all required facility support.
- **Remotely Piloted Aircraft (RPA) Guidance System –** Construct a RPA system to facilitate the incorporation of the new generation aircraft into the mission change at Melrose AFR. The new RPA system would require additional facilities to support their mission, which consists of construction of new concrete pads that are at least six inches thick to support future maintenance related facilities equipment.
- **Construct Fire and Rescue Facility –** The wildland fire and rescue facility at Melrose is over 40 years old so it would be replaced under the provisions identified in the CRP for Melrose AFR that combines the wildland fire station and rescue requirements for the proposed airstrip. Construct a four bay fire and rescue facility at Melrose AFR with required supporting facilities. The new facility would provide upgraded support for Melrose AFR's SERE, C-130, NSAV, MOUT and RPA missions, and for the existing wildland fire fighting facility.

Map Reference 13 – Improved LZ and Taxiway – Design and construct a 150 ft wide by 9,000 ft long (approximately 31 acres) concrete runway and a taxi surface between the runway and hangars. Proposed work includes site preparation and soil compaction, Portland cement concrete pavement placement and finishing, joint sawing and sealing, paint stripping, and electrical edge lighting installation. Design the sub-grade and pavement to be able to withstand heavy aircraft such as the C-5 and C-17 transport aircraft.

Additional Projects – In addition to the above projects, other range and infrastructure projects are planned. These projects are described below.

- **Repair /Bury Power Lines, East 500 Area –** As a requirement of flight safety and due to the nature of the AFSOC mission (e.g., low-flying sorties), all on-range power lines would be installed underground. Current power lines run through the existing DZ, obstructing aircraft operations and presenting a hazard to personnel/material drops. This project would redirect electrical infrastructure from an overhead to an underground location and repair/bury 31,680 linear ft or six miles of existing power lines from the range boundary at Sundale Valley road to the range compound.
- **Repair/Bury Power Lines, West 500 Area –** Current power lines obstruct aircraft operations and are a hazard to low flying aircraft conducting night-vision goggle operations. Repair/bury 26,400 linear ft or five miles of existing power lines from range compound to Melrose Mesa complex. As a requirement of flight safety and due to the nature of the AFSOC mission (e.g., low-flying sorties), all on-range power lines would be installed underground.
- **Repair Cattle Guard Fences –** AFIs require that federally utilized or Exclusive Use Areas and/or properties are fenced to prevent the public from entering. The current interior fencing limits the development of DZs and helicopter LZs as well as posing a safety hazard to personnel working night operations in the area. This project installs cattle fences around the vacant leases on the east and south sides of the Exclusive Use Area at Melrose AFR and removes the fences inside the vacant leases. This project requires fence removal/demolition and construction for expansion and the linear footage would be determined prior to execution and approval per lease agreements.
- **Various Locations, Utility Corridor Northwest Cantonment –** This project includes the construction and installation of 7,900 linear ft of three-phase electrical service along with the required infrastructure (e.g., substation, transformers, sectionalizers, manholes, hand holes, and conduits). Electrical service lines would be installed from the intersection of Krider Road and the northwest Melrose AFR boundary. This project also includes the installation of potable water wells, pumps, and pressure tanks with sufficient water production to support the Melrose AFR cantonment and the installation of required lift stations, grinders, and fire hydrants to support fire suppression for all facilities. This project would also install septic systems capable of supporting facilities at surge strength.
- **Various Locations, Potable Water Wells –** Install two potable water wells on Melrose AFR. Well #11, currently the sole drinking water well and well #13 (non-potable) are non-viable sources of water under current and future range development. Well #11 is located in the Exclusive Use Area, with restricted access and the distribution line is susceptible to munitions damage. Well #13, which has shown elevated levels of arsenic is not currently connected to the potable water system. It is a high-yield source (approximately 150 gallons per minute), but it is located in an area susceptible to munitions damage. New wells and distribution lines outside the live fire footprints are required.
- **Concrete Pads for Dynamics of International Terrorism (DIT) Training (Location TBD) –** Construct five concrete pads and two concrete walls of reinforced concrete. The pads require high-strength concrete to handle explosive discharges and ricocheting bullets. Two of the pads would be used to alleviate the environmental impact of the fuel used during demonstrations and training scenarios. The walls and other concrete structures would be utilized to safely demonstrate procedures and includes placement of storage containment boxes. These projects consist of a 12 ft x 16 ft bouncing bullet wall, a 12 ft x 12 ft Molotov cocktail wall, a 20 ft x 20 ft

firebomb pad, two 15 ft x 60 ft storage container pads, and a 30 ft x 90 ft covered viewing area with support bleachers for students.

- **Forward Area Refueling Point (FARP), Various LZs –** FARPs are locations that support operations associated with temporary refueling that could be experienced during combat tactical operations. AFI 11-235 establishes the policy for supporting and performing operations at the FARP and establishes site criteria and operational and certification requirements. For planning purposes, FARPs are initially proposed within Bravo, Whiskey, and Mesa LZ. Additional FARPs to support training requirements may be established at other LZs as necessary (Figure 2−2). The development and use of all FARPs would follow and strictly adhere to requirements contained in AFI 11-235.

Map Reference 14 – Mortar Pits – Construct a series of mortar pits for 60 mm and 81 mm mortars. The mortar pits for 60 mm/81 mm mortars are generally 10 ft wide and a maximum of 5 ft deep. Construction for a heavy mortar pit (greater than 81 mm) is the same, except the pit diameter is 11.5 ft.

Map Reference 15 – Expanded Exclusive Use Area – Implementation of an extended Exclusive Use Area would require the movement of the existing Exclusive Use Area to meet Krider Road on the east side.

2.2 Alternative 2

Alternative 2 consists of those projects contained in the Proposed Action but relocates the improved runway and taxiway, hangers, and the PEF to the southeast area of the range (Figure 2−3).

2.3 Alternative 3

Alternative 3 consists of those projects contained in the Proposed Action, but does not provide for the extended Exclusive Use Area (Figure 2−4).

2.4 No Action Alternative

Under the No Action Alternative, specific construction or repair projects would not be implemented. Selection of the No Action Alternative represents continued use of the existing Melrose AFR and existing range facilities for training at current levels. The No Action Alternative would not create the range complex necessary for AFSOC training for the SOF expanded mission requirements. Combat readiness would be impaired and training with new scenarios and new weapons systems would not be accomplished. Without implementation of the Proposed Action, Cannon AFB and the 27 SOW would not meet the CRP development goals.

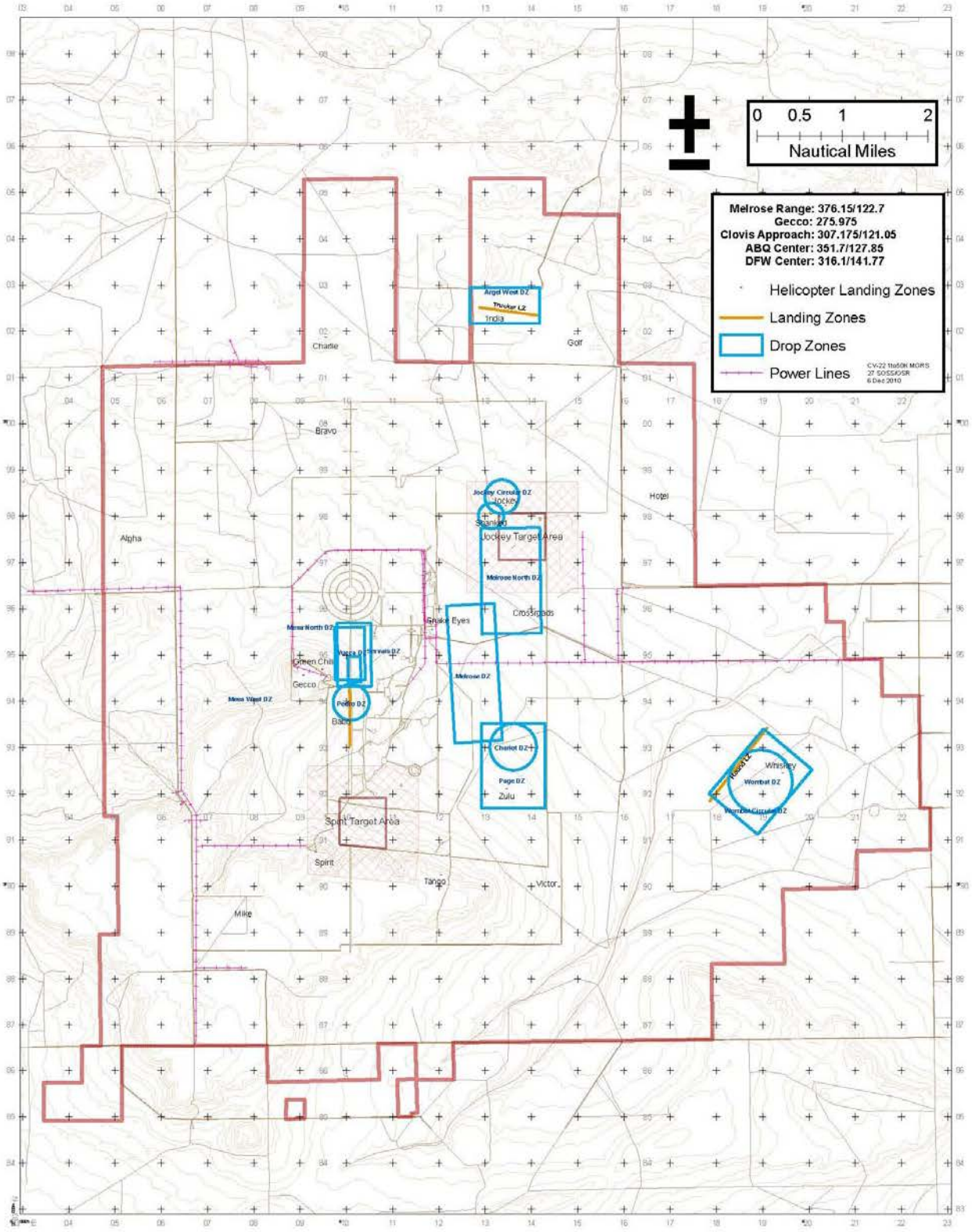

Figure 2−2. Landing Zones

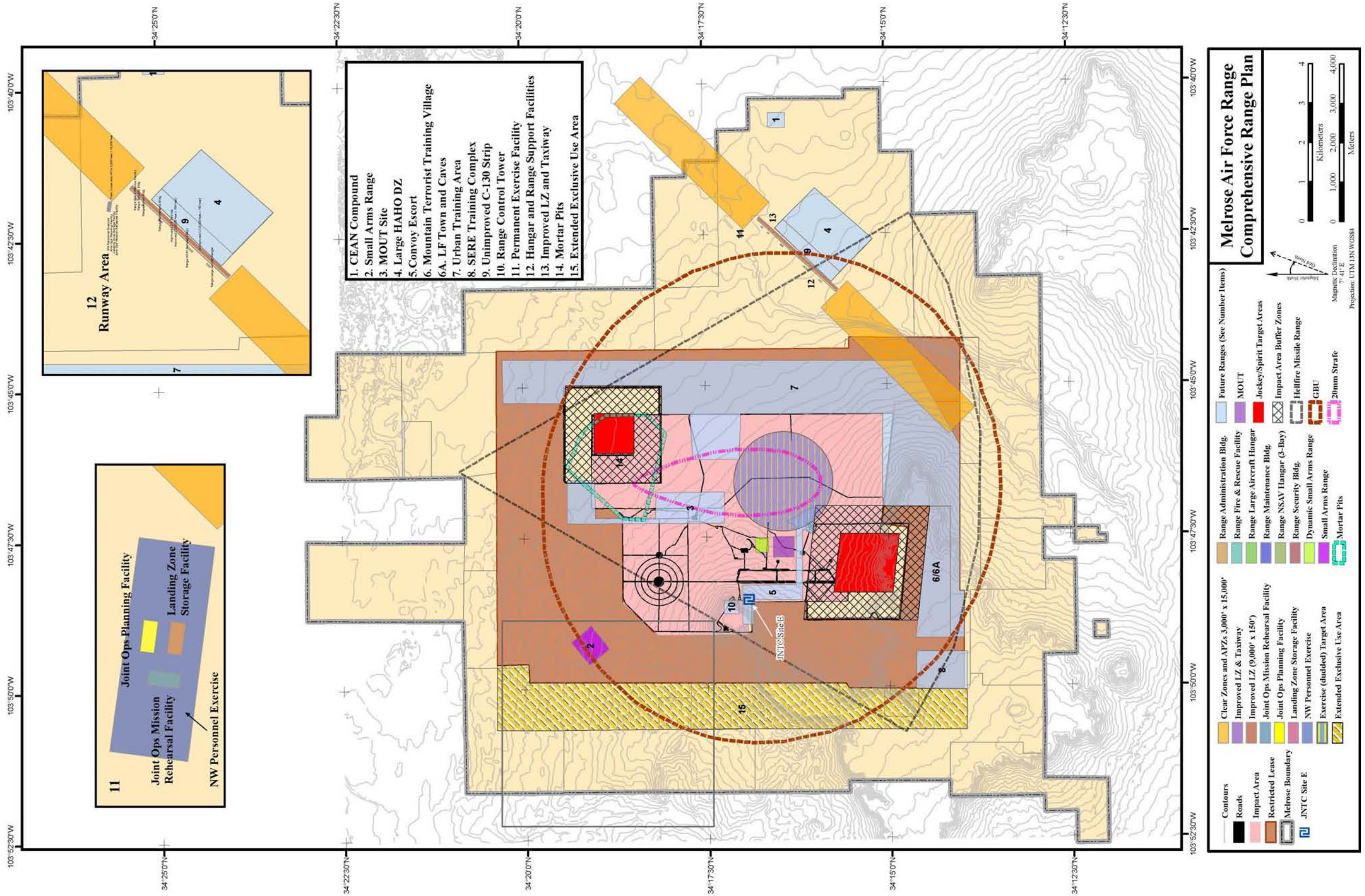

Figure 2−3. Alternative 2: Melrose CRP – Proposed Facility Locations

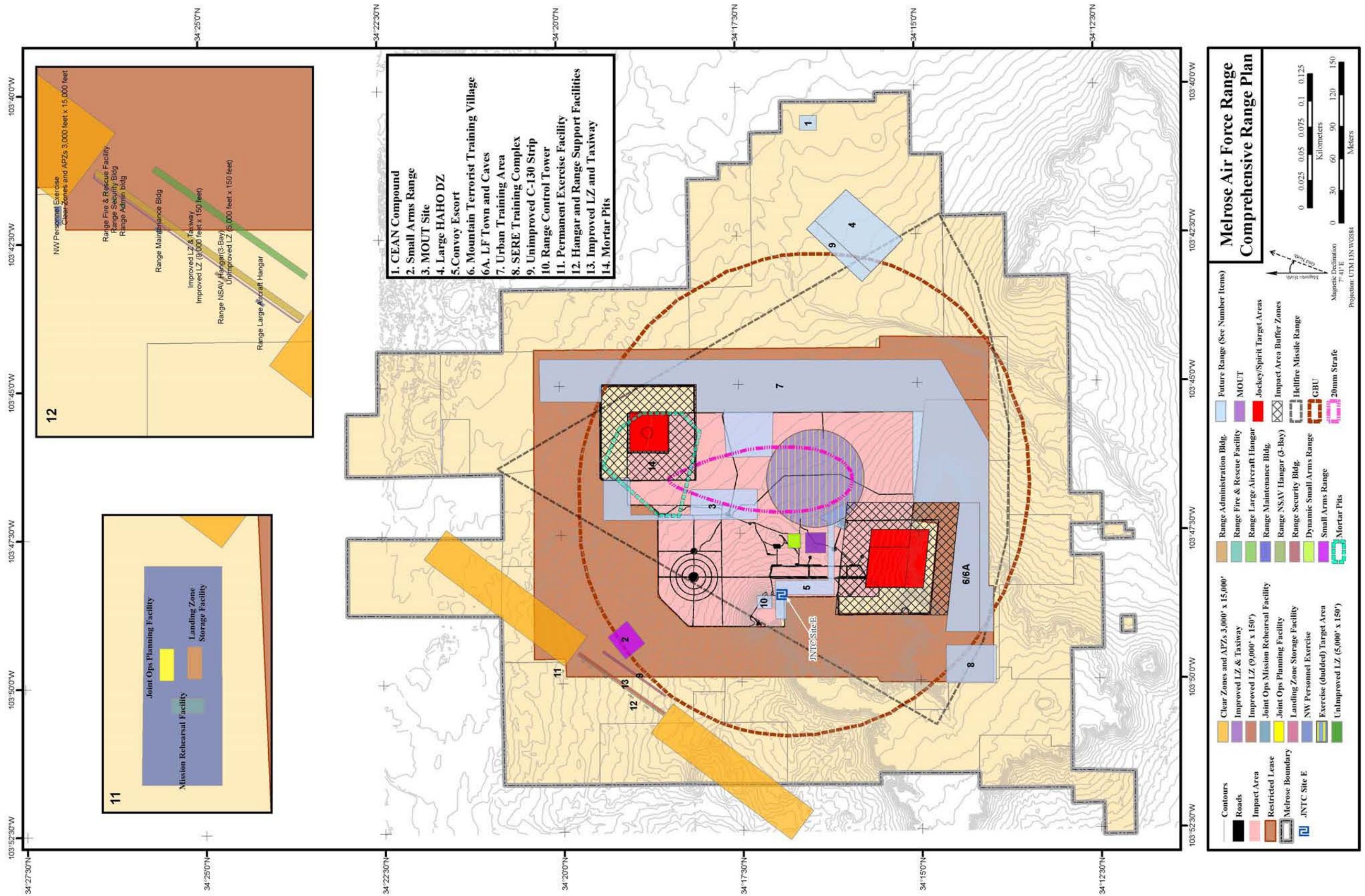

Figure 2−4. Alternative 3: Melrose CRP – Proposed Facility Locations

2.5 Planning Approach and Criteria

The 27 SOW has reviewed its existing facilities, infrastructure, land use, airspace, and constraints development and compared those to the installation's development vision and goal, future issues, and long-term investment strategies. Melrose AFR's current facilities and infrastructure were designed to meet the former ACC mission. With the new AFSOC mission, there are additional requirements and some existing infrastructure and facilities are deteriorating. The focus of the CRP is to upgrade the quality of existing facilities through replacement and ensure the range reflects AFSOC's unique mission.

Construction and environmental constraints to future development were addressed comprehensively during the planning process and included noise considerations, Quantity-Distance (Q-D) explosive safety zones, and potential historic sites. Environmental constraints involve the Installation Restoration Program (IRP) and Solid Waste Management Unit (SWMU) sites, landfills, floodplains, and species locations and habitats. Proposed projects would be sited to avoid areas of environmental concern and it is anticipated that future projects would be appropriately sited to avoid these constraints as well.

The CRP list of projects is designed to guide replacement of Melrose AFR infrastructure, facilities, range, and improve airspace over the next five to ten years. These improvements would better support current missions, provide flexibility for new missions and units, and improve quality of life features. Continuing range development is expected as missions evolve and as the base continues to balance mission requirements, support facilities, and personnel needs. As depicted in Figure 2–1, Melrose AFR has several designated development and planning areas.

AFI 13-212 directs the ROA to "maintain a CRP for coherent and sustainable development that considers the interests of all organizations supporting or using the range". AFI 13-212 directs that the "CRP would be reviewed bi-annually and revised at least every four years or whenever significant changes occur".

The investment areas serve to describe and analyze the current range use environment, quantify the vision for its development, and organize a resource funding strategy. Each of the sections in Chapter 1 of the CRP addresses one or more of the ten investment areas listed in the following paragraphs.

- **Land –** Addresses land leases and costs related to meeting mission needs and competing land uses. Related issues involve range location, distance from user airfields, sufficient surface area, and airspace use.
- **Airspace –** Addresses all airspace controlled by the ROA including Special Use Airspace (SUA). Airspace considerations include proximity to user airfields, airspace volume and attributes, and airspace utilization as a function of time. Other considerations include Federal Aviation Administration (FAA) operating regulations and interface with the National Airspace System (NAS).
- **Environmental –** Includes natural resources on the range and their short and long-term effects on the military value of the range. Management practices and implementation of applicable regulations and policy are included when they interface with military operations.
- **Unexploded Ordnance (UXO)/Range Debris –** Addresses the management of Material Potentially Presenting an Explosive Hazard (MPPEH) and other range debris that is found on operational ranges. Includes a program to remove such material and maintains permanent records of their use and removal. Also included are efforts to reduce levels of debris and enhance clearance practices.
- **Physical Plant –** Involves infrastructure requirements primarily dealing with civil engineering and the construction, upgrade, and maintenance of facilities, roads, land, and utilities such as water, power, gas, sewage, and drainage.

- **Scoring and Feedback Systems –** Includes air-to-surface scoring systems, air combat mission record and replay capabilities, and Electronic Counter Measure (ECM) analysis systems utilized for user feedback. It also includes the specialized measurement, tracking, and analysis systems required to support test activities.
- **Communications Systems –** Includes ground-to-air and point-to-point systems and support on the ranges and communication backbones such as microwave and fiber systems. Also covered are information protection requirements (such as encryption) and radio, data link, and instrumentation frequency management.
- **Integrated Air Defense/Counter-Air Defense Systems –** Covers types and quantities of ECM equipment, information warfare and information operations assets, space warfare and low observable resources and the use of expendables (chaff and flares), and towed decoys.
- **Targets and Target Arrays –** Addresses the types and quantities of surface and aerial targets including conventional, strafe, urban warfare, and buried targets in configurations for covered, concealed, deceived, hardened, mobile, and moving targets.
- **Management –** Addresses overarching systemic or institutional practices and generally covers procedures and administration, which includes such activities as programming and supervision, scheduling issues, the modernization planning process, and reducing duplication of effort among the ranges. Also included are range functions not included in the other investment areas, such as mission control and control/scheduling centers, safety, noise management, and public affairs. The management of the range encroachment and sustainability programs are also discussed.

All of the actions being proposed for the Melrose AFR CRP are independent of each other and have stand-alone utility to improve training operations. While each action (if implemented alone) would have a positive effect on the use and management of Melrose AFR, full implementation of all proposed actions is desirable and would result in the greatest training benefit. Depending on the ripeness for decision-making and other factors (such as the availability of funding), it is possible that some proposed actions could be selected for implementation while some of the proposed actions are not. It is also possible that some actions could be implemented after the EA is completed or not be implemented at all. This EA attempts to address all of the potential impacts individually and cumulatively to the extent feasible given the independent nature of the various elements of the Proposed Action.

This EA describes the environmental consequences of ongoing and proposed operations and projects and serves as a baseline document for future Melrose AFR CRP plans. The potential direct, indirect, and cumulative environmental consequences associated with implementing these projects at Melrose AFR are described and analyzed in this EA. It is possible that these projects would be modified prior to construction and/or other incidental projects would be added.

The environmental impact analysis process reviews all information pertinent to the Proposed Action, Alternatives, and No Action Alternative and provides a full and fair discussion of potential consequences to the natural and human environment resulting from the implementation of the CRP.

The following resources are analyzed in this EA: airspace and range management, noise, safely, physical resources, biological resources, cultural resources, land use, socioeconomics, and environmental justice. Chapter 3.0 describes the affected environment for these resources and Chapter 4.0 addresses the potential environmental consequences of implementing the Proposed Action, Alternatives, or the No Action Alternative. A comparison of the environmental consequences is presented at the end of this chapter.

2.6 Agency Coordination

Executive Order (EO) 12372, *Intergovernmental Review of Federal Programs*, requires intergovernmental notifications prior to making any detailed statement of environmental impacts. Through the process of Interagency and Intergovernmental Coordination for Environmental Planning (IICEP), the proponent must notify concerned federal, state, and local agencies and allow them sufficient time to evaluate potential environmental impacts of a Proposed Action. Agency consultations were undertaken with regard to biological and cultural resources, primarily for compliance with the Endangered Species Act (ESA) and with the National Historic Preservation Act (NHPA). See Appendix B for a list of IICEP agencies and general distribution.

For recent projects, the Air Force has conducted interagency and intergovernmental coordination to identify sensitive environmental resources. Communications from these agencies were incorporated into this EA and helped focus the evaluation and analysis of the environmental resources.

The Air Force prepared and published a newspaper advertisement announcing the availability of the Draft EA for public and agency review to facilitate public involvement in this project. This advertisement was published in the *De Baca County News, Portales News Tribune,* and the *Clovis News Journal*.

2.7 Regulatory Compliance

This EA has been prepared in accordance with NEPA of 1969 (42 USC 4321-4347), CEQ *Regulations for Implementing the Procedural Provisions of NEPA* (40 CFR §§ 1500-1508) and AFI 32-7061, *Environmental Impact Analysis Process* (32 CFR 989, *et seq*.). The intent of NEPA is to protect, restore, and enhance the environment through well-informed federal decisions. If the analysis presented in this EA indicates implementation of the Proposed Action would not have significant environmental impacts, then a Finding of No Significant Impact (FONSI) could be issued.

The analysis of environmental resource areas considered all applicable federal, state, and local regulations in Chapters 3.0 and 4.0 of this document. Certain areas of federal legislation have been given particular consideration, including the ESA, the Clean Air Act (CAA) amendments of 1990, the NHPA, the Clean Water Act (CWA), and EO 11990, *Protection of Wetlands*. No impacts to endangered species, wetlands, or National Register of Historic Places (NRHP) properties are anticipated resulting from implementation of the Proposed Action.

Implementation of the Proposed Action may require concurrence from regulatory agencies. Compliance with the ESA involves communication with the Department of the Interior (delegated to the United States Fish and Wildlife Service [USFWS]) in cases where a federal action could affect listed, threatened, or endangered species, species proposed for listing, or species that are candidates for listing. A letter was sent to the appropriate USFWS agencies and their state counterparts informing them of the Proposed Action and requesting data regarding applicable protected species. Appendix C includes a list of protected species provided by interested agencies. Since no adverse effects are anticipated, further consultation is not anticipated.

The preservation of cultural resources falls under the purview of State Historic Preservation Office (SHPO) as mandated by the NHPA and its implementing regulations. A letter was sent to the New Mexico Office of Cultural Affairs informing them of the Proposed Action and a Draft EA was provided.

2.7.1 Permit Requirements

This EA has been prepared in compliance with NEPA, other federal statutes (such as the CAA and the CWA), EOs, and applicable state statutes and regulations. A list of Melrose AFR permits was compiled and reviewed during the EA process. Table 2–1 summarizes these applicable federal, state, and local permits and the potential for change to the permits due to the Proposed Action. Management actions and procedures would need to be reviewed, coordinated, and/or updated to ensure Air Force compliance with applicable instructions, guidance, and directives.

Table 2−1. Permitting Related to Environmental Actions

Permit	Resource	Proposed Action
Major Source (New Source Review [NSR]) Permit	Air	▪ New Source Review (NSR) permit expected in 2012. ▪ Construction of new sources of air emissions must be permitted by the New Mexico Environment Department. ▪ Emergency generators must be included in the Cannon AFB inventory.
Melrose AFR/Cannon AFB Hazardous Waste Permit	Hazardous Waste	No change to existing permit expected
Aboveground Storage Tank (AST) Registration Certification	Hazardous Materials	▪ Any new ASTs or fuel tanks with a capacity over 1,320 gallons would require registration with the state of New Mexico and meet state and federal requirements. ▪ Gasoline tanks must be permitted by the New Mexico Environment Department.
Septic Tank Permits	Wastewater	Construction of new facilities may require modification to/approval of new liquid waste permits or registration with the New Mexico Environment Department.

2.8 Environmental Comparison of Alternatives

Table 2–2 summarizes the potential environmental consequences of the Proposed Action, Alternatives, and No Action Alternative based on the detailed impact analyses presented in Chapter 4.

Table 2−2. Summary of Potential Environmental Consequences

Resource	Proposed Action	Alternative 2	Alternative 3	No Action
Airspace and Range Management	Construction of new Landing Zones (LZs), runways, and Drop Zones (DZs) would change air traffic patterns in the airspace overlying the range. However, construction of the new range control tower and coordinated scheduling would assure deconfliction of air traffic and improve coordination of ground and air assets using the range.	Same as Alternative 1.	Same as Alternative 1.	No operational changes would occur and airspace and range management would remain the same.
Noise	Aircraft noise from C-130 aircraft orbiting at an altitude of approximately 6,000 to 11,000 feet Above Ground Level (AGL) are not expected to increase noise levels under restricted airspace. Domestic or wild animals in areas subject to aircraft operations or impulse noise would be expected to avoid the specific impact area and habituate to noise levels. The proposed expanded small arms range would increase noise from various size weapons up to 50 caliber machine guns including low-level operations of the CV-22. This noise would be less than the noise from munitions usage on live-fire targets, but could still result in annoyance to residents in the periphery of the range. Trucker LZ would be constructed within one mile of the range boundary. No residences are located in the off-range area near the Trucker LZ so noise impacts would be minimal and therefore not significant.	Same as Alternative 1.	Same as Alternative 1.	No additional construction or realignment of assets would occur at Melrose AFR with noise levels remaining at current conditions.

Resource	Proposed Action	Alternative 2	Alternative 3	No Action
Safety	There would be a potential for a slight increase in the short-term safety risk associated with construction contractors performing work at the chosen project sites during the normal workday. The use of personal protective equipment and adherence to safety requirements during operations would address any impacts. Contractors would be required to establish and maintain a safety plan for construction activities. Construction of new and improved facilities would enhance the overall safety at Melrose AFR by providing new facilities with updated safety features and equipment. Implementation of wildfire management practices would lessen the potential for wildfires resulting from range activities. Expansion of the Exclusive Use Area and evaluation of the associated 25 mm weapons safety footprint would be required prior to the use of this munition on the range.	Same as Alternative 1	Same as Alternative 1.	No additional construction or realignment of assets would occur at Melrose AFR and AFSOC training would continue at current levels and existing safety measures currently in effect on the range would continue.
Air Quality	Emissions from implementation of the Proposed Action would remain below National Ambient Air Quality Standards (NAAQS) for all criteria pollutants. Projects would not be completed concurrently so they would cause only slight, temporary, and localized increases in air emissions during the construction phases (which would still be below NAAQS). Since the project site for each alternative is a long distance from this designated Prevention of Significant Deterioration (PSD) Class I air quality area, the Proposed Action and Alternatives would not produce air quality impacts to this area. Additionally, the emissions from aircraft associated with the Proposed Action or action alternatives would not exceed those already analyzed and considered in the Record of Decision (ROD) for the *AFSOC Beddown EIS*.	Same as Alternative 1.	Same as Alternative 1.	Air emissions would remain the same.
Physical Resources	The limited areas of proposed construction on Melrose AFR and the great depth to bedrock and to the aquifer in the locations of the proposed facilities make it unlikely that impacts could occur to geologic resources or groundwater. The potential impacts to physical resources (primarily soil and water) are from soil disturbance resulting in erosion or loss of vegetation, the creation of impervious surface leading to increased stormwater runoff, and potential surface or groundwater contamination or degradation. The slight increase in surface water runoff would be managed through the implementation of basic control measures for storm water to prevent erosion, control sediment loss, and keep other pollutants from running off the site. With use of Best Management Practices (BMPs) and other preventative measures, potential impacts to water resources resulting from the Proposed Action would be minimal and therefore not significant.	Same as Alternative 1.	Same as Alternative 1.	The CRP would not be implemented and the proposed construction or renovation activities would not occur.

Resource	Proposed Action	Alternative 2	Alternative 3	No Action
Biological Resources	Some permanent loss of habitat within the construction footprints would occur. It is expected that habitats and individual wildlife that remain near construction activities would be exposed to an increase in noise, dust, and other human intrusion during the construction phases. There is the potential, (especially if ground-clearance occurs in the spring) that young and other immobile animals may not be able to leave the area and may be harmed. This would be minimized by conducting site surveys prior to construction. No jurisdictional wetlands would be affected by project construction. No threatened, endangered, or other sensitive species are known to occur in the proposed construction area therefore no effects to sensitive species are anticipated. Additionally, proposed construction projects would be sited to avoid areas of environmental concern whenever possible. The Black-Tailed Prairie Dog (BTPD) and burrowing owls, neither listed under federal ESA are regularly monitored on the range due to state concern. These occur primarily in the southeastern portion of the range. As of 2010, few of the BTPD towns remained active.	Facilities placed in the southeast portion of the range could affect more shortgrass prairie habitats and less agricultural lands than the Proposed Action. This has the potential to affect other native species that occupy shortgrass habitats, but no sensitive species are known to be present in the project area. The construction of the Small Arms Range would occur in the same locations as Alternative 1 and could potentially affect lesser prairie chicken habitat adversely as described in Alternative 1. Construction in the southeastern portion of the range has the potential to affect Canada del Tule, but no unique species were identified as associated with this ephemeral drainage. No jurisdictional wetlands would be affected by construction of Alternative 2. No threatened, endangered, or sensitive species are known to occur in the proposed construction area. If Alternative 2 were chosen, sites would be surveyed for BTPD and burrowing owls before ground clearing activities would occur.	Same as Alternative 1.	No changes to biological resources would be expected.
Cultural Resources	The Air Force would comply with Section 106 of the National Historic Preservation Act (NHPA) and follow the standard operating procedures outlined in the Integrated Cultural Resources Management Plan (ICRMP) (AFSOC 2009). This includes consultation, as required, with the New Mexico State Historic Preservation Office (SHPO) regarding the area of potential effects, the eligibility of any previously unrecorded cultural resources that might be encountered in the course of ground-disturbing activities, and management of these resources. In addition, facilities would be sited to avoid areas in which cultural resources are known to exist as shown in the site surveys of cultural resources at Melrose AFR. As such, no significant impacts are expected.	Same as Alternative 1.	Same as Alternative 1.	No changes would occur to cultural resources.
Land Use	Operations on the range could result in noise levels that could potentially affect range personnel. Existing agricultural leases would be terminated or not renewed, thereby increasing the size of the buffer area. Under the Proposed Action, the implementation of the actions described in the CRP and this EA would not be inconsistent or noncompliant with applicable land use plans and policies, would not prevent continued use or occupation of an area as appropriate, nor would they be incompatible with adjacent or nearby land use to the extent public health or safety is threatened. As such, no significant impacts are expected.	Same as Alternative 1.	Same as Alternative 1.	No changes to Land Use would occur.

Resource	Proposed Action	Alternative 2	Alternative 3	No Action
Socioeconomics/ Environmental Justice	The Proposed Action would either terminate or not allow renewal of leases on approximately 25,000 acres. The loss of the leased areas is not expected to affect regional farming output significantly, but it could have a detrimental effect to the lessee and represent a substantial loss on their investment. For any of the alternatives, there are no permanent residents on the 60,010-acre Melrose AFR and all construction activities would be contained within the range boundary. Therefore, no disproportionately high and adverse environmental or human health impact to minority, low-income, or children are anticipated.	Same as Alternative 1.	Same as Alternative 1.	Construction expenditures would not be spent therefore no new construction-related jobs or support jobs would be created.

2.9 Proposed Air-to-Ground and Ground-to-Ground Munitions

Air-to-ground and ground-to-ground munitions proposed for use at Melrose AFR are contained in Appendix A.

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3.0 AFFECTED ENVIRONMENT

3.1 Airspace and Range Management

3.1.1 Definition of Resource

The airspace directly associated with this EA includes the restricted areas associated with Melrose AFR as shown in Table 3–1 and Figure 3–1.

Table 3−1. Restricted Area Identification and Description

Airspace	Altitudes		Published Hours of Use		Controlling ARTCC
	Minimum	Maximum	From	To	
R-5104A	Surface	UTBNI 18,000 MSL	8:00 AM (Mon-Fri)	Midnight (Mon-Fri)	Albuquerque
R-5104B	18,000 MSL	23,000 MSL	8:00 AM (Mon-Fri)	Midnight (Mon-Fri)	Albuquerque
R-5105	Surface	10,000 MSL	8:00 AM (Mon-Fri)	Midnight (Mon-Fri)	Albuquerque

Key:
ARTCC = Air Route Traffic Control Center
Fri = Friday
Mon = Monday
MSL = Mean Sea Level
UTBNI = Up To But Not Including

Source: FAA 2010

Note: The Taiban Military Operations Area (MOA), immediately to the west of the restricted airspace, is often scheduled in conjunction with the restricted airspace to support training on Melrose AFR.

Range management for the purpose of this EA includes those geographic areas consisting of government-owned land comprising the complex known as Melrose AFR.

3.1.2 Existing Conditions

3.1.2.1 Airspace

Restricted airspaces (R-5104A, R-5104B, and R-5105) support training activities on Melrose AFR (see Figure 3–1). R-5104A overlies Melrose AFR, extends from the surface up to (but not including) 18,000 ft above Mean Sea Level (MSL), and provides maneuvering area for air-to-ground activities. R-5104B extends from 18,000 ft MSL to 23,000 ft MSL. A restricted area is airspace designated under 14 CFR Part 73 within which the flight of aircraft (while not wholly prohibited) is subject to restriction. Activities within restricted areas must be confined due to their nature or limitations imposed upon aircraft operations that are not a part of those activities or both. Restricted areas denote the existence of unusual, often invisible, hazards to aircraft such as artillery firing, aerial gunnery, or guided missiles (AIM 2010). Most restricted areas are designated joint-use and Instrument Flight Rules (IFR)/Visual Flight Rules (VFR) operations in the area may be authorized by the controlling Air Traffic Control (ATC) facility when it is not being utilized by the using agency (P/CG 2010).

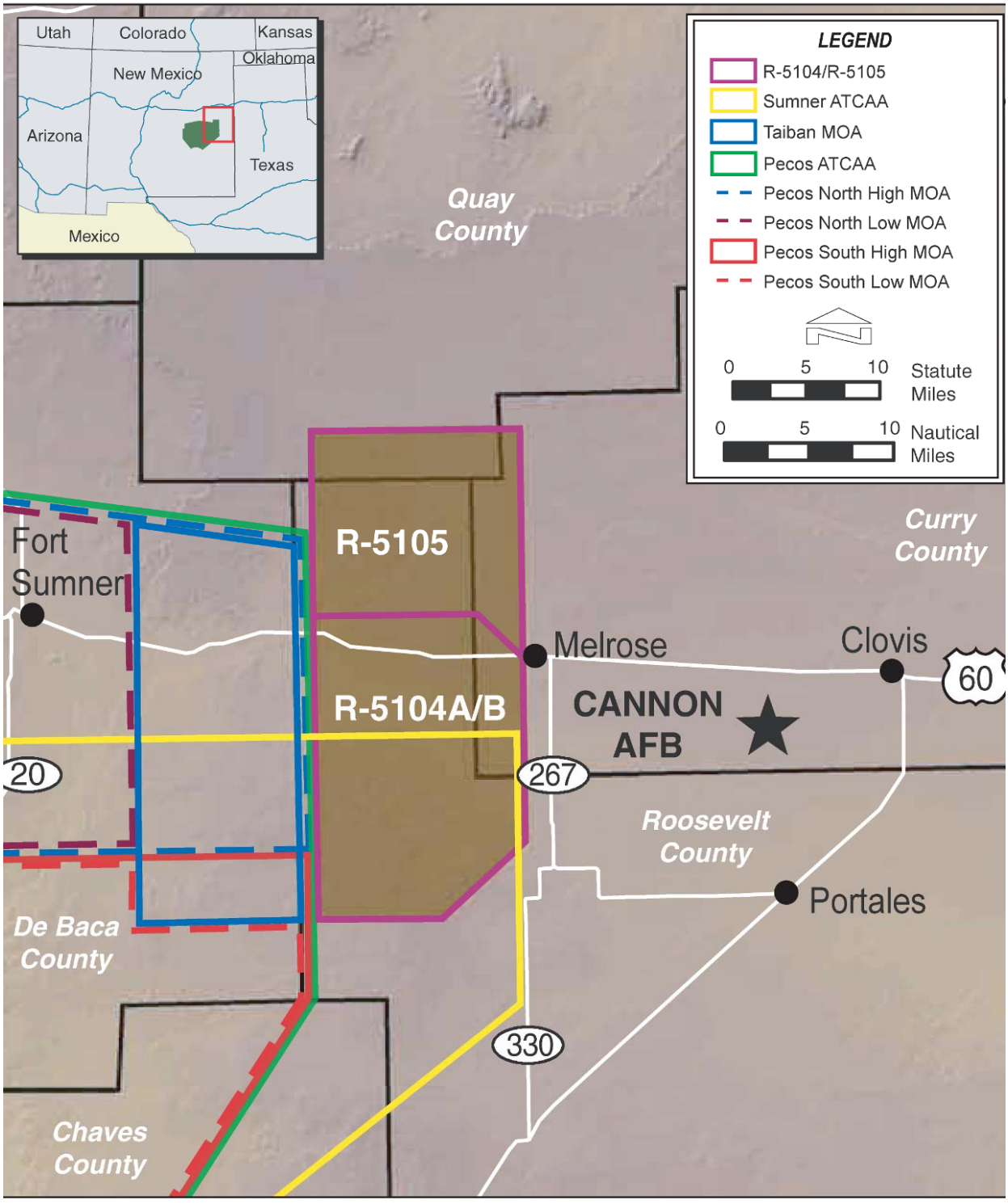

Figure 3−1. Airspace Associated with Melrose AFR

3.1.2.2 Airspace Utilization

The operational data presented and analyzed in this EA was provided by personnel from the 27 Special Operations Support Squadron/Operations Support Range (27 SOSS/OSR) office. This data represents the latest data available at the time of this EA. The following aircraft currently use (or are projected to use) Melrose AFR and the associated airspace:

- Pilatus PC-12,
- M-28 Sky Truck,
- Fairchild Dornier 328 Jet,
- MQ-1 Predator and MQ-9 Reaper RPA,
- CV-22 Osprey,
- AC-130H Spectre,
- AC-130U Spooky,
- MC-130E Combat Talon I,
- MC-130H Combat Talon II,
- MC-130W Dragon Spear,
- MC-130P Combat Shadow,
- MC-130J Super Hercules,
- MC-130W Dragon Spear,
- AC-130J Super Hercules,
- C-130 J Hercules,
- UH-60 Blackhawk and its variants,
- Other rotary aircraft, and
- Transient aircraft including, but not limited to the following:
    - A-10 Thunderbolt II,
    - AH-1 Cobra,
    - B-1 Lancer,
    - B-52 Stratofortress,
    - C-5 Galaxy,
    - C17 Globemaster,
    - C-23 Sherpa,
    - C-27J Spartan,
    - F-15 Eagle,
    - F-16 Falcon,
    - F-18 Hornet,
    - F-22 Raptor,
    - F-35 Joint Strike Fighter, and
    - Tornado

Table 3–2 shows the current number of sortie operations and aircraft types within the restricted airspace. A sortie operation is defined as one aircraft entering and exiting the airspace unit.

Table 3−2. Melrose AFR Fiscal Year 10 Restricted Airspace Use

Month	Hours	Sorties	UTE Rate	Aircraft Types
October	249.5	91	110.7%	AC-130, MC-130, B-1, EC-130, F-16
November	263.5	120	146.2%	PC-12, H-60, MC-130, B-1, F-16
December	214.5	106	141.9%	AC-130, MC-130, B-52, B-1, F-16
January	228.5	69	111.1%	AC-130, MC-130, CV-22, B-1, F-16
February	239	41	100.9%	AC-130, MC-130, PC-12, CV-22, H-60, B-52, B-1, F-16
March	192	56	84.9%	AC-130, MC-130, PC-12, H-60, B-52, B-1, F-16
April	317.5	59	133.3%	AC-130, MC-130, PC-12, H-60, B-52, B-1, C-130, F-16
May	278	76	143.7%	AC-130, MC-130, PC-12, CV-22, B-52, B-1, F-16, V-22
June	414	117	241.7%	AC-130, MC-130, PC-12, CV-22, V-22, B-1, F-16, C-130E
July	362.5	123	197.1%	AC-130, MC-130, PC-12, CV-22, V-22, B-52, B-1, F-16
August	448.5	123	221.3%	AC-130, MC-130, PC-12, CV-22, V-22, F-22, B-52, B-1, E-3, GR-1
September	480	132	303.7%	AC-130, MC-130, PC-12, C-130, CV-22, B-1, F-16, GR-1
TOTAL	**3,687.5**	**1,113**		

Source: 27 SOSS/OSR

3.1.2.3 Range Management

Melrose AFR is a Class A range, which are manned, have a ground-based scoring capability, and a Range Control Officer (RCO) who controls the aircraft and personnel using the range. Overall responsibility for the operation of Melrose AFR rests with the Commander of the 27 SOW at Cannon AFB in New Mexico. The 27th Special Operations Group (27 SOG) Commander exercises authority over scheduling and provides day-to-day range management responsibilities.

Normal monthly operating hours for the Electronic Combat Range (ECR) located in Melrose AFR, averages 261 hours and Melrose AFR averages 221 hours (accounting for maintenance and weather closures). The use of the ECR is tracked separately as is the use of the remainder of the range. Not all users of the ECR use the other assets of Melrose AFR and vice versa, hence the difference in the reported hours of use. Table 3−3 shows the range hours for a typical three-month period for ground and flight operations. As shown in Table 3−3, utilization rates for the ECR average over 80 percent while Melrose AFR utilization rate exceeds 100 percent due to multiple users on the range during the same two periods.

Table 3−3. Melrose AFR Three-Month Activity Summary

Electronic Combat Range (ECR) Total Hours			
	July 2010	**August 2010**	**September 2010**
Flying Ops	121.5	131.5	105.5
Ground Ops*	0.0	0.0	0.0
Short Notice Exercises	92.0	86.0	112.0
Total	**213.5**	**217.5**	**217.5**
Melrose AFR Total Hours			
	July 2010	**August 2010**	**September 2010**
Flying Ops	152.0	146.5	193.0
Ground Ops	109.0	180.0	181.0
Short Notice Exercises	182.5	218.0	238.0
Total	**443.5**	**544.5**	**612.0**

Note: *Ground operations do not use the ECR.
Source: 27 SOSS/OSR

Table 3–4 shows the annual utilization rates for both the ECR and the former Bombing and Gunnery Range (Melrose AFR). Variations in the utilization rates can be accounted for due to such factors as drawdown in the basing of F-16 fighters, change of ownership from ACC to AFSOC, and the increase in emphasis on the types of operations associated with the AFSOC mission. The utilization rates are calculated based on the normal operating hours (221 per month) and the hours actually scheduled and used. Using this information, along with the information contained in Table 3–2 and Table 3–3, provides information to project the future utilization of Melrose AFR.

Table 3−4. Historic Annual Utilization Rates for Melrose Range

Year	Electronic Combat Range (ECR)		Melrose Air Force Range (AFR)	
	% Utilization Rate	Number of Sorties	% Utilization Rate	Number of Sorties
2001	45.85	6,416	85.38%	Not Reported
2002	73.70	8,341	82.96%	3,819
2003	77.55	6,650	87.60%	3,684
2004	73.04	5,300	75.10%	4,103
2005	49.74	4,009	62.30%	3,162
2006	43.60	3,705	70.80%	2,843
2007	72.27	4,032	64.00%	2,301
2008	55.52	2,471	59.80%	702
2009	45.67	2,764	146.20%	929
2010	63.49	3,716	225.50%	1,433

Source: 27 SOSS/OSR

3.1.2.4 Munitions Use

Melrose AFR is a multi-purpose range where a variety of munitions and small arms ammunition are used including air-to-ground delivered munitions such as inert practice bombs, High Explosive (HE) 105 mm rounds from C-130 gunships, and 50 caliber, and 5.56 mm rounds from door gunners on rotary aircraft. Ground forces use 9 mm and 5.56 small arms ammunition and aircraft utilize defensive countermeasure flares. Typical expenditures for a representative three-month period are shown in Table 3–5.

Table 3−5. Munitions Use – Melrose AFR

Munitions	July 2010	August 2010	September 2010
105 millimeter (mm) High Explosive (HE)	143	3	366
105 mm Practice	250	460	449
40 mm High Explosive Incendiary (HEI)	825	879	1,844
40 mm Armor Piercing Tracer (APT)	320	147	192
40 mm Armor Piercing (AP)	192	538	192
Bomb Dummy Unit (BDU)-50	240	73	16
BDU-56	14	0	7
Guided Bomb Unit (GBU)-31	0	14	4
GBU-12	18	0	Not Reported
50 cal	3,285	2,357	3,930
Flares	0	40	132
BDU-59	0	0	0
GBU-54	0	0	0
5.56 mm	Not Reported	2,500	0
9 mm	Not Reported	2,500	Not Reported

Source: 27 SOSS/OSR

3.1.2.5 Range Users

With the beddown of the SOF at Cannon AFB, the focus of Melrose AFR has shifted from air-to-ground use by assets of the ACC to the special operations mission. As such, Special operations account for the majority of the overall utilization with approximately 150 percent of the rate due to multiple users on the range during the same range period. Ground operations make up the largest percentage of this utilization at approximately 121 percent while bomber and other ancillary users make up approximately 30 percent of the utilization rate. Other services currently use the range less than one percent of the time; however, it is anticipated to increase as Melrose AFR is developed and utilized.

3.2 Noise

3.2.1 Definition of Resource

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

The physical characteristics of a noise or sound include its intensity, frequency, and duration. Sound is created by acoustic energy, which produces minute pressure waves that travel through a medium (like air) and are sensed by the eardrum. This may be likened to the ripples in water that would be produced when a stone is dropped into it. As the acoustic energy increases, the intensity (or amplitude) of these pressure waves increase and the ear senses louder noise. The unit used to measure the intensity of sound is the decibel (dB). Sound intensity varies widely (from a soft whisper to a jet engine). It is measured on a logarithmic scale to accommodate this wide range. The logarithm and its use are a mathematical tool that simplifies dealing with very large and very small numbers. For example, the logarithm of the number 1,000,000 is 6 and the logarithm of the number 0.000001 is -6 (minus 6). Obviously, as more zeros are added before or after the decimal point, converting these numbers to their logarithms greatly simplifies discussions that use these numbers. As a basis for comparison, when noise levels are considered it is useful to note that at distances of about 3-ft, noise from normal human speech ranges from 63 to 65 dB, operating kitchen appliances range from about 83 to 88 dB, and rock bands approach 110 dB. A sound that is 3 dB more intense than another sound is typically perceived as being noticeably louder and a sound that is 10 dB more intense is typically perceived as being twice as loud.

Since decibels are logarithmic, two noise sources cannot be added arithmetically. When two noise sources of equal amplitude are added, the total noise level increases by 3 dB. As the difference between the two noise-levels increase, the louder noise level dominates while the quieter noise is drowned out. When one noise level is 10 dB greater than another to which it is being added, the combined noise level is less than one tenth of one dB greater than the louder of the two noises alone.

The frequency of sound is measured in cycles per second or hertz (Hz), which reflects the number of times per second the air vibrates from the acoustic energy. Low frequency sounds are heard as rumbles or roars and high frequency sounds are heard as screeches. The normal human ear can detect sounds that range in frequency from about 20 Hz to 15,000 Hz. However, not all sounds in this range are heard equally well as the human ear is most sensitive to frequencies in the 1,000 to 4,000 Hz range. Sound measurements that mathematically emphasize sounds in this frequency range are termed A-weighted. Sounds with strong low-frequency components such as sonic booms and munitions detonations, have the

potential to be felt as well as heard and may cause rattle in structures. These sounds are typically measured using C-weighting, a frequency weighting function that does not de-emphasize low-frequency sound to the extent that A-weighting does. The amplitude (in decibels) of sounds that are A-weighted is referenced as dBA and the amplitude of sounds that are C-weighted are referenced as dBC.

The duration of a noise event and the number of times noise events occurs are also important considerations in assessing noise impacts. Characteristics of sounds, including the durations of sounds, are accounted for using a variety of different noise metrics. The word "metric" is used to describe a standard of measurement. There are many different types of noise metrics; each with a different physical meaning that was developed by researchers attempting to represent the effects of environmental noise. The metrics used in this analysis are described briefly in the following paragraphs and in more detail in *Appendix F, Noise Analysis* of the *AFSOC Assets Beddown at Cannon Air Force Base, New Mexico Environmental Impact Statement, July 2007* (*AFSOC Beddown EIS*) (Air Force 2007).

Maximum Sound Level (L_{max}) – L_{max} defines maximum sound levels and is the highest sound level measured during a single aircraft overflight. For an observer, the sound level starts at the ambient sound level, rises up to the maximum level as the aircraft flies closest to the observer, and returns to the ambient level as the aircraft recedes into the distance.

Sound Exposure Level (SEL) – L_{max} alone may not represent how intrusive an aircraft noise event is since it does not consider the length of time that the noise persists. The SEL metric combines both of these characteristics into a single measure; however, it does not directly represent the sound level heard at any given time, but rather provides a measure of the total exposure of the entire event. Its value represents all of the acoustic energy associated with the event, as though it was present for one second. For sound events that last longer than one second, the SEL value will be higher than the L_{max} value. The SEL value is important because it is the value used to calculate other time-averaged noise metrics. Table 3–6 shows SEL noise levels for three frequent users of Melrose Range.

Table 3−6. SEL (in dBA) under the Flight Track for Aircraft at Various Altitudes in the Airspace[1]

Aircraft	Configuration	Power	Airspeed (KIAS)	Feet Above Ground Level					
				300	500	1,000	2,000	5,000	10,000
C-130H/W	Takeoff Power	850 CTIT	180	99	95	90	84	75	68
C-130J	Takeoff Power	720 MGT	180	101	97	92	86	77	70
CV-22 [2]	Airplane Mode	0 degree Nacelle Tilt	210	94	91	87	82	73	65

Notes:
[1] Used SEL_Calc program for fixed-wing aircraft noise calculations and assumed standard acoustical conditions.
[2] Used Rotorcraft Noise Model for CV-22 noise calculations.

Key:
CTIT = Degrees Celsius Turbine Inlet Temperature
KIAS = Knots Indicated Airspeed
MGT = Measured Gas Temperature
RPM = Revolutions Per Minute

Source: 27 SOSS/OSR

Day-Night Average Sound Level (L_{dn}) – L_{dn} is a noise metric combining the levels and durations of noise events and the number of events occurring over a period of 24-hours. L_{dn} may be thought of as the continuous (or cumulative) A-weighted sound level that would be present if all of the variations in sound level that occur over the given period were smoothed out to contain the same total sound energy. L_{dn} also accounts for the more intrusive nighttime noise, adding a 10 dB penalty for sounds after 10:00 PM and before 7:00 AM. Cumulative metrics, such as L_{dn}, do not represent the variations in the sound level heard. Nevertheless, they do provide an excellent measure for comparing environmental noise exposures when there are multiple noise events to be considered. Studies of community annoyance caused by numerous types of environmental noise show that L_{dn} correlates well with annoyance levels in the affected population (Schultz 1978; Finegold *et al*. 1994). Use of the L_{dn} metric to predict human annoyance to

noise has been endorsed by the scientific community and governmental agencies (ANSI 1980, 1988; USEPA 1974; FICUN 1980; and FICON 1992). Table 3–7 summarizes the relationship between L_{dn} and annoyance.

Table 3–7. Relationship between Annoyance and L_{dn}/CDNL

Criteria	Noise Zone		
	I	II	III
A-Weighted Average Noise Levels (L_{dn})	< 65 dBA	65 – 75 dBA	> 75 dBA
C-Weighted Average Noise Levels (CDNL)	< 62 dBC	62 – 70 dBC	> 70 dBC
Percent of Population Highly Annoyed	<15%	15% - 39%	>39%

Key:
< = less than
> = greater than
dBA =decibels (A-weighted)
dBC =decibels (C-weighted)

Source: USACHPPM 2005.

Onset-Rate Adjusted Monthly Day-Night Average Sound Level (L_{dnmr}) – L_{dnmr} is the measure used for subsonic aircraft noise in military airspace units such as MOAs. When military aircraft fly low and fast, the sound can rise from ambient to its maximum very quickly. This rapid onset rate carries a surprise effect that can make noise seem louder than its measured SEL would suggest. L_{dnmr} contains a penalty of up to 11 dB to account for this effect. It is computed for the busiest month of the year to account for the seasonal use of some airspace. L_{dnmr} is interpreted by the same criteria as used for L_{dn}.

C-Weighted Day-Night Sound Level (CDNL) – CDNL the same as L_{dn} except that it is calculated based on C-weighted sound levels instead of A-weighted sound levels. C-weighted sound levels are appropriate for the description of impulse noises such as munitions detonations. Like L_{dn}, CDNL has been found to correlate well with human annoyance, but any given numeric value of CDNL is generally associated with more annoyance than the same numeric value of L_{dn} (Table 3–7).

3.2.2 Existing Conditions

Melrose Range is an active military training range used for both air and ground unit training. Dominant military training noise sources include aircraft maneuvers and air-to-ground and ground-to-ground munitions use. The Region of Influence (ROI) for this analysis includes Melrose Range and its vicinity as well as the area beneath the restricted areas R-5104 and R-5105.

Operations at Melrose are currently in a state of flux as AFSOC assets continue to beddown at Cannon AFB and operations tempo has not yet reached the level analyzed in the *AFSOC Beddown EIS*. The 2007 EIS included 108 aircraft, but as of September 17, 2010, only 45 aircraft were assigned to Cannon AFB. Additional aircraft will continue to beddown at Cannon AFB over the next several years and the addition of these aircraft will result in steadily increasing operations tempo at Melrose Range. This analysis considers the end-state conditions analyzed in the *AFSOC Beddown EIS* to be baseline conditions (Air Force 2007). Large force exercises conducted on Melrose AFR can involve a number of different types of aircraft using the airspace or practicing landings at various locations across the range (Air Force 2007).

The most frequent aircraft users of the range are the C-130 (H, W, and J models), CV-22, RPA, and non-standard aircraft based at Cannon AFB. Various transient aircraft make use of the range on a less frequent basis. Non-standard aircraft include several relatively small, propeller driven aircraft of types that are not part of the current standard Air Force fleet inventory. CV-22 aircraft, non-standard aircraft, and certain C-130 variants frequently conduct training activities at low altitudes including landing at existing LZs. C-130 gunships and RPA aircraft typically conduct training at relatively high altitudes. Baseline noise levels beneath the restricted area airspace were calculated using the Military Operating

Area and Range Noise Model Program (MR_NMAP). Areas beneath R-5104A/B are currently exposed to approximately 56 dBA L_{dnmr} and areas beneath R-5105 are exposed to approximately 58 dBA L_{dnmr}.

Wide varieties of air-to-ground and ground-to-ground munitions are currently used at Melrose Range. A dominant and distinctive noise source at Melrose Range is munitions fire from the C-130 gunship. The gunship fires 30 mm, 40 mm, and 105 mm ammunition while orbiting at a constant bank angle above one of the two HE munitions impact areas, known as Spirit and Jockey. Baseline munitions noise levels, calculated using the BNOISE2 program, includes noise generated by C-130 munitions use as well as all other munitions use on the range. Under baseline conditions, the 62 dBC CDNL noise contour extends approximately 2.5 statute miles from the centers of the two impact areas (Figure 3–2). No residences are known to exist within the area affected by noise levels greater than 62 dBC CDNL.

The area surrounding Melrose Range is characterized by wide, open spaces and relatively low human population density. The predominant land use in the areas surrounding the range is livestock grazing. Noise levels when military training is not under way are typically low and the sound environment is dominated by natural sounds such as the wind and birds with occasional anthropogenic sounds such as ground vehicle noise. Widely scattered residences and other structures are located in the area adjacent to the range. Noise complaints about training operations at Melrose Range are relatively infrequent, there was only one official complaint related to training operations logged in calendar years 2009-2010.

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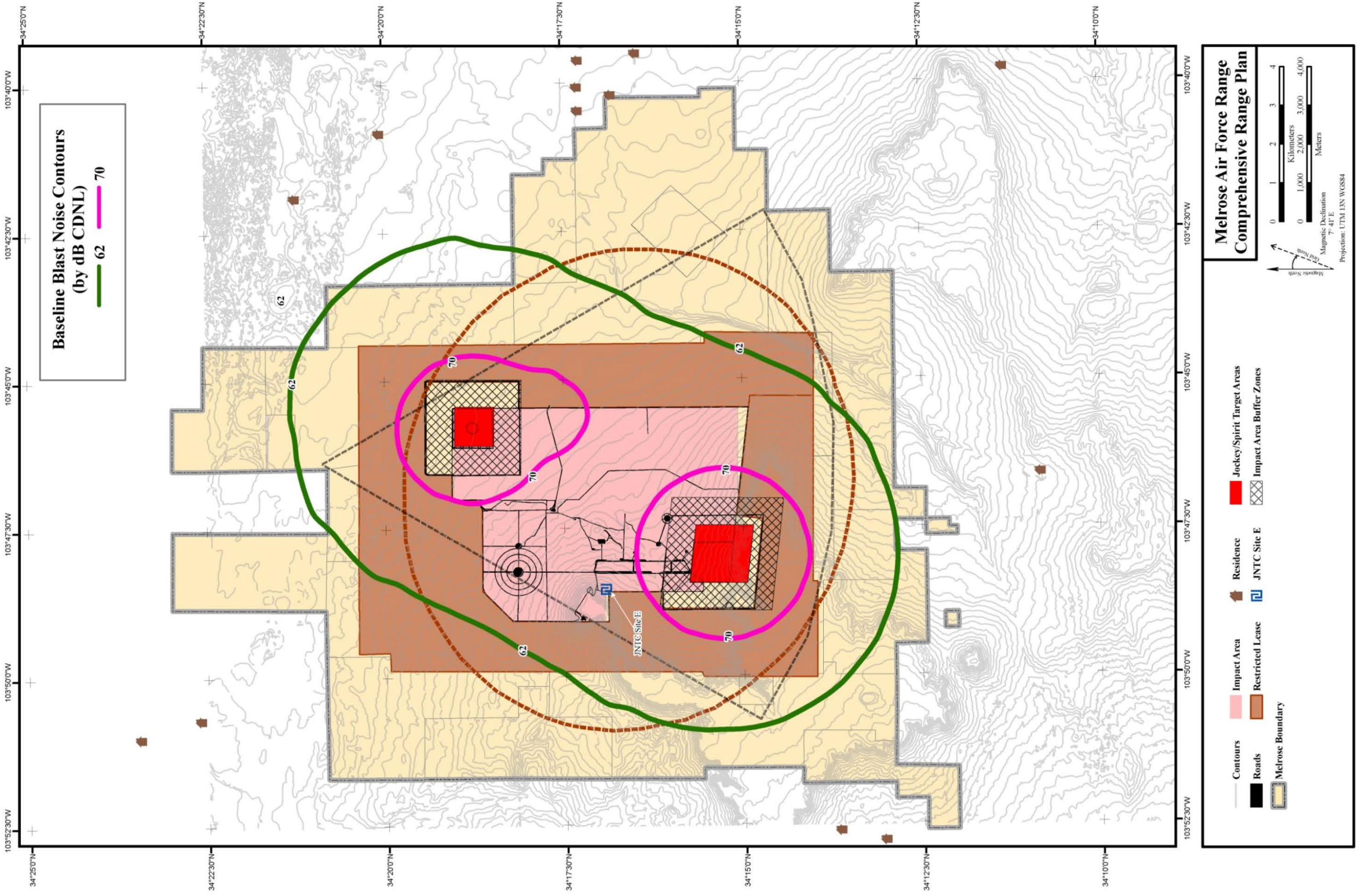

Figure 3−2. Baseline CDNL Noise Contours

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3.3 Safety

3.3.1 Definition of Resource

This section addresses safety for grounds, construction, explosives, and munitions associated with operations conducted at Melrose AFR. Grounds and construction safety considers issues with Operations and Maintenance (O&M) activities that support base operations including fire response. Explosives and munitions safety discusses the management and use of ordnance or munitions associated with airbase operations and training activities conducted in various elements of training airspace and range activities.

Range management involves development and implementation of processes and procedures to ensure that Air Force ranges are planned, operated, and managed safely. The focus of range management is on ensuring the safe, effective, and efficient operation of Air Force ranges. The overall purpose of range management is to balance the military's need to accomplish realistic testing and training with the need to minimize potential impacts of such activities on the environment and surrounding communities.

3.3.2 Existing Conditions

3.3.2.1 Ground and Construction Safety

Melrose AFR is currently managed in accordance with requirements and procedures prescribed in AFI 13-212. The Cannon AFB Supplement to AFI 13-212 also assigns responsibilities and provides detailed processes and procedures to the RCO regarding range scheduling, maintenance, Explosive Ordnance Disposal (EOD), range decontamination and debris disposal, entry into, operations within, and exit from the airspace directly supporting range operations (AFI 13-212). These instructions address a wide range of ground safety considerations that include land ownership and control, weapons employment safety, range scheduling, range maintenance, EOD, range decontamination and debris disposal, and environmental stewardship of the range.

The Cannon AFB Fire Department provides an onsite fire response and suppression capability on Melrose AFR. Fire department response units are onsite whenever the range is active. While the assigned fire suppression equipment has proven to be adequate, large earth-moving equipment, which is onsite to support range operations, is also available for fire suppression requirements. In addition, the Cannon AFB Fire Department is a party to mutual aid support agreements with city and volunteer fire departments near the base and Melrose AFR. Cannon AFB would continue mutual aid support agreements and other assistance to local communities and will continue to receive support as required. These agreements reduce human health risks and risks from wildfires. As in the past, Cannon AFB would work with non-military fire departments to alert private citizens about the potential for injury should they handle or disturb aircraft or munitions debris. The base commander would continue to direct the base fire department to assist in any local or regional fire emergency.

The 27 SOW, through the Wildland Fire Working Group (WFWG), has implemented a *Melrose Range Operations Condition Matrix* as an aide in evaluating the regional fire risk on a daily basis. Range Control personnel utilize this, along with monitoring weather and fire conditions from resources available on the southwest's area website for fire intelligence and the National Fire Danger Rating System website, and then provide recommendations to operations personnel. These recommendations address the need to alter flight operations and, if the risk is excessive as determined on a situational basis, impose restrictions on range operations. These restrictions could range from limiting the type of ordnance used to the complete curtailment of ordnance use. When the Melrose range condition is yellow or above, the minimum altitude for flare release would be raised to 5,000 ft Above Ground Level (AGL). Prior to flight operations, aircrews review and adhere to fire restrictions regarding the use of ordnance on the range.

Wildfires are a growing natural hazard in most regions of New Mexico, posing a threat to life and property, particularly where native ecosystems meet developed areas. Currently, wildland fires at Melrose AFR are caused by lightning and activities associated with the bases' mission, which usually includes munitions from aircraft and vehicle traffic. The sporadic occurrence and varying degrees of wildfires indicate that they are the result of the combination of hot, dry, weather on the date of the ignition, the type and amount of vegetation available for burning, and wind speed prior to ignition. Vegetation becomes fuel for burning when cured or dry enough to sustain the combustion process when lit by adjacent burning fuels. This fuel is usually the cured heavy growth from the prior years' abundant rainfall and/or the current years' vegetation, which is dormant due to either time of year or lack of rain.

Wildland fires can occur anytime during the year on Melrose AFR, but the chances of wildfires increase when vegetation is dormant. There are significant peaks in fire danger associated with spring and fall when cured vegetation and lower relative humidity increase flammability and the probability that fires would start. Once fuels have cured, windy conditions can cause large fires that are difficult to manage. The 27 SOW completed a Wildland Fire Management Plan (WFMP) in 2007. The overall goals of the plan are as follows (WFMP 2007):

- The first priority of all fire management activities on Air Force lands is to ensure the safety of the installation's residents, the public, adjacent landowners, and firefighters.
- To provide an acceptable level of wildfire protection for all Air Force lands, reducing potential threats to life, property, natural, and cultural resources.
- To coordinate and cooperate with other federal, state, and local suppression agencies to provide effective and mutual support across jurisdictional boundaries.
- To reduce wildland fuel loads, minimize the risk of catastrophic wildfire, and create zones of defensible space for firefighters utilizing firebreaks for suppression.
- To minimize the potential impacts of smoke to air quality.
- To provide experience and training for Air Force firefighters in fuel reduction, fire behavior, and fire weather so that they are better prepared to suppress wildland fires.

To meet the goals and objectives of the WFMP, the 27 SOW would implement the following:

- Use prescribed fire or other treatments such as mowing and grazing to treat fuels and to reinforce firebreaks.
- Monitor fuel conditions such as level of curing and fuel depth to determine the best applicable fuel treatment.
- Use herbicides and/or mechanical treatment to control exotic, invasive, or nuisance species. Mowing and/or grazing are currently the primary method for grass control around Melrose AFR.
- Effectively use all available options for wildland fire management at Melrose AFR. Prescribed burns, grazing, and mowing are the primary tools for treating wildland fuels on Melrose AFR.

Day-to-day construction operations at each site in the Proposed Alternative must be performed in accordance with all applicable Air Force safety regulations, published Air Force Technical Orders, and Air Force Safety and Health (AFOSH) requirements. Construction and demolition activities on Melrose AFR require a jobsite safety plan that explains how tasks would be accomplished while assuring job safety throughout the life of the project. Construction, repair, and infrastructure upgrade workers are required to follow applicable Occupational Safety and Health Act (OSHA) requirements as governed by the terms of the contract, which may include Air Force regulations and technical orders, AFOSH standards, and OSHA standards.

3.3.2.2 Explosive and Munitions Safety

Cannon AFB personnel control, maintain, and store ordnance and munitions required for mission training. Ordnance is handled and stored in accordance with Air Force explosive safety directives (AFM 91-201) by trained and qualified personnel using Air Force-approved technical data. These trained personnel are also the ones who also complete all maintenance of munitions. Ample storage facilities exist and all facilities are approved for the ordnance and munitions stored.

A weapon's safety footprint and its extent and configuration, is a ground safety consideration. When an air-to-ground weapon containing HE (live ordnance) detonates, the radius of blast damage and fragmentation of the weapon's case must be considered. When a training (inert) air-to-ground weapon impacts on or near the target, different concerns exist. The inert weapon may have a spotting charge that sets off a shotgun-sized charge with smoke or a marking cloud to indicate where the bomb struck. The ordnance may skid, bounce, or burrow under the ground for some distance from the point of impact, coming to rest at some distance from that point. Melrose AFR currently meets safety requirements in accordance with AFI 13-212. The military has completed analysis of extensive historic data and intends to incorporate new weapons safety data into safety programs, as needed.

Range operations require that the surface area encompassing the weapon safety footprints be protected by purchase, lease, or other restriction to ensure the safety of personnel, structures, and the public from expended rockets, missiles, or target debris (AFM 91-201). The lands associated with the Melrose AFR complex meet these requirements.

3.4 Air Quality

3.4.1 Definition of Resource

This section discusses air quality considerations and conditions near Melrose AFR including portions of Curry and Roosevelt counties in New Mexico. It addresses air quality standards and describes current air quality conditions in the region. The potential influence of emissions on regional air quality would be confined typically to the air basin in which the emissions occur; therefore, the ROI for the Melrose AFR is Roosevelt and Curry Counties located in the Pecos-Permian Basin (Table 3–8).

Table 3−8. Pecos-Permian Basin Intrastate Air Quality Control Region

Source Type	Emissions (tons/year)				
	CO	NO_x	PM_{10}	SO_2	VOC
Area Source	518.7	126.1	66,902.2	56.4	1,030.9
Non-Road Mobile	3,824.2	5,103.0	226.2	339.3	484.7
On-Road Mobile	12,068.6	1,273.3	33.4	44.2	952.5
Point Source	78.2	219.7	102.2	9.8	95.2
Total	**16,489.7**	**6,722.1**	**67,264.0**	**449.7**	**2,563.3**

Key:
CO = Carbon Monoxide
NO_x = Nitrogen Oxides
PM_{10} = Particulate Matter Less Than or Equal to 10 Micrometers in Diameter
SO_x = Sulfur Oxides
VOC = Volatile Organic Compounds

Source: USEPA 2011

3.4.1.1 Federal Air Quality Standards

Air quality is determined by the type and concentration of pollutants in the atmosphere, the size and topography of the air basin, and local and regional meteorological influences. The significance of a pollutant concentration in a region or geographical area is determined by comparing it to federal and/or state ambient air quality standards. Under the authority of the CAA, the United States Environmental Protection Agency (USEPA) has established nationwide air quality standards to protect public health and welfare with an adequate margin of safety. These federal standards, known as the National Ambient Air Quality Standards (NAAQS) represent the maximum allowable atmospheric concentrations for the following seven criteria pollutants:

1. Carbon Monoxide (CO),
2. Nitrogen Dioxide (NO_2),
3. Sulfur dioxide (SO_2),
4. Particulate Matter Less Than or Equal to 10 Micrometers in Diameter (PM_{10}),
5. Particulate Matter Less Than or Equal to 2.5 Micrometers in Diameter ($PM_{2.5}$),
6. Ozone (O_3), and
7. Lead (Pb).

The NAAQS are defined in terms of concentration (e.g., parts per million [ppm] or micrograms per cubic meter [$\mu g/m^3$]) determined over various periods of time (averaging periods). Short-term standards (1-hour, 8-hour, or 24-hour periods) were established for pollutants with acute health effects and generally may not be exceeded more than once a year. Long-term standards (annual periods) were established for pollutants with chronic health effects and may never be exceeded.

Based on measured ambient criteria pollutant data, USEPA designates areas of the U.S. as having air quality equal to or better than the NAAQS (attainment) or worse than the NAAQS (nonattainment). Upon achieving attainment, areas previously in nonattainment are considered to be in maintenance status for a period of ten or more years. Areas are designated as unclassifiable for a pollutant when there is insufficient ambient air quality data for USEPA to form a basis of attainment status. To apply air quality regulations, unclassifiable areas are treated similar to areas that are in attainment of the NAAQS.

3.4.1.2 State Air Quality Standard

Under the CAA, state and local agencies may establish ambient air quality standards and regulations of their own if they are at least as stringent as the federal requirements. The New Mexico Air Quality Bureau (NMAQB) has promulgated the New Mexico Ambient Air Quality Standards (NMAAQS) that meet these guidelines and they have adopted standards for pollutants not included in the NAAQS. Table 3–9 summarizes the NAAQS and NMAAQS.

Table 3−9. Federal and State Ambient Air Quality Standards (AAQS)

Air Pollutant	Averaging Time	National Ambient Air Quality Standards (NAAQS)		New Mexico AAQS
		Primary	Secondary	
Carbon Monoxide (CO)	8-Hour 1-Hour	9 ppm 35 ppm	--- ---	8.7 ppm 13.1 ppm
Nitrogen Dioxide (NO_2)	Annual 24-Hour	0.053 ppm ---	0.053 ppm ---	0.05 ppm 0.10 ppm
Sulfur Dioxide (SO_2)	Annual 24-Hour 3-Hour	0.030 ppm 0.14 ppm ---	--- --- 0.50 ppm	0.02 ppm 0.10 ppm ---
Total Suspended Particulates (TSP)	Annual 30-Day 7-Day 24-Hour	---	---	60 $\mu g/m^3$ 90 $\mu g/m^3$ 110 $\mu g/m^3$ 150 $\mu g/m^3$
Particulate Matter Less Than or Equal to 10 Micrometers in Diameter (PM_{10})[1]	Annual 24-Hour	 150 $\mu g/m^3$	 150 $\mu g/m^3$	--- ---
Particulate Matter Less Than or Equal to 2.5 Micrometers in Diameter ($PM_{2.5}$)[1]	Annual 24-Hour	15 $\mu g/m^3$ 35 $\mu g/m^3$	15 $\mu g/m^3$ 35 $\mu g/m^3$	--- ---
Hydrogen Sulfide (H_2S)	1-Hour[2] ½-Hour[3] ½-Hour[4]	---	---	0.010 ppm 0.100 ppm 0.030 ppm
Total Reduced Sulfur[5]	½-Hour[2] ½-Hour[3] ½-Hour[4]	---	---	0.003 ppm 0.010 ppm 0.003 ppm
Ozone (O_3)	8-Hour	0.08 ppm	0.08 ppm	---
Lead (Pb) and Lead Compounds[6]	Calendar Quarter	1.5 $\mu g/m^3$	1.5 $\mu g/m^3$	---

Notes:

[1] In 2006, the federal annual standard of 50 $\mu g/m^3$ for PM_{10} was revoked and the federal $PM_{2.5}$ standard for the 24-hour averaging time was changed from 65 $\mu g/m^3$ to 35 $\mu g/m^3$. The State of New Mexico does not have any standards for PM_{10} or $PM_{2.5}$.

[2] The entire state except for the Pecos-Permian Air Basin (Air Quality Control Region [AQCR] 155), which includes De Baca, Chaves, Curry, Quay, and Roosevelt counties.

[3] Within the Pecos-Permian Air Basin.

[4] Within corporate limits of municipalities in the Pecos-Permian Air Basin or within five miles of the corporate limits of municipalities having a population greater than 20,000 and within the Pecos-Permian Air Basin.

[5] Total reduced sulfur does not include Hydrogen Sulfide.

[6] The State of New Mexico does not have any standard for lead or lead compounds.

Key:

ppm = parts per million $\mu g/m^3$ = micrograms per cubic meter

Sources: 40 CFR 50; 20.2.3 New Mexico Administrative Code (NMAC).

3.4.1.3 State Implementation Plan (SIP)

A SIP is a detailed description of the programs a state uses to carry out its responsibilities under the CAA as well as a collection of the regulations used by a state to reduce air pollution. The CAA requires that USEPA approve each SIP. For attainment, non-attainment regions, and unclassifiable regions all states are required to develop a SIP designed to eliminate or reduce the severity and number of NAAQS violations to bring state air quality conditions into (and maintain) compliance with the NAAQS by specific deadlines. The SIP is the primary means for the implementation, maintenance, and enforcement of the measures needed to attain and maintain the NAAQS in each state.

3.4.1.4 Prevention of Significant Deterioration (PSD)

Section 162 of the CAA further established the goal of PSD of air quality in all international parks, national parks that exceeded 6,000 acres, national wilderness areas, and memorial parks which exceeded 5,000 acres if these areas were in existence on August 7, 1977. These areas were defined as mandatory Class I areas while all other attainment or unclassifiable areas were defined as Class II areas. Under CAA

Section 164, states or tribal nations, in addition to the federal government, have the authority to redesignate certain areas as (non-mandatory) PSD Class I areas (e.g., a national park or national wilderness area established after August 7, 1977, which exceeds 10,000 acres). PSD Class I areas are areas where any appreciable deterioration of air quality is considered significant. Class II areas are those where moderate, well-controlled growth could be permitted. Class III areas are those designated by the Governor of a state as requiring less protection than Class II areas. No Class III areas have yet been so designated. The PSD requirements affect construction of new major stationary sources in areas that attain the NAAQS and serve as a pre-construction permitting system. In attainment and unclassifiable areas, the federal New Source Review (NSR) program is implemented under the PSD preconstruction program requirements of Section 165 of the CAA and the implementing regulations in 40 CFR § 52.21. New Mexico's PSD program regulations that are part of the SIP are contained in 20.2.74 New Mexico Administrative Code (NMAC). The nearest PSD Class I area is located in the Salt Creek Wilderness Area, approximately 60 miles southwest of Melrose AFR.

3.4.1.5 Visibility

CAA Section 169A established the goal of prevention of further visibility impairment in PSD Class I areas. Visibility impairment is defined as a reduction in the visual range and atmospheric discoloration. Determination of the significance of an activity on visibility in a Class I area is typically associated with evaluation of stationary source contributions. USEPA is implementing a regional haze rule for Class I areas that would address contributions from mobile sources and pollution transported from other states or regions. Emissions levels are used to assess potential impairment to visibility qualitatively in PSD Class I areas. Decreased visibility may potentially result from elevated concentrations of NO_2, particulate matter, and SO_2 in the lower atmosphere.

3.4.1.6 Stationary Source Operating Permit

In New Mexico, the NMAQB Permitting Section processes permit applications for industries that emit pollutants to the air. The Permitting Section consists of the following groups:

1 NSR and
2 Title V, NSR under the NMAC which is subdivided into a number of subcategories including, but not limited to:
   a. Minor NSR (20.2.72 NMAC),
   b. PSD (20.2.74 NMAC)
   c. New Source Performance Standards (NSPS) (20.2.77 NMAC)
   d. National Emission Standards for Hazardous Air Pollutants (NESHAPS) (20.2.78 NMAC), and
   e. Nonattainment Area New Source Review (NANSR) (20.2.79 NMAC).

In general, minor NSR applies to all stationary sources with the potential emission rate greater than 10 pounds per hour or 25 Tons Per Year (TPY) of criteria pollutants (such as Nitrogen Oxides [NO_x] and CO), except as otherwise provided. The exceptions are too numerous to summarize (e.g., 20.2.72.202 NMAC Exemptions), but they include the majority of emissions sources that are analyzed in both the existing conditions and environmental consequences sections for air quality in this document. Examples of such exceptions include the following:

1. Highway and nonroad mobile sources.
2. Fire fighter training (20.2.72.202 A[4]).

3. Government military activities such as field exercises, explosions, weapons testing, and demolition to the extent that such activities:
   a. Do not result in visible emissions entering publicly accessible areas, and
   b. Are not subject to NSPS or NESHAP (20.2.72.202 A[5]).
4. Use of portable aerospace ground equipment (such as power generators, compressors, heaters, air conditions, and lighting units) in direct support of aircraft operations and/or in the immediate vicinity of an airfield (20.2.72.202 A[13]).

Title V of the CAA Amendments of 1990 requires states to issue federal operating permits for major stationary sources. In New Mexico, 20.2.70 NMAC implements the federal Title V operating permit program requirements for existing and new major stationary sources. A major stationary source in an attainment or maintenance area (i.e., plant, base, or activity) that emits more than 100 TPY of any one criteria air pollutant, 10 TPY of a hazardous air pollutant, or 25 TPY of any combination of hazardous air pollutants. The purpose of the permitting rule is to establish regulatory control over large industrial activities and to monitor their impact upon air quality (NMAQB 2006).

3.4.1.7 Conformity of General Federal Actions to the SIP (20.2.98 NMAC)

In nonattainment and maintenance areas in New Mexico, new or modified federal mobile and fugitive sources of emissions that are otherwise exempt from stationary source permitting requirements are subject to General Conformity requirements. The General Conformity requirements do not apply in air quality areas that have always been designated as attainment or unclassifiable for the NAAQS as CAA § 176I (5) and limits applicability to nonattainment and maintenance areas. Since Roosevelt and Curry Counties are currently attainment areas for all criteria air pollutants, a conformity analysis is not required.

3.4.1.8 Current Air Emission

Air emissions at Melrose AFR occur primarily from aircraft that originate at Cannon AFB and conduct training exercises over the range. The ordnance dropped from aircraft and fugitive dust (particulate matter) generated from the ground impact of ordnance is provided in Table 3–10, which summarizes the estimated annual emissions produced at Melrose AFR. The data was calculated by comparing the current baseline sorties with the sorties reported in the *1998 Environmental Assessment for Proposed Force Structure Change and Foreign Military Sales Actions at Cannon AFB, New Mexico* (Cannon AFB 1998). The ratio of sorties for each region was then multiplied by the emissions reported in that document to estimate current baseline emissions. Only aircraft emissions that occurred below 3,000 ft AGL are included in this analysis since this is the average height of the surface mixing layer. Any emissions released above this level would not transport downward and affect ground-level air quality conditions.

Table 3–10. Baseline Emissions for Melrose AFR

	Annual Emissions (Tons Per Year)					
	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Ordnance [1]		0.02	<0.01	<0.01	1.58	1.05
Aircraft Flying Operations [2]	0.81	6.87	101.95	3.37	1.62	1.60
Total	**0.81**	**6.89**	**101.95**	**3.37**	**3.20**	**2.65**

Notes:

[1] Calculations based on 16,635 dummy bombs being dropped annually and using the United States Environmental Protection Agency (USEPA) emissions factors for ordnance. It is assumed that the dummy bombs are classified in the ground burst simulator category, with an approximate net explosive weight of 0.141 pounds per bomb. VOC is actually expressed as Total Non-Methane Hydrocarbons.

[2] Emissions from aircraft flying operations at the Melrose AFR include all activities occurring under 3,000 feet Above Ground Level (AGL) in R-5104A, R-5105, and the Taiban Military Operations Area (MOA). Emissions were calculated by using the emissions from the *1998 Environmental Assessment for Proposed Force Structure Change and Foreign Military Sales Actions at Cannon AFB, New Mexico* and multiplying them by the ratio of current baseline sorties to sorties documented in the 1998 Environmental Assessment.

Key:

CO = Carbon Monoxide
NO_x = Nitrogen Oxides
SO_x = Sulfur Oxides
$PM_{2.5}$ = Particulate Matter With a Diameter of Less Than or Equal To 2.5 Microns
PM_{10} = Particulate Matter With a Diameter of Less Than or Equal To 10 Microns
VOC = Volatile Organic Compound

Sources: Cannon AFB 1998; USEPA 2009

Total annual air emissions at Melrose AFR were estimated based on operational information. Emissions expected to occur at Melrose AFR are shown in Table 3–11. The emissions estimates are based on training at Melrose AFR as described in the *AFSOC Beddown EIS* (Air Force 2007).

Table 3–11. Melrose AFR Emissions after Initiation of AFSOC Training

	Annual Emissions (Tons Per Year)					
	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Ordnance [1]	16.28	14.88	56.68	15.93	19.40	19.23
Aircraft Flying Operations [2]	0.03	16.81	0.29	0.00	10.01	3.28
Fire Break Grading	0.02	0.14	0.34	0.05	4.06	0.86
Total	**16.33**	**31.83**	**59.31**	**15.98**	**33.47**	**23.37**

Notes:

[1] VOC emissions are not included in ordnance emissions. Emissions from ordnance were estimated by using the emission factors from the United States Environmental Protection Agency (USEPA), Armor Piercing (AP)-42 document for a 5.52 mm ball cartridge and applying that to the projected total number of pieces of ordnance expected to be used annually.

[2] Grading for firebreak construction/maintenance was assumed to occur on six acres per day and 50 days per year.

Key:

AFR = Air Force Range
AFSOC = Air Force Special Operations Command
CO = Carbon Monoxide
NO_x = Nitrogen Oxides
SO_x = Sulfur Oxides
$PM_{2.5}$ = Particulate Matter With a Diameter of Less Than or Equal To 2.5 Microns
PM_{10} = Particulate Matter With a Diameter of Less Than or Equal To 10 Microns
VOC = Volatile Organic Compound

Sources: Cannon AFB 1998; USEPA 2009

3.5 Physical Resources

3.5.1 Definition of Resource

Physical resources include a description of earth (topography, geology, and soils), water, hazardous materials, and waste. Topography characterizes the surface features of a place or region and provides a description of the physical setting. Geologic resources include subsurface and exposed rock. The properties of local bedrock affect soil formation and properties, groundwater sources and availability, and terrain. Soils include unconsolidated materials formed from the underlying bedrock or other parent material or transported from distant sources by way of wind and water. Soils play a critical role in the natural and human environment, affecting vegetation and habitat, water and air quality, and the success of the construction and stability of roads, buildings, and shallow excavations.

Water resources include surface water (e.g., lakes, rivers, streams, and wetlands), groundwater quantity and quality, and floodplains. Such resources are important for a variety of reasons including economic, ecological, recreational, scientific, historical, and human health. Groundwater includes the subsurface hydrologic resources of the physical environment and its properties are often described in terms of depth to aquifer or water table, water quality, and surrounding geologic composition.

Floodplains are defined by EO 11988, *Floodplain Management*, as "the lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands, including at a minimum, the area subject to a 1 percent or greater chance of flooding in any given year". Floodplains and riparian habitat are biologically unique and highly diverse ecosystems providing a rich diversity of aquatic and terrestrial species, as well as promoting stream bank stability and regulating water temperatures. EO 11988 requires federal agencies to avoid (to the extent possible) the long and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.

Section 404 of the CWA established a program that provides regulations on the discharge of dredged and fill material into waters of the U.S., including wetlands. Activities in waters of the U.S. that are regulated under this program include fills for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and conversion of wetlands to uplands for farming and forestry. EO 11990, *Wetlands Management* requires that all federal agencies avoid negatively impacting wetlands whenever possible.

Municipal solid waste management and compliance at Air Force installations is established in AFI 32-7042, *Solid and Hazardous Waste Compliance*. In general, AFI 32-7042 establishes the requirement that installations have a solid waste management program that incorporates a solid waste management plan with procedures for handling, storage, collection, and disposal of solid waste, record keeping and reporting, and pollution prevention. AFI 32-7080, *Pollution Prevention Program*, addresses source reduction, resource recovery, and recycling of solid waste. 40 CFR Part 246, *Source Separation for Materials Recovery Guidelines* addresses the requirement sections contained herein and delineates minimum actions for federal agencies for the recovery of resources from solid waste through source separation. In addition, the requirement sections of these guidelines are mandatory for all federal agencies that generate solid waste.

The terms "hazardous materials" and "hazardous waste" refers to substances defined as hazardous by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Solid Waste Disposal Act (SWDA), as amended by the Resource Conservation and Recovery Act (RCRA). In general, hazardous materials include substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may present substantial danger to public health or the environment when released into the environment. Hazardous wastes that are regulated under RCRA are defined as any solid, liquid, contained gaseous, or semisolid waste, or any combination of wastes that either exhibit one or more of the hazardous characteristics of ignitability, corrosivity, toxicity, reactivity, or are listed as a hazardous waste under 40 CFR Part 261. The Environmental Restoration Program (ERP) is an Air Force program to identify, characterize, and remediate environmental contamination from past activities at Air Force installations.

Issues associated with hazardous material and waste typically center around waste streams, Underground Storage Tanks (USTs), Aboveground Storage Tanks (ASTs), and the storage, transport, use, and disposal of pesticides, fuels, lubricants, and other industrial substances. When such materials are used or not disposed of properly, they can threaten the health and well-being of wildlife species, habitats, soil and water systems, and humans.

This section discusses earth resource conditions in the Melrose AFR ROI. Descriptions of topography and geology are described in a regional context to depict the setting. Soil and water resource information provided is site-specific and focused on the properties that would be most likely affected by the planned activities. Hazardous waste information focuses on conditions on Melrose AFR.

3.5.2 Existing Conditions

3.5.2.1 Earth Resources

According to the Natural Resources Conservation Service (NRCS), Melrose AFR falls within the Major Land Resource Area (MLRA) classification of Southern High Plains, Southwestern Part, a southeastward-sloping regional plateau that stretches through southeastern New Mexico and a portion of the southwestern panhandle of Texas. Characteristically, the high plains have a smooth and gently sloping or undulating surface on which scattered, normally dry, flat-bottomed depressions are the dominant relief feature (USDA 2006).

Geology of the Southern High Plains (southwestern part) is typified by eolian sediments of the Blackwater Draw Formation of the Pleistocene age (5.3 to 2.6 Million years [Ma] before present) and sand sheets and dunes of the Quaternary age (2.6 Ma to present). These are often underlain by the unconsolidated and poorly sorted sand and gravel of the Miocene-Pliocene (23.0 to 2.6 Ma) Ogallala Formation. Thin alluvial deposits are in the few large river valleys in the area (USDA 2006). Melrose AFR is underlain by several hundred feet of unconsolidated sediments deposited over sandstone known as the Triassic redbeds that form the basement of the Ogallala aquifer.

Within the area of the plateau upon which Melrose AFR is located, topography is typified by flat, featureless terrain having almost no relief. Elevations at Melrose AFR range from approximately 4,200 ft above sea level in the northeast portion to over 4,700 ft above sea level in the southwest portion. Several drainages and small canyons mark the landscape on Melrose AFR, including Sheep Canyon and Canada del Tule. The largest topographic feature and highest point on Melrose AFR is an unnamed mesa, often referred to as "the Mesa", a northeast-trending, flat-topped hill rising over 4,700 ft above sea level, located on the southwest side of the range (Cannon AFB 2010).

The semi-arid climate of the region contributes to the development of thin topsoil with low organic content, underlain in places at relatively shallow depths by a leached clay-carbonate hardpan, also known as caliche. Caliche most commonly forms as calcium carbonate leached from overlying sediments and soils and is difficult to pierce with hand tools and may pose a challenge to even shallow excavation activities. Within the region, tightly cemented layers of caliche are present in a number of soil horizons as well as in the Ogallala aquifer (CRP 2008).

There are 49 primary soil associations[1] found on Melrose AFR, ranging from fine sand to loams, with slopes ranging from zero to 20 percent. Figure 3–3 shows general soil types found on Melrose AFR. Soils on Melrose AFR tend to be low in organic matter, slightly alkaline, and have a low capacity to hold water and therefore ponding or flooding is rarely an issue. Soils on Melrose tend to be deep to moderately deep in profile and are moderately well to excessively well- drained. Permeability of soils on Melrose AFR ranges from moderate in the loamy soils to high in the sandy soils. Soils are slightly alkaline to alkaline (pH of 7.1 to 8.2) although these values range from a low of 6.6 to a high of 9.0. Additionally, the soils are characterized by typically coarse-textured material. Depth to the water table for most soils on Melrose AFR is greater than 80 inches (USDA 2010).

Soils in the northern third of the range are especially susceptible to wind erosion and tend to form dunes in the absence of stabilizing vegetation. Soils in the southern part of the range have a lower susceptibility to erosion as they are more compacted. In areas of the range where topsoil is thin and caliche is close to the surface, moderate damage to soil structure is more likely to lead to loss of vegetation. A map of Melrose AFR detaining the location of these different types of soils is provided in Figure 3–3. The most dominant soil associations found on Melrose AFR include the following (in descending order of total acreage) (USDA 2007; Air Force 2010):

Springer Loamy Fine Sand – *C*onsists of very deep well drained, moderately to rapidly permeable soils that formed in eolian sediments and alluvium. Surface water runoff is negligible on less than 1 percent slopes, very low on 1 to 5 percent slopes, and low on 5 to 10 percent slopes. These nearly level to hummocky soils are found on interdunes and dunes of sand sheets on stream terraces and alluvial plains. Slopes range from zero to 10 percent. This association is found primarily in the northern part of the range.

Clovis Loams – *C*onsists of very deep, well-drained, moderately permeable soils that formed in medium and moderately fine textured sediments from quartzite gneiss, schist, sandstone, and limestone. Surface water runoff is negligible on slopes less than 1 percent, very low on 1 to 3 percent slopes, low on 3 to 5 percent slopes and medium on 5 to 20 percent slopes. Clovis loams are on fan terraces, piedmont slopes, and plains. Slopes range from zero to 20 percent.

Stegall Loams – Consist of well-drained and moderately deep soils, that are moderately to slowly permeable above caliche layers and have a very slow permeability below caliche layers. Surface water runoff is negligible on 0 to 1 percent slopes and very low on 1 to 3 percent slopes. Stegall loams formed in loamy eolian sediments over a layer of indurated caliche underlain by loamy calcareous material derived from the Blackwater Draw Formation of the Pleistocene age. Surface water runoff is negligible on less than 1 percent slopes, and low on 1 to 5 percent slopes. Stegall loams are found on broad, smooth, nearly level to very gently sloping plains. Slopes range from zero to 3 percent.

[1] A soil association is composed of two or more geographically associated soils that are displayed as one unit on a map. Due to present or anticipated uses of the map units in the survey area, it is not considered practical or necessary to map soils or areas separately.

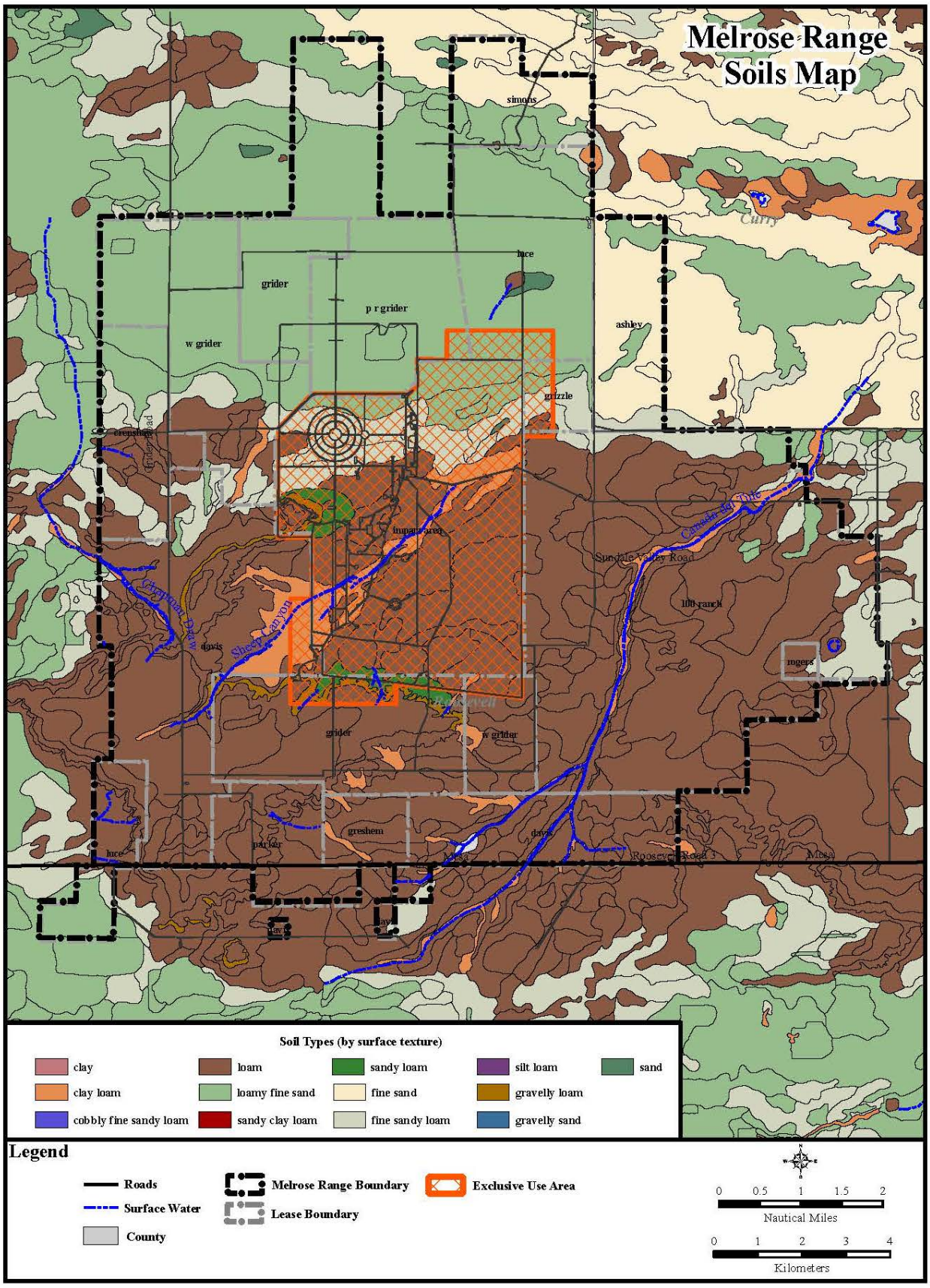

Figure 3-3. Soil

Mansker Loams – Consist of very deep, well drained, moderately permeable, soils that formed in loamy, calcareous eolian sediments derived mainly from the Blackwater Draw Formation of the Pleistocene age. Surface water runoff is negligible on less than 1 percent slopes, low on 1 to 5 percent slopes, and medium on 5 to 8 percent slopes. Mansker loams are found on nearly level to moderately sloping plains. Slopes range from zero to 8 percent.

Portales Loams – Consist of very deep, well-drained, moderately permeable soils that formed in a medium to moderately fine textured, calcareous, lake-derived sediments of the Pleistocene age. Surface water runoff is negligible on 0 to 1 percent slopes and very low on 1 to 3 percent slopes. Portales loams are found on nearly level to very gently sloping concave plains associated with playa lake basins. Slope ranges from zero to 1 percent.

Olton Loams – Consist of very deep, well-drained, moderately slow permeable soils that are formed in loamy, calcareous eolian sediments in the Blackwater Draw Formation of the Pleistocene age. Surface water runoff is negligible on 0 to 1 percent slopes, very low on 1 to 3 percent slopes and low on 3 to 5 percent slopes. These soils are on nearly level to gently sloping plains and upper side slopes of playas and draws. Slopes range from zero to 5 percent.

3.5.2.2 Water Resources

Surface Water – The most prominent surface water features on Melrose AFR are located in the long shallow valleys of the Canada del Tule and Sheep Canyon draws and in several smaller drainages carrying runoff from the Mesa. The Canada del Tule carries runoff from the southeastern half of the range and flows in a northeasterly direction. In the past, the draw carried water to Tule Lake, located northeast of the range; however, due to the numerous impoundments along its course, flow has decreased and surface water flow appears to cease just south of Sundale Valley Road (Cannon AFB 2010). The Sheep Canyon drainage area consists of a single major ephemeral drainage that flows northeast from the Mesa (the topographical high point on Melrose AFR), approximately 4,600 ft MSL.

These drainages do not typically contribute flow to the three river valleys into which they eventually drain (the Red or the Brazos). In the area of New Mexico where Melrose AFR is located, precipitation averages approximately 12 inches per year, most of which occurs during summer thunderstorms. Due to low annual precipitation and high evaporation rates in the area, regional drainage consists of poorly developed ephemeral streams. Stormwater runoff from the southeastern half of Melrose AFR is generally carried by the Canada del Tule draw and the Mesa is drained from the northeast by the Sheep Canyon drainage. Much of the runoff on Melrose AFR is captured in numerous impoundments that are used as sources of water for livestock. Small playas are present throughout the level portions of Melrose AFR.

Other surface water features on Melrose AFR include four areas that flood periodically (outside the restricted leased area), ten wildlife watering impoundments (one on the existing Exclusive-Use Area), 23 steel-rimmed stock tanks, and five other small manmade impoundments used to support livestock operations (inside the restricted leased area). Steel-rimmed tanks that average approximately 19 ft in diameter and 18 inches in depth are located on restricted leased land. The other small impoundments are less than 0.01 acre and average approximately eight ft in depth (CRP 2008). The locations of prominent water features (including wells) on Melrose AFR are shown in Figure 3–4.

No jurisdictional waters of the U.S., including wetlands, are located within the Exclusive-Use Area, the restricted leased area, or the unrestricted leased area of Melrose AFR. A recent hydrology survey identified two ponds/impoundments, three wetland areas, and several intermittent streams and drainages; however, all three of the wetland areas are considered nonjurisdictional (CRP 2008). No permanently flooded areas are located on the range.

Groundwater – Melrose AFR is underlain by the Ogallala aquifer and groundwater generally occurs under unconfined conditions. Regional thickness of the aquifer ranges from zero, where the Ogallala Formation wedges out against older rocks, to as much as 150 ft in parts of Curry County. Groundwater flows generally in an east to southeast direction and the water table slopes at a relatively flat 7 to 15 ft per mile. Caliche zones can commonly be found in the upper 50 ft of sediments, lowering the permeability and amount of infiltration of surface water through the near-surface sediments. Most groundwater of the Ogallala aquifer in the region is considered hard (with a total dissolved solid count of 400 to 500 parts per million). Minerals most often found in groundwater are calcium magnesium carbonates and bicarbonate sulfates (Cannon AFB 2010; USDA 2006).

Water levels in the aquifer have declined by 1 to 18 feet over various periods from 1962 to 2003 (Langman *et al*. 2004). In seven wells selected by the United States Geological Survey (USGS) as being representative of local ground water trends, depth to groundwater increases varied from zero to seven inches per year, changes in water levels that mirror regional trends. Such changes are attributable to groundwater withdrawal (for farming and other purposes) exceeding groundwater recharge. Due to concerns about the depletion of the Ogallala aquifer, a pipeline would transfer water from the Ute Reservoir (approximately 80 miles north of Melrose AFR) to several points in eastern New Mexico.

Water produced by Well #11, which serves the Melrose AFR administrative area, is not recommended for drinking or cooking due to perchlorate levels. In addition, perchlorate was detected at low levels in three of the 29 wells tested in 2003 (Langman *et al*. 2004)

Floodplains – No 100-year floodplains are located on Melrose AFR (Air Force 2010).

3.5.2.3 Hazardous Materials and Waste Management

Hazardous Materials Management – Melrose AFR is operated under a contract with personnel who monitor and maintain the televised ordnance scoring system, targets, access roads, firebreaks, etc. Small quantities of hazardous materials such as paints are used at the range and are managed through the base hazardous materials management program (Air Force 2010).

Hazardous Waste Management – Melrose AFR qualifies as a conditionally exempt, small quantity generator due to the monthly waste generations within the main compound and in the Exclusive Use Area. Generation of RCRA hazardous and universal waste may include liquid or solid accumulations in containers for processes used to clean parts and equipment, and/or battery replacements. Hazardous waste reduction includes non-regulated solid waste filters.

Range clean up at Melrose AFR typically consists of the removal of metal fragments from inert, live, and HE ordnance, targets, and training ammunition. Under current practice, munitions safely recovered and removed from the targets are then stored in the holding container designation area. Current practices are necessary for compliance with AFI 13-212, which requires the range clearance of munitions debris on a regular basis. Tactical and conventional targets are cleared every 75 days of use to a radius of 100 meters and annually to a radius of 300 meters.

The Cannon AFB EOD team inspects all munitions debris. Solid waste (i.e., scrap munitions), including inert (non-explosive) ordnance, is currently being stored in several locations within the target impact area at Melrose AFR. Munitions debris is subjected to double-inspection by EOD or a mechanized process to ensure ammunition, explosives, and other dangerous articles are not released to the public, in accordance with Defense Reutilization and Marketing Office (DRMO) directives as directed by MOA with DRMO or through an option for direct commercial sales.

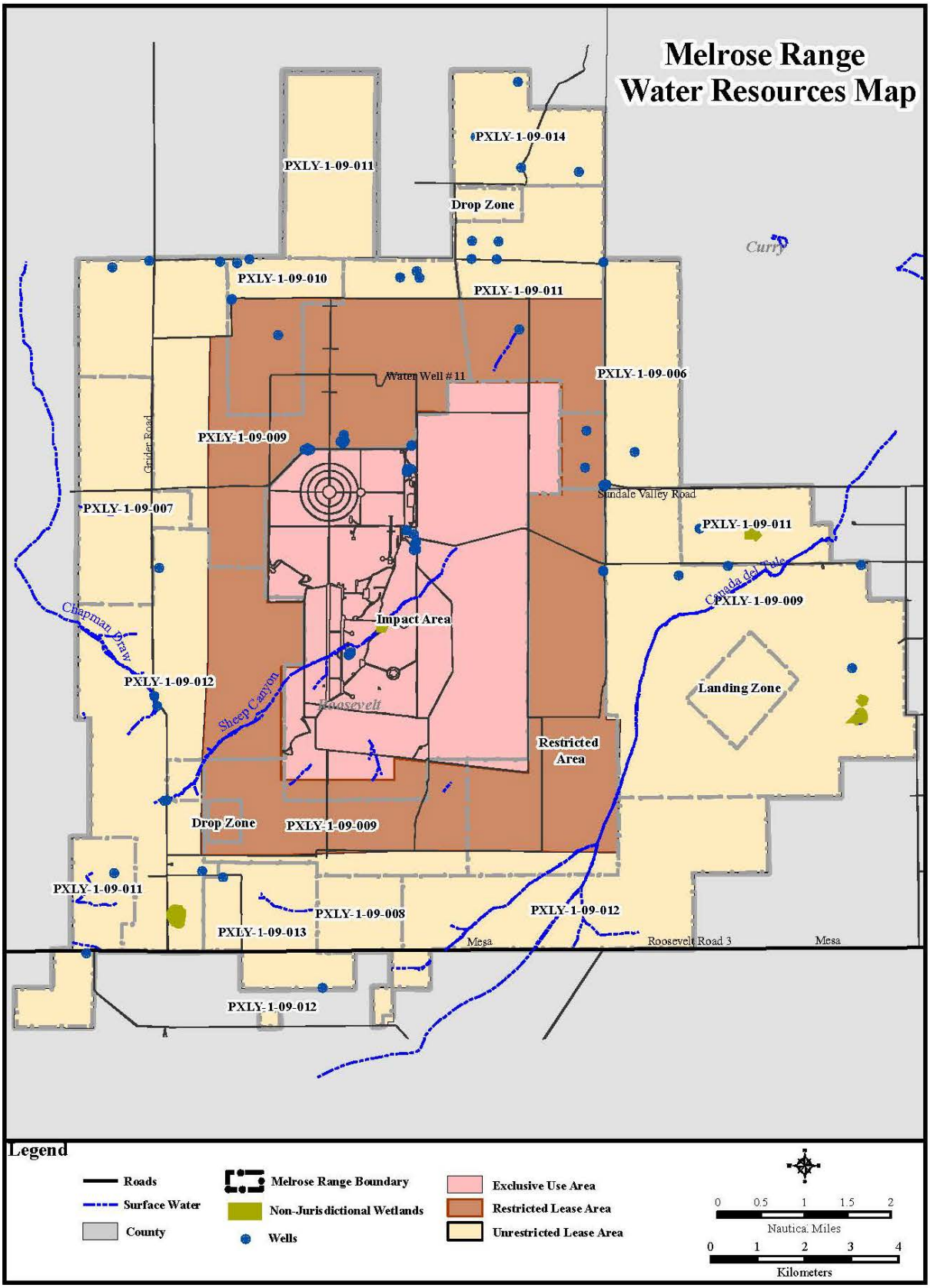

Figure 3–4. Water-Related Features on Melrose AFR

Defensive chaff and flares are used as part of current operations over Melrose AFR. Analysis contained in the *AFSOC Beddown EIS* at Cannon AFB indicated residual chaff and flares would not be expected to release chemicals in potentially dangerous concentrations under conditions found at Melrose AFR (Air Force 2007). Chaff and flare expenditures will be managed in accordance with the requirements contained in Section 5 of the *Chaff and Flare Use of the Mitigation and Management Implementation Plan* that was developed as a result of the EIS.

There are currently five ASTs located on Melrose AFR. These tanks comply with applicable Air Force regulations on spill containment safety. The tanks can be moved to serve new facilities or removed from the range and disposed of as appropriate with minimal cost incurred (Air Force 2010). There are no USTs on Melrose AFR.

3.5.2.4 RCRA/Defense Environmental Restoration Act (DERA) Program

As part of an ongoing examination of past waste management practices at Melrose AFR, Cannon AFB has identified three SWMUs and seven Areas of Concern (AOCs) associated with past military activities, maintenance, and disposal activities (Table 3−12). In 2007 for these sites, the New Mexico Environment Department (NMED) granted an indefinite work plan status requiring no remedial action until the range is closed. An operational range assessment was conducted in 2007 and no chemicals of concern related to munitions were found to be migrating from the range. Long-term monitoring of the sites began in 2009 and a baseline study would be performed to include analysis of munitions-related chemicals of concern (Cannon AFB 2010). There are currently no special regulatory land use restrictions on the seven sites. All UXO on the surface has been removed and disposed of from all sites, but several of the sites may still contain subsurface UXO.

Table 3−12. Melrose AFR SWMU and Area of Concern (AOC)

Site ID	Description	Material
SWMU 114	Expended Ordnance and Industrial Waste Burial Site (Motor Pool Trenches)	Military and industrial wastes including drummed industrial waste and scrap metal from practice bombs
SWMU 115	Explosives Contaminated Burial Site (Arroyo Burial Site)	Exploded ordnance/UXO
SWMU 117	Domestic Waste Burial Site (Southeast of Main Building)	Domestic waste and possibly UXO
AOC 1	World War II Cantonment Disposal Area	UXO, other munitions, and domestic and unknown types of waste
AOC 2	Domestic Waste Burial Site (East of Fire Station)	Domestic waste, industrial waste, and other unknown types of waste
AOC 3	Northwest Munitions Disposal Site (Northwest Corner of Impact Area)	Unknown types of waste
AOC 4	Northwest Munitions Disposal Area (Northwest Corner of Impact Area)	Exploded ordnance/UXO

Key:
AFR = Air Force Range
ERP = Environmental Restoration Program
SWMU = Solid Waste Management Unit
UXO = Unexploded Ordnance

Source: Cannon AFB 2010

3.6 Biological Resources

The term "biological resources" refers to non-domestic organisms that may be found within, and potentially affected by, specified project areas on Melrose AFR. The biological resources category includes all native and introduced plant and animal species and their habitats, including the wetlands within which they occur. Functional groups of species that are linked by ecological processes within a

defined area are referred to as ecological communities. These communities may be either terrestrial or aquatic.

Terrestrial communities consist of plant and animal species whose life history strategies include little or no aquatic component. In contrast, aquatic communities consist of plant and animal species whose life history relies heavily on an aquatic component including the associated water. Most ecological communities are distinguished by a characteristic assemblage of dominant plant species. The spatial and functional portion of a community within which a species obtains its required resources (nutrients, water, shelter, space, temperature, etc.) is defined as its habitat. Within an ecological setting, the quality and attributes of available habitat would determine wildlife composition, diversity, and abundance. Habitat requirements, species interactions, and tolerance of conditions and other organisms establish observed distribution and abundance patterns of each species. For this reason, habitat type, quality, and area affected would provide the dominant perspective in establishing baseline conditions and assessing potential impacts.

Ecological communities and the species they support are presumed to have intrinsic values such as being sources of biological diversity due to their importance for nutrient, water, and atmospheric gas cycling. Ecological communities provide a linkage to regional and global ecosystem functions as well as providing aesthetic, recreational, and socioeconomic values to society. This biological resources section focuses on animal species and vegetation types that typify, or are important to, the function of the ecosystem, are of special societal importance, or are listed as endangered or threatened under federal or state law. These resources are organized into three major categories:

1. Terrestrial ecological communities including animals and plants,
2. Wetlands, and
3. Special status species.

A habitat-level perspective would govern both the descriptions of existing conditions and the associated analyses. The following defines the wetland and special status species categories.

Wetlands – Wetlands are a special category of waters of the U.S. and are subject to regulatory authority under Section 404 of the CWA and EO 11990, *Protection of Wetlands*. Jurisdictional wetlands are those defined by the United States Army Corps of Engineers (USACE) and USEPA as meeting all the criteria defined in the USACE's *Wetlands Delineation Manual* (USACE 1987) and fall under the jurisdiction of the USACE. Recent Supreme Court decisions and subsequent guidance have determined that isolated wetlands do not have jurisdictional status and are not subject to regulation under Section 404 of the CWA. On 22 June 2006, the USACE determined that Cannon AFB and Melrose AFR do not have any jurisdictional waters of the U.S.

Special Status Species – Those plant and animal species listed as threatened, endangered, or candidates for listing by USFWS and those species with comparable state levels of legal protection. The ESA protects federally listed threatened and endangered plant and animal species. Candidate species are species the USFWS is considering for federal listing as threatened or endangered but for which a proposed rule has not yet been developed. Candidates do not benefit from legal protection under the ESA. The USFWS encourages federal agencies to consider candidate species in their planning process as they may be listed in the future and current actions may prevent future listing. The New Mexico Wildlife Conservation Act (1978) provides for the listing of species at risk within the state as endangered or threatened. The New Mexico Department of Game and Fish (NMDGF) maintain a list of endangered and threatened fish and animals. The New Mexico Energy, Minerals, and the Natural Resources Department (EMNRD) manages the state-listed plants. Typically, state and federal lists have considerable overlap, but occasionally a state may provide more protection than is required at the federal level.

3.6.1 Definition of Resource

Biological resources within the Melrose AFR ROI associated with the Proposed Action and Alternatives includes those wild species that reside, or may occur, in some transient fashion on the range and may be affected by project-related effects such as ground disturbance caused by construction or operations. The definition includes plants, wildlife, and their habitats within potential effects areas.

3.6.2 Existing Conditions

3.6.2.1 Vegetation

Melrose AFR lies within the Southwest Plateau and Plains Dry Steppe and Shrub Province ecoregion (Bailey 1995). The landform is flat to slightly rolling with natural communities primarily dominated by shortgrass prairie vegetation adapted to the arid climate. Scattered shrubs and small trees grow where soils are deeper and/or more moisture collects. Historically, the area was used primarily for livestock grazing and cultivated fields, but military use of Melrose AFR over the years has altered features of the habitats with the greatest changes to the natural grasslands as evidenced on the target impact area in the center of the range. The impact area is disturbed frequently by the heavy machinery required for target maintenance (e.g., grading, bulldozing) and from wildfires. The area also includes two borrow pits for soil extraction. The primary land use activity outside of the target impact area remains livestock grazing with small areas of irrigated agricultural cultivation in the northern sections. Thus, the natural landscape setting has been modified by a post-settlement history of ground-disturbing land uses and grazing.

The native vegetation mapped on Melrose AFR in 1994 included various vegetation classes with the shortgrass prairie as the dominant plant community (Parmenter *et al*. 1994). This community supports blue grama (*Bouteloua gracilis*) and hairy grama (*B. hirsuta*) as co-dominants in several vegetation classes along with tobosa (*Hilaria mutica*), sand dropseed (*Sporobolus cryptandrus*), buffalograss (*Buchloe dactyloides*), mesquite (*Prosopsis* spp.), and soaptree yucca (*Yucca elata*) (Parmenter *et al*. 1994). Vegetation mapping has been updated for the 2010 Integrated Natural Resources Management Plan (INRMP) and is presented in Figure 3–5.

Other vegetation types mapped on Melrose AFR include New Mexico needle grass *(Achnatherum perplexum*), sandsage (*Artemisia filifolia*), and silver beardgrass (*Bothriochloa laguroides*). Prickly pear and cholla cacti (*Opuntia* spp.) occur throughout Melrose AFR and isolated, patchy shrub habitats occur on the range, usually supporting mesquite. The most common vegetation occurring in ephemeral wetland areas of the range includes common rushes (*Juncus effusus*) and alkali sacaton (*Sporobolus airoides*) (Parmenter *et al*. 1994; Air Force 2010). Plants identified in the ephemeral playa basins include vine mesquite (*Panicurn obtusum*), barnyard grass (*Echinochloa crusgalli*), blueweed (*Helianfhus cdiaris*), and ragweed (*Ambrosia psilotrachya*).

The sandhill habitat is located in the northeastern portion of Melrose AFR and is characterized by deep, well-drained soils made up of sand dune hills. The vegetation cover varies in this habitat from areas that have no vegetation to areas that support a moderate amount of cover such as scattered sand sage (*Artemisia filifolia*) and soapweed yucca (*Yucca glauca*) with a mixed-grass and forb understory (Air Force 2010). The shrub populations are the most constant and vary with longer moisture cycles. Forb populations fluctuate widely from year to year with amount and seasonal distribution of rainfall, as well as the grazing regime. Gaura (*Gaura* sp.), western ragweed (*Ambrosia psilostachya*), annual sunflower (*Helanthus* petiolaris), annual wild buckwheat (*Eriogonum* spp.), and queen's delight (*Stillingia sylvatica*) are the typical forb species found in this habitat type. Grasses consist largely of those found in the shortgrass to mixed-grass prairies.

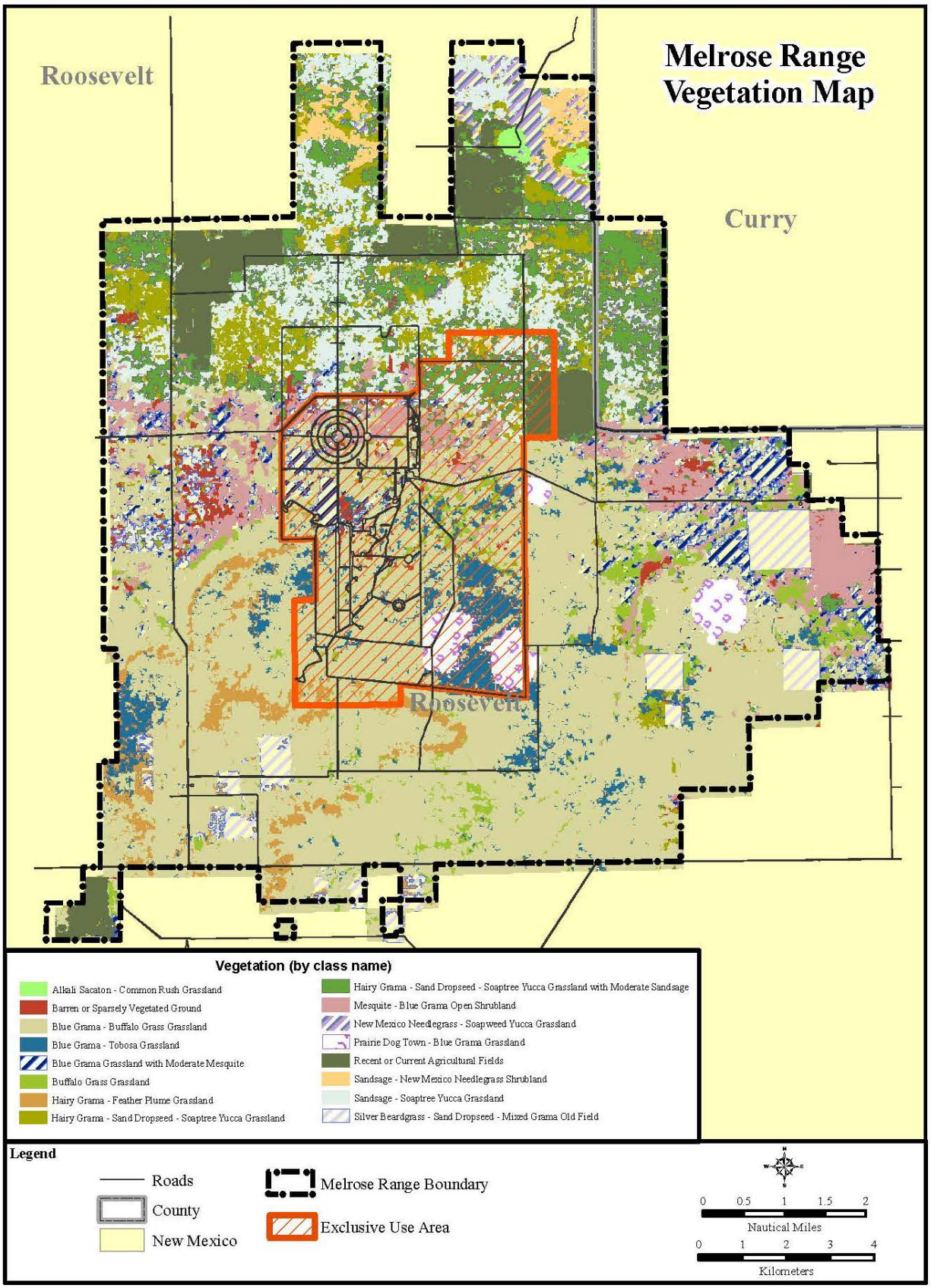

Figure 3–5. Melrose AFR Vegetation

Areas of land disturbance and former croplands have been invaded with non-natives and other plants that respond to bare soils or sparsely vegetated areas. These include goosefoot (*Chenopodium incana*), Texas croton (*Croton texensis*), Russian thistle (*Salsola kali*), annual sunflower, amaranth (*Amaranthus palmeri*), sandbur (*Cenchrus incertus*), silverleaf nightshade (*Solanum elaeagnifolium*), horsetail (*Hippuris vulgaris*), and mat muhly (*Muhlenbergia richardsonis*) (Parmenter *et al*. 1994; Air Force 2010). Invasive weeds were recorded and mapped on Melrose AFR since 2005 (Air Force 2010).

3.6.2.2 Wildlife

As part of an inventory of vertebrate species found on Melrose AFR, Parmenter *et al.* (1994) classified plant communities according to their value to wildlife. General wildlife habitat types identified include:

- Mixed-species grasslands,
- Mesquite-grasslands,
- Sand-hill shrublands,
- Swales/playas,
- Old agricultural fields, and
- Areas under current cultivation, such as wheat fields.

During the 1994 survey, the rangeland conditions on Melrose AFR grasslands that were grazed were generally healthy except near water sources, which were heavily trampled by livestock. Habitat generalists commonly found throughout the range include mourning dove (*Zenaida macroura*), common nighthawk (*Chordeiles minor*), western meadowlark (*Sturnella neglecta*), lark sparrow (*Chondestes gramacus*), horned lark (*Eremophila alpestris*), Cassin's sparrow (*Aimophila cassinii*), ornate box turtle (*Terrapene ornata*), western hognose snake (*Heterodon nasicus*), coachwhip (*Masticophis flagellum*), black-tailed jackrabbit (*Lepus californicus*), desert cottontail (*Sylvilagus audubonii*), silky pocket mouse (*Perognathus flavus*), northern grasshopper mouse (*Onychomys leucogaster*), Ord's kangaroo rat (*Dipodomys ordii*), coyote (*Canis latrans*), and pronghorn (*Antilocapra*) (Parmenter *et al*. 1994; Air Force 2010). Swift fox (*Vulpes velox*), which historically occurred in the shortgrass prairie or plains-mesa grassland east of the Pecos River, may be present on Melrose AFR. Large mammals (e.g., pronghorn antelope, mule deer, white-tailed deer, coyote) were surveyed and mapped annually since 2007 (Air Force 2010). Swift fox surveys were conducted on Melrose AFR in 2010.

Other species recorded that from the mixed-species grassland on Melrose AFR include chipping sparrow (*Spizella passerina*), spotted ground squirrel (*Citellus spilosoma*), hispid pocket mouse (*Perognathus hispidus*), six-lined racerunner (*Cnemidophorus sexlineatus)*, many-lined skink (*Plestiodon [Eumeces] multivirgatus*), burrowing owl (*Athene cunicularis*), Black-Tailed Prairie Dog (BTPD) (*Cynomys ludovicianus*), yellow mud turtle (*Kinosternon flavescens*), mountain plover (*Charadrius montanus*), and sandpipers (Scolopacidae) (Parmenter *et al.* 1997; Air Force 1997, 2010). A majority of the BTPD population on Melrose AFR was extirpated by the plague (Yerinis Pestis) from 2005-2006 (Air Force 2010) so burrowing owls are currently using the burrows in former prairie dog towns. In 2009, a BTPD survey was conducted to determine if the population was recovering. Four small active prairie dog colonies were found and mapped during the survey (Air Force 2010).

Swale/playa habitats are very small habitats where natural depressions collect seasonal rains and are, therefore, very important for wildlife in this arid area. These habitats, which can contain dense stands of grasses and forbs that vary with moisture amounts, are predominantly located in the northeast and southwest portions of the range. This habitat type is used by many vegetation communities when water is present and the corresponding vegetation communities respond to the moisture including green toad (*Bufo debilis*), white-faced ibis (*Plegadis chihi*), shorebird species, and other migratory waterfowl. Wildlife

species also have access to numerous ponds and stock tanks set up for livestock inside the leased area. Manmade water sources are also provided for wildlife at water impoundments (one of which is on the existing Exclusive Use Area).

Lower species diversity, primarily vertebrates, was found in the sandhills habitats. Old agricultural fields supported an abundance of seed-producing annual forbs, which, in turn attracted an exceptional number of granivorous wildlife species such as birds and rodents. In contrast, the actively cultivated wheat fields were sparsely populated by wildlife, primarily insect-eating reptiles, and birds (Parementer *et al.* 1994, 1997). The mesquite habitats were occupied by scaled quail (*Callipepla squamata*), northern flicker (*Colaptes auratus*), southern plains woodrat (*Neotoma micropus*), and the side-blotched lizard (*Uta stansburiana*). Parementer found that the effects of grazing on Melrose AFR wildlife seemed to be habitat-specific as some of the areas used for grazing supported less vertebrate diversity and other areas supported more vertebrate diversity.

A Wildlife Monitoring Program was implemented on Melrose AFR along with Bird-Aircraft Strike Hazard (BASH) plan improvements due to analyses associated with the Cannon INRMP (Air Force 2010). The goals of the Wildlife Monitoring Program were to determine the extent of wildlife at Melrose AFR and the potential impacts of the Agricultural Outlease Program on plant/animal communities and biodiversity, from flight training activities (e.g., fires) on biotic communities and biodiversity, ground-training exercises on biotic communities and biodiversity, and impacts of wildlife pest populations on biotic communities. Implementation of the Wildlife Habitat Enhancement Program at Melrose AFR includes having developed water budgets, restored and excluded livestock from playa lakes, and reduced grazing impacts to stream channels.

3.6.2.3 Wetlands

Melrose AFR provides seasonally inundated areas and seasonal aquatic habitats including several minor surface water features and intermittent streams and drainages. There are no permanently flooded areas located on the range.

Surface waters on Melrose AFR include intermittent streams with closed-basin and seasonally flooded playas scattered throughout the range in areas of relatively flat topography, on-channel ponds, and in wetlands. No jurisdictional waters or wetlands (by current CWA definition) are located within the range boundaries. The predominant non-wetland water features that are present include the Mesa Playa basin, the Canada del Tule that flows from the south-central portion to the eastern portion of the range, the Sheep Canyon draw that flows easterly across the Target Impact Area (TIA), and numerous drainages that carry runoff from the Mesa. Most of the ephemeral drainages on Melrose AFR have been impounded to provide water sources for livestock.

3.6.2.4 Threatened, Endangered, and Other Special Status Species

Federal and state-listed threatened, endangered, or candidate species identified as occurring in Curry and Roosevelt counties are listed in Table 3–13. Not all of these species have suitable habitat at Melrose AFR, but a few have been recorded there. Based on the biological surveys conducted on Melrose AFR in recent years, no federally listed species have been recorded as being present (Parmenter *et al.*, 1994; Air Force 2010). The federal candidate species (lesser prairie chicken) was recorded on Melrose AFR, is being monitored annually, and a Candidate Species Management Plan has been developed (Air Force 2010).

Table 3−13. Federal and State-Listed Threatened, Endangered, Proposed and Candidate Species Identified for Curry and Roosevelt Counties, New Mexico and with Potential to Occur at Melrose AFR

Common Name and Scientific Name	Status(Federal ESA/State)[1]	General Habitat Association	Likelihood of Occurrence at Melrose AFR
Least tern (Interior Population), *Sterna antillarum*	E/E	Nest on riverine sandbars, open sandy, or gravel coastal beaches; may nest on dredge material. Long distance migrant.	No habitat present or not recorded on Melrose AFR. Occurrence highly unlikely.
Whooping crane *Grus americana*	E/E	Associated with water, but may forage in grain fields and grasslands during migrations.	Transient individuals possible but occurrence highly unlikely due to lack of suitable habitat and rarity of species.
Southwestern willow flycatcher *Empidonax traillii extimus*	E/E	Requires dense, multi-canopied riparian forest habitats near perennial water sources for breeding.	Habitat unsuitable for breeding. One individual recorded in August 1993 in Upper Sheep Canyon was likely migratory and no additional sightings have been identified.
Mountain plover *Charadrius montanus*	--/SGCN	Shortgrass prairie, sparse vegetation, and bare ground including grazed areas, cultivated lands, and prairie dog colonies.	Occasional visitors to Melrose AFR (observed between 1997 and 2002) but are not known to breed or winter on the range.
Lesser prairie chicken *Tympanuchus pallidicinctus*	C/SGCN	Year-round residents in mixed grass-dwarf shrub communities that occur on sandy soils; principally in the sandsage habitats.	Small breeding population present in the northern part of Melrose AFR.
Bald eagle, *Haliaeetus leucocephalus*	D/T	Breeding habitat most commonly includes areas close to coastal areas, bays, rivers, and lakes that reflect the general availability of primary food sources including fish, waterfowl, and seabirds.	One recorded on Melrose AFR as a casual/accidental visitor in winter of 1998. Numerous surveys have not recorded a bald eagle since.
Peregrine falcon, *Falco peregrinus*	D/T	Nests on bare rock/talus/scree, and cliffs; forages in shrubland/ chaparral, conifer, and hardwood/woodlands.	No habitat present. Transient individuals possible.
Baird's sparrow, *Ammodramus bairdii*	--/T	Forage among dense bunch grasses in northern prairie settings. Breed in ungrazed or lightly grazed mixed-grass prairie, wet meadows, and local pockets of tallgrass prairie.	No foraging or breeding habitat present on Melrose AFR. Low likelihood of incidental occurrence.
Bell's vireo, *Vireo bellii*	--/T	Dense brush, willow thickets, mesquite, streamside thickets, and scrub oak. In arid regions often near water, also adjoining uplands.	No habitat present. Low likelihood of occurrence.
Loggerhead Shrike Lanius ludovicianus	--/ SGCN	Resident in open country with scattered shrubs, trees, and grasslands.	Occurs as a resident on Melrose AFR
Western burrowing owl *Athene cunicularia hypugaea*	--/SGCN	Prefers shortgrass, disturbed soils, and prairie dog colonies for winter and breeding habitat. Uses burrows excavated by other animals.	Known to breed and common resident on mixed-grassland habitats of Melrose AFR.
Sand dune lizard *Sceloporus arenicolus*	C/E, SGCN	In New Mexico, endemic to small areas of shinnery oak habitat. Prefers active and semi-stabilized sand dunes with mammal burrows and litter.	No presence on Melrose AFR recorded and range is outside known distribution in state. Very low likelihood of occurrence.

Key:

-- = not listed
C = Candidate
E = Endangered
PT = Proposed by the U.S. Fish and Wildlife Service (USFWS) as threatened species
SGCN – State Species of Greatest Conservation Need
T= Threatened

Sources: USFWS 2011; NMDGF 2006; NMDGF 2010; Air Force 2010

Wide-ranging birds and birds with long migrations such as the bald eagle, American peregrine falcon, and whooping crane could periodically visit grassland or playa habitats on Melrose AFR, but are not known to breed or winter there (Table 3–13). The bald eagle (*Haliaeetus leucocephalus*) is known to occur along the Pecos River as a transient and winter habitat user. It was recorded at Melrose AFR in 1998. The

western burrowing owl (*Athene cunicularia hypugaea*) is a Species of Greatest Conservation Need (SGCN) in New Mexico, a year-round resident in Roosevelt County (NMDGF 2006), and is known to nest on Melrose AFR. The number of nests on the range varies annually so the total number of nests on the range is unknown. Burrowing owls are frequently observed in the mixed grassland habitat types and other open or disturbed areas at Melrose AFR (Air Force 2010). Nesting burrows are frequently found in prairie dog towns or in association with other burrowing mammals such as badgers (Air Force 2010).

The mountain plover (*Charadrius montanus*) was again proposed for federal listing as a threatened species in June 2010, but the proposal was dropped in May 2011. The species is still considered sensitive in New Mexico and mountain plovers are occasional visitors to Melrose AFR, but are not known to breed or winter on the range. Mountain plovers nest in late March through August in habitats characterized by shortgrass prairie and bare ground including grazed areas, cultivated lands, and prairie dog colonies (USFWS 1999). Breeding habitat is limited to the prairies of the Rocky Mountain states. The mountain plover winters in California, Arizona, Texas, and Mexico (USFWS 1999). Mountain plovers were not detected during the 1993-94 breeding season surveys of Melrose AFR (Parmenter *et al.* 1994), but were observed between 1997 and 2002 (Air Force 2010). This species has been observed in association with stock tanks, dry playas, and prairie dog colonies. Breeding activity was not subsequently observed on the range. Although suitable nesting habitat exists on Melrose AFR, mountain plover use of the range appears to be limited to transient use during spring migration (March and April) (NMDGF 2006).

The interior least tern (*Sterna antillarum athalassos*) is listed both federally and by state as endangered. It is known to breed southwest of Melrose AFR along the Pecos River at Bitter Lake National Wildlife Refuge (NWR). They have bred annually at (or near) Bitter Lake NWR since 1949 and are not known to breed elsewhere in New Mexico. The birds nest and forage predominantly along playa habitats on the refuge. Since 1989, the number of interior least terns at Bitter Lake NWR has ranged from three to seven breeding pairs. These terns also occur as rare vagrants at other wetlands in the state, including the Bosque del Apache NWR (Socorro County) and in Eddy County (USFWS 1990; BLM 1997; NMDGF 2006).

Lesser prairie chickens (*Tympanuchus allidicinctus*) are a federal ESA candidate species and a New Mexico SGCN. The species is known to nest in southern Roosevelt County (Massey 2001). Recent monitoring on Melrose AFR has revealed the presence of a small breeding group in the northern portion of Melrose AFR and breeding grounds (leks) have been mapped (Air Force 2010). An open shrubby habitat in this portion of the range provides cover and foraging habitat for this upland game bird. Surveys for lesser prairie chickens are conducted annually and the INRMP recommends that the habitat for this species be avoided during training and for any planned expansions.

The sand dune lizard (*Sceloporus arenicolus*) is a federal candidate and state-listed endangered species. It is not likely to occur on Melrose AFR due to lack of suitable habitat and it has not been detected during extensive wildlife surveys conducted on the range (Air Force 2010). The nearest potentially suitable habitat for it is found in the moving sand dunes adjacent to the northern boundary of the range.

Seven studies with relevance to endangered, threatened, and candidate species, species of concern, and species of conservation concern have been conducted on Melrose AFR since 2003 and details of their findings are outlined in the 2010 INRMP (Air Force 2010). The surveys found several bird species present that are considered species of concern by the USFWS (not listed under ESA but protected under the Migratory Bird Treaty Act [MBTA]). Birds observed were ferruginous hawk (*Buteo regalis*), white-faced ibis (*Plegadis chihi*), loggerhead shrike (*Lanius ludovicianus*), Cassin's sparrow, chestnut-collared longspur (*Calcarius ornatus*), lark bunting (*Calamospiza melanocorys*), long-billed curlew (*Numerius americanus*), McCown's longspur (*Calcarius mccownii*), northern harrier (*Circus cyaneus*), prairie falcon (*Falco mexicanus*), and the western burrowing owl (Parmenter *et al.* 1994; Air Force 2010). Some are summer residents and nest on the range and others are spring/fall migrants.

The New Mexico EMNRD Forestry Division has authority over state-protected plant species in New Mexico. According to the agency database, no rare plants are known to occur in Roosevelt or Curry counties (NMRPTC 2011).

No federally listed mammal species are known to occur within the ROI. Populations of the endangered black-footed ferret that occur naturally (*Mustela nigripes*) have not been documented in the state since 1934 (NMDGF 2006). A certified black-footed ferret survey conducted at Melrose AFR in 2000 found no black-footed ferrets or signs of black-footed ferrets, but a captive-bred population was reintroduced to northeastern New Mexico in 2008.

3.6.3 Regulatory Setting for Biological Resources

3.6.3.1 Endangered Species Act (ESA)

The ESA of 1973 (16 USC §§ 1531–1544, as amended) established measures for the protection of plant and animal species that are federally listed as threatened or endangered and for the conservation of habitats that are critical to the continued existence of those species. Federal agencies must evaluate the effects of their proposed actions through a set of defined procedures that can include the preparation of a Biological Assessment and require formal consultation with the USFWS under Section 7 of the ESA.

The consultation requirements of Section 7 of the ESA ensure that actions of federal agencies would not jeopardize the continued existence of listed species or adversely modify designated critical habitats. Before initiating an action, the agency must ask the USFWS to provide a list of threatened, endangered, proposed, and candidate species and designated critical habitats that may be present in the project area. If the USFWS states that, no species or critical habitats are present, the agency has no further obligation under the consultation provisions of the ESA, and the consultation is concluded. If a species is present, the agency must determine whether the project may affect the listed species. If so, further consultation is required. If the agency determines (and USFWS agrees), the project does not adversely affect any listed species, the consultation (informal to this point) is concluded and the decision is put in writing. If the agency determines the project may adversely affect a listed species or designated critical habitat, formal consultation is required. Letters were sent to the appropriate USFWS offices informing them of the Proposed Action and Alternatives and requesting data regarding applicable protected species.

3.6.3.2 Clean Water Act (CWA)

The CWA of 1977 (33 USC § 1251 *et seq*.) and the USEPA Stormwater General Permit regulates pollutant discharges that could affect aquatic life forms or human health and safety. Section 404 of the CWA and EO 11990, *Protection of Wetlands* regulates development activities in or near streams or wetlands and requires a permit from the USACE for dredging and filling in wetlands. Based on a 2006 USACE determination, inundated areas are considered components of isolated drainages so they are not classified as jurisdictional waters of the U.S. No jurisdictional wetlands (as currently defined by USACE) occur at Melrose AFR (Air Force 2010).

3.6.3.3 Migratory Bird Treaty Act (MBTA) (16 USC 703 et seq.) and EO 13186

The MBTA prohibits the harm and harassment of native birds, their eggs, and active nests except as authorized under a valid permit (50 CFR 21.11). Section 315 of the FY 03 National Defense Authorization Act provided DoD exemption from incidental MBTA take during military readiness activities and directed USFWS to develop a rule governing these activities. The final rule (published in the *Federal Register* on February 28, 2007) became effective on March 30, 2007, authorizes incidental take of migratory birds due to military readiness training, and requires DoD complete the following:

- Assess the adverse effects of military readiness activities on migratory birds.

- Confer and cooperate with USFWS to develop appropriate and reasonable conservation measures to minimize, mitigate, and identify significant adverse effects on a population of migratory bird species of concern.
- Monitor the effects of military readiness activities on migratory bird species of concern and conservation measures.

EO 13186 (effective January 10, 2001) outlines the responsibilities of federal agencies to protect migratory birds in accordance with the MBTA, the Bald and Golden Eagle Protection Acts, the Fish and Wildlife Coordination Act, ESA, and NEPA as follows:

- Established the USFWS as the lead for coordinating and implementing EO 13186,
- Requires federal agencies to incorporate migratory bird protection measures into their activities,
- Requires federal agencies to obtain permits from USFWS before any take occurs, even when the agency's intent is not to kill or injure migratory birds.
- Requires federal agencies to develop and implement a Memorandum of Understanding (MOU) with USFWS that promotes the conservation of migratory birds.

3.6.3.4 Sikes Act (16 USC 670)

The Sikes Act requires military services establish INRMPs to conserve natural resources for their military installations unless the secretary of the service concerned determines that absence of significant natural resources on the installation makes preparation of an INRMP inappropriate. The INRMP includes threatened and endangered species, fish, wildlife resources, wetlands, habitat used by migratory birds, and forestlands. INRMPs are developed in cooperation with the USFWS and state fish and wildlife agencies.

3.7 Cultural Resources

3.7.1 Definition of Resource

Cultural resources are any prehistoric or historic district, site, building, structure, or object considered important to a culture, subculture, or community for scientific, traditional, religious, or other purposes. They include archaeological resources, historic architectural resources, and traditional resources. Archaeological resources are locations where prehistoric or historic activity measurably altered the earth or produced deposits of physical remains (e.g., arrowheads, bottles). Historic architectural resources include standing buildings and other structures of historic or aesthetic significance. Traditional resources are associated with cultural practices and beliefs of a living community that are rooted in its history and are important in maintaining the continuing cultural identity of the community.

Historic properties (as defined in 36 CFR 60.4) are significant archaeological, architectural, or traditional resources that are either eligible for listing or are listed in the NRHP. Historic properties and significant traditional resources identified by American Indian tribes or other groups are evaluated for potential adverse impacts from an action. In 1999, the DoD promulgated its American Indian and Alaska Native Policy that emphasizes the importance of respecting and consulting with tribal governments on a government-to-government basis. The policy requires an assessment, through consultation, of the effect of proposed DoD actions having the potential to affect protected tribal resources, tribal rights, and Indian lands significantly before decisions are made by the services. The ROI for cultural resources on Melrose AFR consists of the following:

- Those portions of the range that would be directly affected by ground-disturbing activities (e.g., clearing, construction, establishing undeveloped roads), and

- Those areas that could be indirectly affected by the additional personnel arriving to build and staff the new construction.

The earliest remains of human activity in the region date to approximately 12,000 years Before Present (BP) and are associated with the hunting of large game animals such as the mammoth and the mastodon, which are commonly grouped and referred to as Pleistocene megafauna. During this time, the climate was cooler and wetter supporting vast grasslands, shallow lakes, and wetlands. Known only through the material remains they left behind, these earliest inhabitants are known as the Clovis Culture and perhaps existed for only 700 years. Evidence of the culture was first recognized at Black Water Draw, New Mexico located south of Clovis in 1929. In the years since, the site has been excavated extensively, revealing intermittent occupations of successive cultures that span thousands of years.

The next several thousand years, the climate became warmer and drier. The grasslands turned to a desert shrub environment and the lakes and wetlands disappeared along with the megafauna. The environmental changes forced a change in the subsistence of local populations, shifting to a reliance on other game animals and a greater utilization of plant resources. At roughly 3,000 BP, ceramics came into use, the practice of agriculture developed, and more permanent, substantial residential structures (e.g., pueblos) were built (AFSOC 2009).

Spanish explorers first entered the region in the mid-16th century as they followed exploration routes along the Pecos and Canadian Rivers. They discovered a barren plain that occupies 37,000 square miles of west Texas and eastern New Mexico. To the north and west, the plain is bounded by an escarpment that rises 300 ft above the plain. Through the millennia, wind and water eroded the bedrock of the escarpment so that from a distance it resembles ramparts or fortifications. As a result, the region (which is actually a southern reach of the Great Plains) was named the Llano Estacado (palisaded plain). Once a forbidding place only suited to seasonal grazing, through irrigation the Llano now supports widespread agriculture and the communities of Lubbock and Amarillo, Texas and Clovis, New Mexico.

American forts in the region, such as Fort Sumner, were established by the early 1860s to defend routes of travel through the area (AFSOC 2009). After 1865, American cattle ranchers entered the region and established extensive ranches during the 1880s, including in the Melrose AFR area.

3.7.2 Existing Conditions

There are no buildings on Melrose AFR that are eligible (or potentially eligible) for inclusion on the NRHP. In addition, there is no World War II or pre-World War II resources remaining on Melrose AFR (AFSOC 2009). Although there are a number of buildings from the Cold War era, all have been determined to be not eligible for the NRHP (AFSOC 2009). Building 3125 and its accompanying tower have been misidentified previously as Cold War era resources. After extensive archival research, it has been confirmed that both facilities were built in 1992 (AFSOC 2009).

Several archaeological survey projects were conducted within Melrose AFR since 1981. The surveys have covered 100 percent of the range (AFSOC 2009). More than 240 archaeological sites, ranging in age from the Paleoindian period (before 7500 BP) through the Historic era (after 400 BP and up through World War II), have been recorded on the range (AFSOC 2009). Although the NRHP eligibility status of many of these sites remains unknown, more than 60 of the sites are considered eligible (or potentially eligible) for inclusion in the NRHP. Currently, no sites on Melrose AFR are listed on the NRHP.

Melrose AFR includes a variety of landforms with varying densities of archaeological sites. Data analysis has shown trends in the association of sites from different periods with certain landforms. The six landforms types are drainage, dune, gentle slope, mesa top, playa basin, and steep slope. All landforms except for dunes contain high relative densities of artifacts from at least one period. Paleoindian sites are

found most commonly in drainages. Archaic period sites are often located in drainages with gentle slopes and are the next most common location. Archaic sites are the only dateable site type found in the steep slope landform. Ceramic period sites are most common in playa basins followed by drainages. Sites of unknown prehistoric period dominate the gentle slope category, with presence on mesa tops and the in drainages. Historic sites are most commonly found in gentle slopes, drainages, and mesa tops.

Native American tribes with historic ties to the area include the Mescalero Apache, Jicarilla Apache, Kiowa, and Comanche. The nearest reservation is the Mescalero Apache Reservation located approximately 100 miles southwest of Melrose AFR near Ruidoso, New Mexico. The Jicarilla Apache Reservation is 195 miles northwest of the range. The Comanche and Kiowa Tribes are located near Lawton, Oklahoma approximately 300 miles northeast of Melrose AFR. For actions on Melrose AFR, the Air Force consults with the Kiowa Tribe, the Comanche Indians, and the Apache of Oklahoma. No traditional resources have been identified to date within Melrose AFR.

The Cannon AFB and Melrose AFR ICRMP (AFSOC 2009) has been applied early during project planning process to identify known cultural resources and avoid unnecessary delays. As part of the Environmental Impact Analysis Process and in accordance with AFI 32-7065 and Section 106 of the NHPA, SHPO consultation would be initiated prior to carrying out any action, including ground disturbance that could potentially affect a historic property. If a historic property (i.e., one that is eligible or potentially eligible for the NRHP) would be impacted by an action, then the Air Force would continue to consult with the SHPO and tribes if appropriate, regarding avoiding, minimizing, or mitigating the impact.

3.8 Land Use

3.8.1 Definition of Resource

Land use addresses general land use patterns, land ownership, land management plans, and special use areas under the restricted areas. General land use patterns characterize the types of uses within a particular area such as rangeland, agricultural, military, and urban. Land ownership is a categorization of land according to type of owner. The major land ownership categories include private, state, and federal. Federal lands are described by the managing agency, which may include the Bureau of Land Management (BLM), U.S. Forest Service, or DoD. The ROI for land consists of lands at Melrose AFR.

3.8.2 Existing Conditions

Most of Melrose AFR is located in Roosevelt County, which maintains a comprehensive land use plan but it does not specifically address Melrose AFR or surrounding properties. The county does not have a zoning ordinance, but does administer subdivision regulations (Air Force 2010). The area surrounding Melrose AFR is rural and is used primarily for ranching and crop farming. The area contains numerous small, widely distributed population centers. Noise-sensitive land uses in this area include individual residences, ranches, resorts, communities, churches, and schools. Several of these noise-sensitive land uses have been designated as overflight avoidance areas (DoD 2007).

Hunting is an important recreational and economic activity in the region. Hunting seasons vary by sporting arm (e.g., rifle, bow, and muzzle-loader) and by species. In general, open season (i.e., any sporting arm) for deer consists of two separate, three to four-day periods in November, while bow-only seasons occur in September and January. While hunting is a noise sensitive activity, it occurs over a wide area and therefore it is difficult for aircraft to avoid hunting areas.

A range safety briefing consisting of noise sensitive areas, restricted airspace, and range procedures is provided to all new users of the range. This briefing may be accomplished by the 27 SOSS and can take

place in person or telephonically. A record of the briefing is maintained consisting of a control number, the briefer's name, and the date that it occurred (AFI 13-212; Air Force 2007).

Table 3–14 details the nine ranchers (or ranching companies) that hold leases on Melrose AFR for grazing and crop production. The lease sizes for the current leaseholders range from 800 acres to 16,341 acres. Most of the leases are used for grazing cattle with two of the leases having irrigated cropland.

Table 3−14. Current Leases on Melrose AFR

Lease Number	Size of Lease (acres)	Term of Lease
PXLY-1-09-006	1,908	14 July 2009 – 14 July 2011
PXLY-1-09-007	2,080	14 July 2009 – 14 July 2011
PXLY-1-09-008	800	14 July 2009 – 14 July 2011
PXLY-1-09-011	7,405	14 July 2009 – 14 July 2011
PXLY-1-09-012	10,094	14 July 2009 – 14 July 2011
PXLY-1-09-009	16,341	14 July 2009 – 14 July 2011
PXLY-1-09-013	1,640	14 July 2009 – 14 July 2011
PXLY-1-09-010	1,440	14 July 2009 – 14 July 2011
PXLY-1-09-014	1,600	14 July 2009 – 14 July 2011

Source: 27 SOSS/OSR

All Melrose AFR leases contain liability and hold harmless clauses to cover the possibility a rancher or their cattle may be injured due to Air Force training. The leases also contain a requirement for ranchers to attend safety briefings conducted by the Air Force and allow Air Force personnel access to the leased areas as needed. Leaseholders have previously allowed limited training activities to occur on the leased land with prior notice (typically at least two weeks prior to the training activity). Historically, these training activities have been scheduled to avoid periods when ranchers are engaged in intrusion-sensitive activities such as branding or weaning. Modification or termination of affected leases would allow for use of these lands for training without potential for leaseholders to deny access.

Much of the leased land was acquired by the Air Force through eminent domain. Outside the range boundary, lands are used generally for cattle grazing and crop production. Crops produced in Curry and Roosevelt counties include wheat, grain sorghum, corn, barley, cotton, hay, peanuts, and potatoes. Urban land uses comprise less than 1 percent of the total area. There is one identified noise-sensitive area on the periphery of the range at the Jewell Ranch, which is located to the southwest of the range and has a half-mile no-fly circle around it. Figure 3−6 provides a map of leased land near Melrose AFR.

3.9 Socioeconomics

3.9.1 Definition of Resource

Socioeconomics is defined as the basic attributes and resources associated with the human environment, particularly economic activity. Economic activity typically encompasses employment, personal income, and regional industries. Changes to these fundamental components can influence other community resources. Melrose AFR is situated in the high plains of eastern New Mexico, 32 miles west of Cannon AFB in Roosevelt County. Three sections in the northeast area of Melrose AFR are located in Curry County. Socioeconomic activities associated with the range include support for range activities and agriculture.

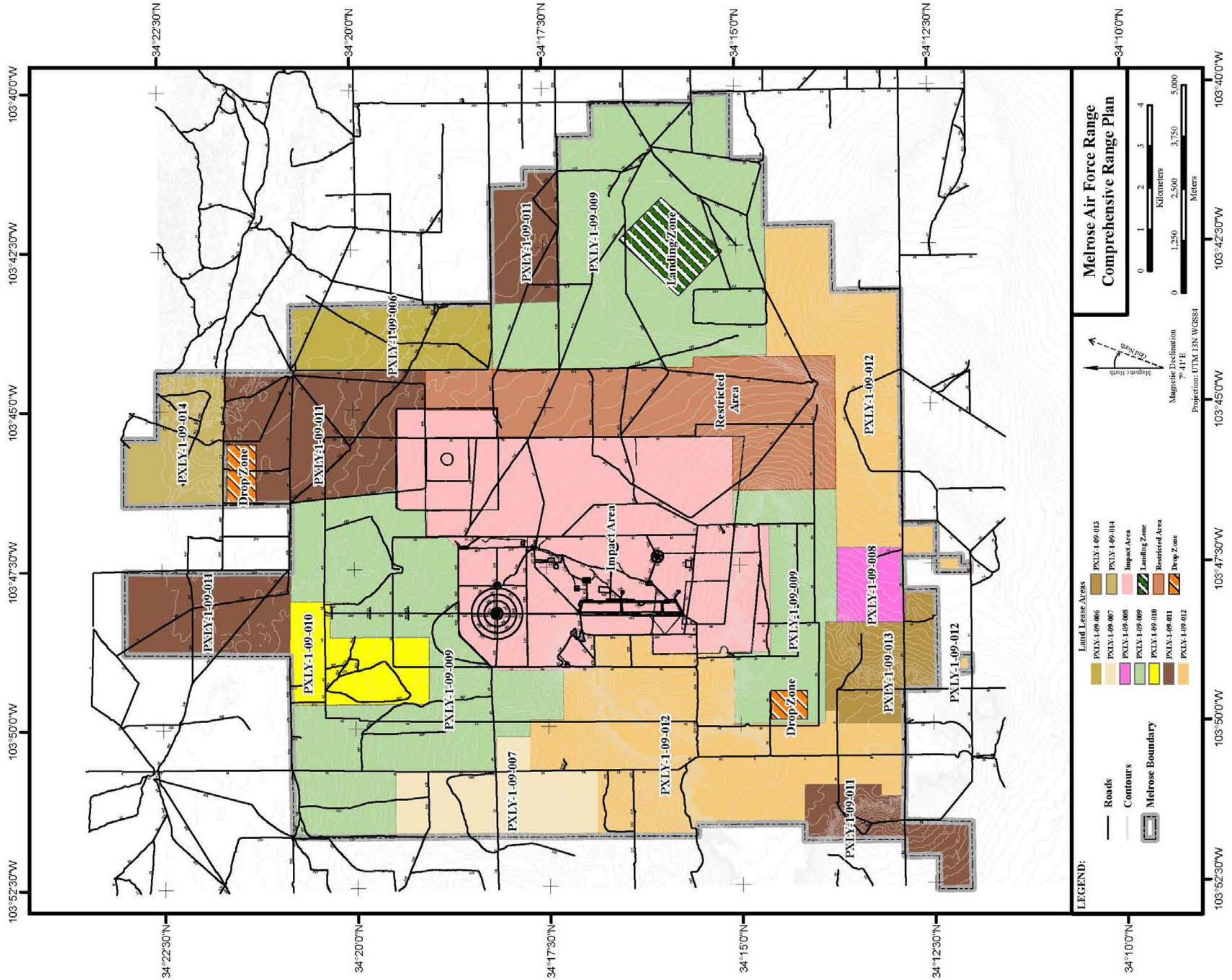

Figure 3−6. Current Leased Land Near Melrose AFR

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3.9.2 Existing Conditions

Maintenance and construction activities on the range are part of the Cannon AFB Military Construction (MILCON) and O&M program. Range employees are counted in the Cannon AFB personnel numbers. Ranching operators manage grazing by rotating cattle among leased and owned properties, depending upon range conditions. In addition to grazing, two lessees produce row crops using center-pivot irrigation systems. Reduction in available rangelands could affect the overall ranching operations.

3.9.2.1 Population and Housing

Cannon AFB/Melrose AFR – Cannon AFB supports a workforce population of 3,550 active duty personnel and 620 civilians (Cannon AFB 2010). The personnel assigned to Melrose AFR are included in the Cannon AFB workforce population. Melrose AFR is located primarily in Roosevelt County with approximately 3 percent of its total acreage in Curry County. Therefore, while a small portion of Melrose AFR is in Curry County, the ROI is considered to be in Roosevelt County and the nearby village of Melrose. Information is presented for both communities when available.

Roosevelt County and Village of Melrose – The estimated 2009 population in Roosevelt County was 18,817 persons, reflecting growth of 4.4 percent since 2000 (Census 2010a). The largest city in Roosevelt County is the city of Portales with an estimated 2009 population of 12,184 persons compared to 11,131 in 2000 (Census 2010b). The city of Portales includes about 65 percent of the total population in the county. The population of the village of Melrose, the nearest population center to Melrose AFR, was 679 persons in 2009 compared to 736 in 2000 (Census 2010c). Population density in the state averages 15.0 persons per square mile (Census 2010a). The population density of Roosevelt County, in which Melrose AFR is located, is 7.4 persons per square mile, with a majority of the people concentrated in the city of Portales.

In 2009, Roosevelt County had an estimated 7,973 housing units compared to 7,746 in 2000 (Census 2010d). Of the total number of housing units, 18.1 percent in Roosevelt County were mobile homes. In 2009, the village of Melrose contained an estimated 426 housing units, of which approximately 25.1 percent were mobile homes (Census 2010e).

The estimated vacancy rate for Roosevelt County in 2009 was 15.5 percent with 1,236 vacant units (Census 2010d). The vacancy rate for rental housing is nearly three times the homeowner vacancy rate with a rental vacancy rate of 15.1 percent and a homeowner vacancy rate of 4.9 percent. Owner-occupied housing accounted for 61.6 percent of all occupied housing units in Roosevelt County and rental units comprised the remaining 38.4 percent (Census 2010d). Some of these vacant units are believed to be substandard. In the village of Melrose, the estimated vacancy rate in 2009 was 14.3 percent with 61 vacant units (Census 2010e). Owner-occupied housing units accounted for 71.8 percent of all occupied housing units in Melrose while rental housing accounted for the remaining 28.2 percent (Census 2010e).

3.9.2.2 Economic Activity

Cannon AFB/Melrose AFR – Cannon AFB contributes an estimated $386.1 million to the economy in Curry County including payroll for military and expenditures for services and contracts (Air Force 2010). Military and civilian payroll totaled $129.6 million while non-civil service civilian annual wages totaled $10.1 million. Contracts and purchase of goods and services amounted to $83.0 million annually.

Melrose AFR is comprised of approximately 60,010 acres of which 10,600 acres are currently categorized as Exclusive Use (Air Force or civilian employee access). Approximately 31,000 acres are currently under lease conditions for grazing and agricultural uses. As described in Section 3.8, Land Use, there are

nine leases ranging from 800 acres up to 16,341 acres. All nine of these leases include grazing while two incorporate irrigated cropland.

Roosevelt County and Village of Melrose – The economy of Roosevelt County and the village of Melrose is supported by a combination of government, services, and agricultural employment. The civilian labor force in Roosevelt County amounted to 9,450 persons in 2009 (USBLS 2010). Over time, employment in the region has experienced increases and decreases. Total employment in the Roosevelt County was 8,026 persons increasing to 9,739 persons in 2008 despite the nationwide recession that began in 2007. Between 2008 and 2009, employment in Roosevelt County decreased by 289 employed persons. The U.S. Bureau of Economic Analysis (USBEA) identified approximately 504 jobs in the construction industry for Roosevelt County (USBEA 2010). The unemployment rate in Roosevelt County was 4.4 percent in 2000 and fell to a low of 2.6 percent in 2007. Since 2007, the unemployment rate in Roosevelt County has increased to 4.6 percent in 2009 (USBLS 2010). Employment information for the village of Melrose is unavailable.

3.10 Environmental Justice

3.10.1 Definition of Resource

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* directs federal agencies to identify and address, as appropriate, disproportionately high, and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations. In addition to environmental justice issues, there are concerns pursuant to EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks,* which directs federal agencies, to the extent permitted by law, and appropriate and consistent with the agency's mission to ensure the following:

- Make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children; and
- Ensure policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.
- For purposes of this analysis, minority, low-income, and youth populations are defined as follows:
  - Minority Population: Persons of Hispanic origin of any race, Blacks, American Indians, Eskimos, Aleuts, Asians, or Pacific Islanders.
  - Low-Income Population: Persons living below the poverty level.
  - Youth Population: Children under the age of 18 years.

Estimates of these three population categories were developed based on data from the U.S. Bureau of the Census. Total and minority population figures are based on recent demographic data released from the Census 2000 (Census 2000a). The census does not report minority population, per se, but reports population by race and by ethnic origin. This data was used to estimate minority populations potentially affected by implementation of the CRP at Melrose AFR. Low-income and youth population figures were drawn from the Census 2000 *Profile of General Demographic Characteristics* (Census 2000a).

3.10.2 Existing Conditions

Disadvantaged groups within the Roosevelt County and Curry County ROI are considered specifically to assess the potential for disproportionate occurrence of impacts (see Table 3−15). The nearest population center to Melrose AFR is the village of Melrose in Curry County.

Table 3−15. 2000 Population and Environmental Justice Data

Area	Population	Minority Persons		Persons Below Poverty		Children under 18	
		Number	Percent	Number	Percent	Number	Percent
Curry County	45,044	18,583	41.3	8,327	18.5	13,561	30.1
Roosevelt County	18,018	6,719	37.3	3,928	22.7	5,060	28.1
State of New Mexico	1,819,046	1,005,551	55.3	328,933	18.4	508,574	28.0

Notes*:*

1. The U.S. Census calculates the percentage of low-income persons for individual counties based on total county populations, which differ slightly from the county populations reported in the first column.
2. Population figures for the each category are from different reporting years. Except for minority population, the percentage figures are not based on the total population presented in this table, but from the relevant data year.

Source*:* Census 2000b, 2000c, 2000d.

Minority persons represent 37.3 percent of the population in Roosevelt County and 41.3 percent in Curry County. Hispanic or Latino persons account for most of the minority population, representing 33.3 percent of the total population and 89.3 percent of the minority population in Roosevelt County. In Curry County, Hispanic or Latino persons account for 30.4 percent of the total county population and 73.6 percent of the minority population. These are lower ratios of minority population than the rate for the State of New Mexico as a whole. The incidence of persons and families in the ROI that have incomes below the poverty level in Roosevelt County was just slightly higher than state levels while Curry County levels of persons with incomes below the poverty level were comparable to the state level (Census 2000a). The youth population, which includes children under the age of 18, accounts for 29.5 percent of the Roosevelt County population and 30.1 percent of the Curry County population compared to 28.0 percent at the state level.

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4.0 ENVIRONMENTAL CONSEQUENCES

This chapter describes the potential environmental consequences at Melrose AFR for implementation of each of the Alternatives. In compliance with the NEPA, CEQ guidelines and 32 CFR Part 989, the description of the affected environment focuses on those resources and conditions potentially subject to impacts. The affected environment is described for 13 resource topics: airspace utilization, range management, munitions use range use, noise, safety, air quality, physical resources (including hazardous materials and waste), biological resources, cultural resources, land use, socioeconomics, and environmental justice. These resources are extensively interrelated and consequently, each resource topic relies upon the findings of relevant other analyses. For example, noise analysis is reflected in the analysis of land use, socioeconomics, and biological resources.

For each resource, the three action Alternatives and the No Action Alternative described in Chapter 2.0 are assessed for their potential to impact the natural and human environment. In some instances, a brief methodology is provided to explain how the analysis of impacts was conducted and to describe what would constitute a significant impact.

The impacts described in this section represent the potential consequences of implementing the CRP at Melrose AFR. The impacts of each alternative are compared against the baseline conditions. Cumulative impacts and irreversible and irretrievable commitment of resources are described in Chapter 5.0.

4.1 Airspace Utilization

By projecting munitions use by the 27 SOW, it is possible to determine an estimated increase in sorties and related aircraft distribution within the airspace by comparing the munitions use by the aircraft currently utilizing the airspace over Melrose AFR. For example, Table 4–1 represents the projected increase of use at the ECR based on the increases in the use of Bomb Dummy Unit (BDU)-56 and Guided Bomb Unit (GBU)-31 munitions associated with the aircraft using the ECR. A 12 percent increase in use of the ECR airspace is projected. Currently, no ground operations occur at the ECR and it is expected that this would continue to be the case.

Flying operations at Melrose AFR would experience a large increase in operations due to the use of C-130, CV-22, and other aircraft associated with the AFSOC mission as well as the increase in ground based training resulting from the construction of the facilities contained in the CRP and analyzed in this EA. Ground operations were calculated in a similar manner with the assumption that an increase in the use of munitions normally associated with ground activities would result in a proportional increase in the number of hours the range would be used for those types of ground operations.

Table 4−1. Range Hours

ECR Range Total Hours	Baseline	Projected	% Projected Increase
Flying Operations (Ops)	216	242	12%
Ground Ops*	0	0	0%
Short Notice Exercises	97	109	12%
Melrose AFR Total Hours	**Baseline**	**Projected**	**% Increase**
Flying Ops	164	418	155%
Ground Ops	157	339	116%
Short Notice Exercises	213	426	100%

Notes: * No ground operations projected for the ECR
Source: 27 SOSS/OSR

4.1.1 Alternative 1 – Proposed Action

No changes would occur to the management of restricted airspace due to implementation of the Proposed Action. Construction of the new range control tower would aid in the management of this airspace and provide enhanced ATC within the restricted airspace. Aircraft that would utilize the airspace would continue to transition from the air-to-ground bombing mission to that of providing air support and surveillance for ground-based assets. While not reflected in reports of baseline airspace uses, the MQ1 and MQ9 RPA sorties are expected to increase as further deployment of these aircraft in ground support missions increase. Integrated training between ground and air assets is reflected in the new facilities planned for Melrose AFR, hence the anticipated increase in this type of training, which is further reflected in the this section and the Range Management section.

Changes in airspace utilization would not be expected to impact airspace overlying Melrose AFR. Increased flight operations are not expected to impact civilian air traffic since restricted areas are avoided by both civilian and commercial air traffic. The 27 Special Operation Support Squadron would continue to schedule and manage the restricted airspace to deconflict the need of the various air and ground users.

Construction of new LZs, runways, and DZs would change air traffic patterns in the airspace overlying the range, but construction of the new range control tower and coordinated scheduling would assure deconfliction of air traffic and improve coordination of ground and air assets that are using the range.

4.1.2 Alternative 2

Impacts would be comparable to those described for the Proposed Action.

4.1.3 Alternative 3

Impacts would be comparable to those described for the Proposed Action.

4.1.4 No Action Alternative

Under the No Action Alternative, no additional construction or realignment of assets would occur at Melrose AFR and AFSOC training would continue at current or reduced levels.

4.2 Range Management

4.2.1 Alternative 1 – Proposed Action

Increased removal of range residuals would be required for the new facilities; however proper design would enhance the ability of range personnel to remove materials from the range for recycling or disposal. Construction of new LZs, runways, and DZs would change air traffic patterns in the airspace overlying the range. However, construction of the new range control tower and coordinated scheduling would assure deconfliction of air traffic and improve coordination of ground and air assets that are using the range. With proper coordination and management of the restricted airspace and range materials, implementation of the Proposed Action would not result in any adverse effects on the management of Melrose AFR.

4.2.2 Alternative 2

Impacts would be comparable to those described for the Proposed Action.

4.2.3 Alternative 3

Impacts would be comparable to those described for the Proposed Action.

4.2.4 No Action Alternative

Under the No Action Alternative, no additional construction or realignment of assets would occur at Melrose AFR and AFSOC training would continue at current or reduced levels.

4.3 Munitions Use

A large increase in the use of small arms ammunition and C-130 gunship munitions would result from the construction and use of the new training facilities and targets on Melrose AFR. Air-to-ground delivery of bombs from bomber aircraft would decrease except for those munitions used to support ground troops. Table 4–2 shows current and projected small arms and munitions use for selected representative types of weapons systems expected to be used at Melrose AFR.

Table 4–2. Current and Projected Small Arms and Munitions Use (Melrose AFR)

Munitions	Existing Average	Projected Average
105 mm High Explosive (HE)	171	10,000
40 mm High HEI/API	1,183	40,000
40 mm Armor Piercing Tracer (APT)	220	40,000
BDU-50	110	50
BDU-56	6	50
GBU-31	6	50
GBU-12	18	50
50 Caliber	3,191	1,491,000
Flares	57*	26,550
5.56 mm	2,500	26,000
9 mm	2,500	20,000

Note: * Flares reflect change to illumination rounds for ground users

Key:

BDU = Bomb Dummy Unit
GBU = Guided Bomb Unit
HEI/API = High Explosive Incendiary/Armor Piercing Incendiary
mm = millimeter

Source: 27 SOSS/OSR

4.3.1 Alternative 1 – Proposed Action

In addition to the munitions shown in Table 4–2, additional munitions used by the ground user would be deployed (Appendix A) including small arms ammunition at the small arms range and various urban training facilities. Additionally, explosive charges would be employed at the DIT and other training areas. The use of simulated charges, simulated booby traps, and illumination rounds would increase at various locations on Melrose AFR. Design and construction of these facilities and revisions to the Range Operations Plan would take into account the various users of the facilities, O&M procedures, and the various safety requirements discussed elsewhere in this EA. Therefore, the increase in the amount and types of munitions proposed for use should not impact range utilization on Melrose AFR.

4.3.2 Alternative 2

Impacts would be comparable to those described for the Proposed Action.

4.3.3 Alternative 3

Impacts would be comparable to those described for the Proposed Action.

4.3.4 No Action Alternative

Under the No Action Alternative, no additional construction or realignment of assets would occur at Melrose AFR and AFSOC training would continue at current or reduced levels.

4.4 Range Use

4.4.1 Alternative 1 – Proposed Action

AFSOC personnel would continue to be the primary users of the Melrose AFR while other users would continue to use the ECR. Coordinated scheduling of users would assure that multiple users would continue to utilize the facilities at Melrose AFR. While there would be a noticeable shift toward ground users and air-to-ground support, other users would continue to use the various assets on Melrose AFR. ECR use would continue, along with ground-based training, as long as coordinated scheduling and deconfliction continues. This coordination would be enhanced by the infrastructure improvements planned for Melrose AFR.

4.4.2 Alternative 2

Impacts would be comparable to those described for the Proposed Action.

4.4.3 Alternative 3

Impacts would be comparable to those described for the Proposed Action.

4.4.4 No Action Alternative

Under the No Action Alternative, no additional construction or realignment of assets would occur at Melrose AFR and AFSOC training would continue at current or reduced levels.

4.5 Noise

4.5.1 Alternative 1 – Proposed Action

Components of the Proposed Action that would generate noise include increased munitions use, increased aircraft operations, and several construction projects. Noise levels under the Proposed Action are compared to noise levels under baseline conditions to assess impacts.

Munitions Noise – Under the Proposed Action, several new munitions types would be introduced at Melrose AFR and annual munitions use would increase to the numbers listed in Appendix A. To prepare for expected real-world combat scenarios, many munitions training missions would be conducted at night. It is predicted that approximately 40 percent of air-to-ground munitions and 25 percent of ground-to-ground munitions would be fired during the late-night period between 10:00 PM and 7:00 AM. Blast noise levels associated with firing and, where applicable, detonation of ammunition larger than .50-caliber were calculated using the computer program BNOISE2.

The exact locations from which ground-to-ground large-caliber munitions would be fired and into which these munitions would be fired is not known at this time. In general, it is expected that rounds would be

fired from locations near the existing Spirit and Jockey HE impact areas into new or expanded HE impact areas. Munitions firing noise was modeled as occurring in corridors north of the existing Spirit impact area and north and west of the existing Jockey impact area. Munitions impact noise was modeled as occurring in expanded areas roughly centered on Spirit and Jockey impact areas as well as a new impact area located north of the Jockey impact area.

Firing of 105 mm ammunition from AC-130 gunships would be the most noticeable munitions noise source, audible at residences within approximately six miles of the impact areas as a distinctive "rap-rap-rap" sound comparable to knocking on a wooden door followed by an experience similar to distant thunder as the HE shells strike the earth. An estimated 34,000 rounds of 105 mm ammunition (13,000 HE and 21,000 inert) are projected to be fired annually from AC-130 gunships under the Proposed Action as compared to a combined total of approximately 15,300 rounds fired (2800 HE and 12,500 inert) under baseline conditions. The percentage of total firing missions conducted after 10:00 PM and before 7:00 AM is expected to increase from approximately 25 percent under baseline conditions to approximately 40 percent under the Proposed Action.

Overall noise levels in dBC CDNL for baseline conditions and the Proposed Action are shown in Figure 4–1. A noise level of 62 dBC is comparable to a noise level of 65 dBA L_{dn} in terms of annoyance generated (see Table 3–7) and is a noise level used to address potential for significant impacts. Under the Proposed Action, the CDNL contour of 62 dBC extends approximately five statute miles from the center of the HE impact areas, approximately two miles farther than under baseline conditions. No known residences exist within the area that would be affected to greater than 62 dBC CDNL, although one residence located northeast of the range is just outside the 62 dBC contour. Increased munitions noise and vibration would be expected to result in increased annoyance at residences where the noise is audible, but would not be expected to result in significant impacts.

A startle effect could potentially occur to penned cattle near live fire on Melrose AFR; however, cattle typically habituate to frequently occurring noise events. Firing of large caliber weapons, including air-to-ground gunship firing missions, has been conducted at Melrose AFR in recent years and there have been no reported instances of cattle suffering damage or loss due to munitions noise.

Increased small arms fire (.50 caliber and smaller) at new and existing firing areas on Melrose AFR could result in noise levels that are heard off-range, but would not be at levels potentially causing significant impact. To confirm that this would be the case, noise levels were calculated using the Small Arms Range Noise Assessment Model (SARNAM) for a worst-case scenario in which all proposed small arms training would occur at a hypothetical single firing location. Actual small arms training would be conducted at several locations within the Exclusive Use Area and time-averaged noise levels generated at any given location would be less than the noise level calculated under the worst-case scenario. Consistent with trends reported in the *AFSOC Beddown EIS*, 25 percent of the training was modeled as occurring during the late-night period between 10:00 PM and 7:00 AM. Under the worst-case scenario described above, the 65 dB L_{dn} contour would extend up to three-quarters of a statute mile from the firing location with the farthest extent of the contours being downrange from the firing location. If the hypothetical firing point were located anywhere within the proposed ground training areas and if firing were directed towards the center of the range, then 65 dB L_{dn} contours would not extend beyond range boundaries. Noise levels less than 65 dB L_{dn} could potentially be annoying, but would not be expected to result in significant impacts.

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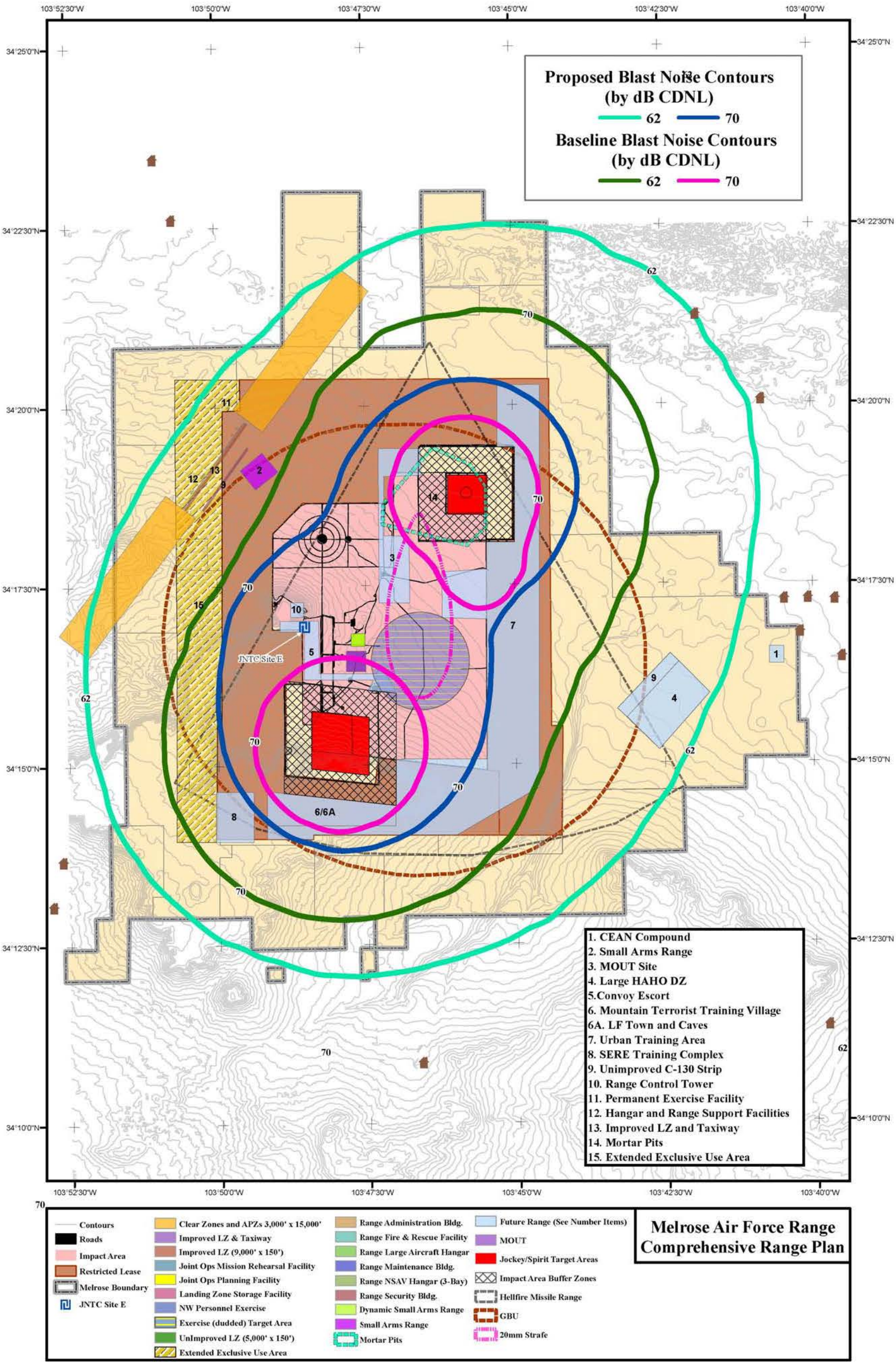

Figure 4–1. Baseline and Proposed CDNL Noise Contours

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Aircraft Noise – Under the Proposed Action, one improved LZ and several unimproved LZs would be constructed. Aircraft making approaches to and departures from these LZs would fly in a more predictable manner than aircraft operating in other areas of the range. The NOISEMAP program, which is the ideal program for modeling noise where operations follow relatively predictable routines, was used to model noise generated by aircraft operations at the LZs. It was assumed that operations at the LZs would be similar to operations at Cannon AFB in terms of flying procedures followed. Aircraft training operations not associated with the LZs would continue to occur throughout the restricted area airspace, with the exact location of the maneuvers depending on the specific mission being conducted. Noise generated during these operations was modeled using the MR_NMAP. Expected increases in relatively high altitude C-130 flying operations would result in an insignificant increase in aircraft noise levels (approximately 0.1 dBA L_{dnmr}) beneath the restricted area airspace units. Noise levels associated with aircraft operations at the LZs were summed logarithmically with noise levels generated by other flying operations in the restricted area airspace to yield expected overall noise levels. Noise contours depicting noise levels under the Proposed Action are shown in Figure 4–2.

As seen Figure 4–2, noise levels exceeding 65 dBA L_{dn} would extend beyond range boundaries southwest of the proposed improved LZ and to both the east and west of the proposed Trucker unimproved LZ (located in the northern portion of Melrose AFR). A relatively small area west of the proposed Trucker LZ would be exposed to noise levels exceeding 70 dBA L_{dn}. The off-range areas affected by noise levels greater than 65 dBA L_{dn} are used for livestock grazing. Livestock may be disturbed by low aircraft overflights that may generate noise levels slightly exceeding 100 dBA SEL (see Table 3–6). This potential impact would be of particular concern at the Trucker LZ, which has been proposed for construction close to the range boundary. Low-altitude overflights could potentially result in behavioral reactions in cattle; however, cattle typically become accustomed to repeated events and show less vigorous reactions with increased repetitions. With the exception of young animals and animals rotated in from other grazing areas, many of the animals in the affected area should have been exposed to military aircraft overflight noise for several years.

Construction Noise – Proposed construction on Melrose AFR would be expected to use heavy equipment such as bulldozers, backhoes, and cement mixers. While these pieces of equipment would generate elevated noise levels near the construction site, most of the construction sites are located miles from the range boundary and noise generated during construction would not typically be audible off range. Trucker LZ would be constructed within one mile of the range boundary, but no residences are located in the off-range area near the Trucker LZ and noise impacts would be expected to be minimal and, therefore, not significant. Construction workers and other persons on the construction sites would wear hearing protection as required and in accordance with all applicable laws and regulations.

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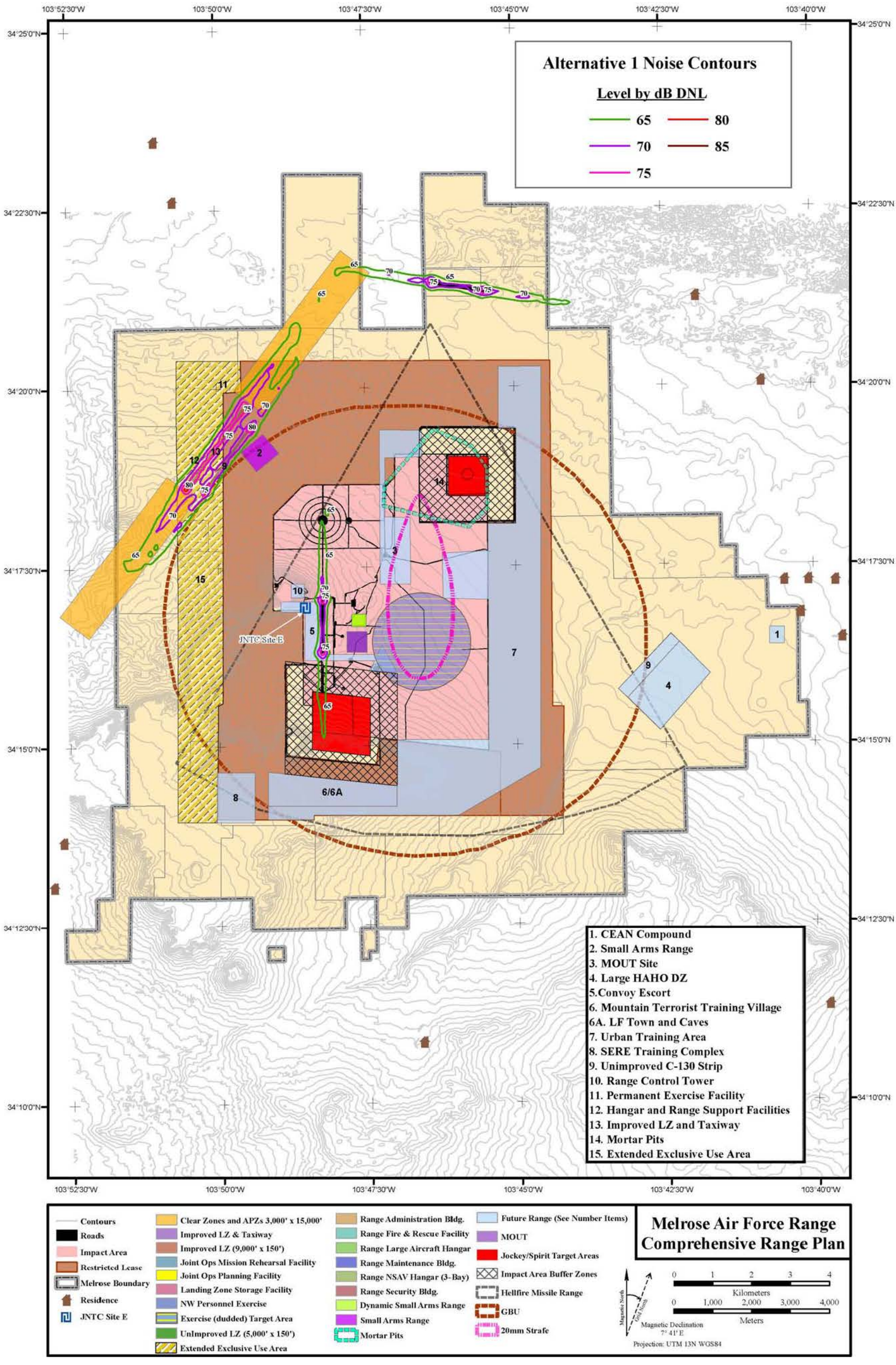

Figure 4–2. Alternative 1 Aircraft Noise Contours at Melrose AFR

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4.5.2 Alternative 2

Under Alternative 2, the improved LZ would be constructed in the southeast quadrant of the range rather than in the northwest quadrant as proposed under the Proposed Action. NOISEMAP was used to calculate noise levels associated with the proposed LZs, which were summed logarithmically with those generated by other aircraft operations to yield total noise levels. Aircraft noise levels under Alternative 2 would exceed 65 dB L_{dn} in off-installation areas northeast of the proposed improved LZ (Figure 4–3). No residences are known to occur in areas affected by noise levels greater than 65 dB L_{dn} under Alternative 2. All other aspects of Alternative 2 would be the same as under the Proposed Action and noise impacts associated with these activities would be the same as under the Proposed Action. Overall, proposed increases in the number of rounds of munitions fired annually at Melrose AFR, increased C-130 flying operations, and flying operations at proposed LZs could generate annoyance in persons living nearby, particularly as these activities would sometimes occur late at night. Noise impacts would be expected to be limited to annoyance, and would not be significant.

4.5.3 Alternative 3

Noise impacts would be expected to be the same as in the Proposed Action.

4.5.4 No Action Alternative

Under the No Action Alternative, no new facilities would be constructed at Melrose AFR and training at the range would occur as described in the *AFSOC Beddown EIS* (Air Force 2007). Noise levels at the range and beneath restricted area airspace associated with the range would be the same as under baseline conditions. As no changes to operations would occur relative to baseline conditions under the No Action Alternative, no noise impacts would occur.

4.6 Safety

Live ordnance that is projected for use on Melrose AFR as part of AFSOC training includes 30 mm, 40 mm, and 105 mm HE rounds from C-130 gunships; 7.62 mm and 50 caliber rounds from CV-22 and other rotary wing aircraft; and increased use of small arms ammunition and other explosives and pyrotechnics by ground forces. Use of these munitions would require establishment of new targets and training facilities, new range operational and safety procedures, and new safety zones for the targets. An expanded small arms range and other facilities such as urban warfare and convoy training areas would require operational and safety procedures to protect personnel operating on those ranges and facilities.

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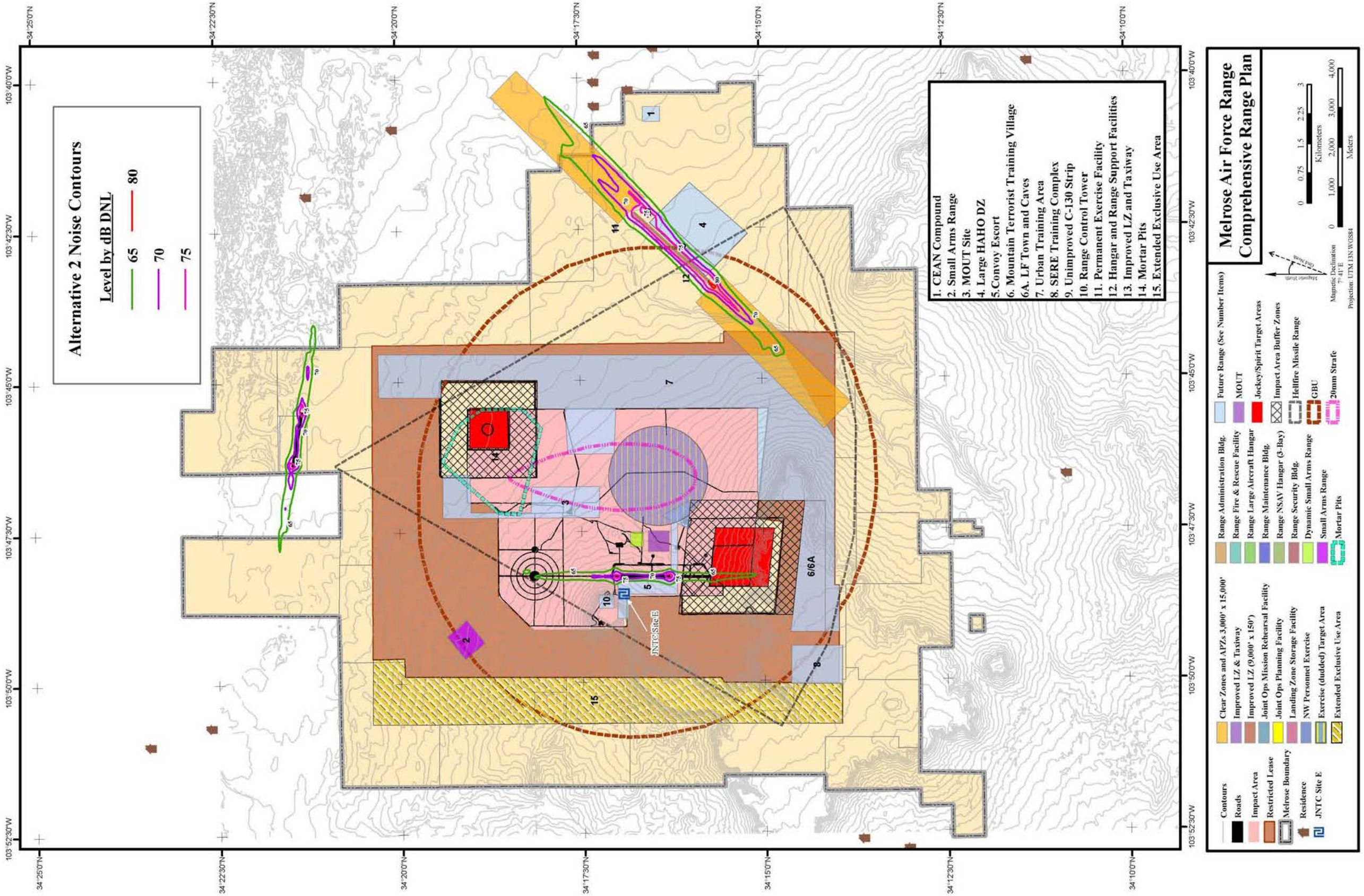

Figure 4−3. Alternative 2 Aircraft Noise Contours for Melrose AFR

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4.6.1 Alternative 1 – Proposed Action

4.6.1.1 Ground and Construction Safety

Implementation of the Proposed Action would slightly increase the short-term safety risk associated with construction contractors performing work at the project sites during the normal workday since the level of such activity would increase. As part of normal operations, contractors would be required to establish and maintain a safety plan for construction activities. Construction of new and improved facilities such as the range control tower and improved LZs and small arms ranges would enhance the overall safety at Melrose AFR by providing new facilities with updated safety features and equipment. The Center Scheduling Enterprise (CSE) range-scheduling tool enhances the ability of range schedulers to deconflict incompatible activities on the range. In addition, improvements to LZs and continued implementation of wildfire management practices would lessen the potential for wildfires resulting from range activities. The risk of fire from flare use is minimal and therefore not significant due to the low failure rate of flares, procedures that limit flare use to a minimum altitude of 5,000 feet AGL during a yellow or above fire condition, placement of additional fire management resources at Melrose AFR, and observance of expanded fire management practices.

Range managers from the 27 SOW assessed risks associated with weapons employment and established mission parameters to minimize potential safety hazards. In addition, allowable ordnance delivery profiles were documented in the Cannon AFB Addenda A to AFI 13-212 (AFI 13-212V1). Although remote, there is always the possibility that ordnance could significantly miss a target through either human error or equipment malfunction. A more likely possibility is that ordnance would impact the ground or a target and then bounce, slide, or tumble along the ground, sometimes for extended distances. Based on extensive data collection and analyses, weapons safety footprints were developed that describe (at a 95 percent confidence level) the geographic area that would contain 99.99 percent of delivered ordnance and its associated debris. These footprints are specific to ordnance type, aircraft type, and delivery methods and profiles.

A variety of safety footprints would be calculated for proposed Melrose AFR targets and training facilities. AC-130 use of 25 mm munitions for training on Melrose AFR required evaluation of a weapons safety footprint specific to this munition. A new weapons safety footprint analysis was evaluated for AC-130U gunships to use their 25 mm munitions safely on the existing Jockey impact area. Using the Weapons Danger Zone program, analysis showed that 25 mm munitions on the AC-130U could be safely employed between 3,000 and 15,000 feet AGL within the existing footprint of the Jockey impact area. The 25 mm munition would be approved for use on Melrose AFR within the parameters of the Weapons Danger Zone analysis. The Jockey impact area will remain at its current dimensions. See Appendix A, Page A-5 for a graphic depicting the results of this analysis.

SOFs routinely conduct ground training and are involved in insertion/extraction exercises. They would therefore not use areas where UXO are known to be present. Training operations would be conducted in accordance with Melrose AFR operational instruction (AFI 13-212; Air Force 2007) and AFSOC safety procedures. Training of AFSOC personnel would require use of small arms, smoke devices, simulated and live explosives, and flares. A listing of these munitions and other training devices is provided Appendix A.

SOF personnel would use a variety of weapons on the expanded small arms range and other proposed facilities. Ground safety would require scheduling of air-to-ground use for specific targets to avoid users on the small arms range or other ground based assets. Safety would dictate scheduling of the service of existing air-to-ground targets consistent with small arms training throughout the range.

Additionally, the construction of new and improved facilities such as the range control tower and improved LZs and small arms ranges would enhance the overall safety at Melrose AFR by providing new facilities with updated safety features and equipment.

Implementation of these projects is not expected to increase ground safety risks above those normally associated with large construction projects on Melrose AFR. Contractors would adhere to base and range safety requirements and each would follow a project specific health and safety plan. The Air Force does not anticipate any significant impacts to safety if all applicable Air Force and occupational safety requirements are implemented.

4.6.1.2 Explosive Safety

Responsibilities and procedures for the maintenance, operation, and use of Melrose AFR as defined in AFI 13-212, ACC Supplement 1, Cannon AFB Addendum A would be replaced with a new supplement to reflect operations at the facilities based on the approved alternative.

Updates to the Range Management Plan and the operating instruction would address issues such as (but not limited to) the following:

- Continued direct control over all range targets,
- Ensure targets are thoroughly cleaned of potential environmental hazards before being sited,
- Maximize use of hard targets such as metal plates and surplus tanks to minimize generation of wastes and target residue,
- Establish scheduled range maintenance and periodic clean-up of the range in accordance with AFI 13-212, and
- Ensure all personnel receive required explosive ordnance briefings and safety training.

Military aircraft are currently authorized use of a variety of defensive flares in restricted areas R-5104 and R-5105 and use R-188 chaff (or equivalent) and M-206 (or equivalent) defensive flares in the Taiban MOA, Sumner Air Traffic Control Assigned Airspace (ATCAA), and in the Pecos MOA/ATCAA. Flares expended over Melrose AFR would be in accordance with AFI 11-214. When the Melrose AFR condition is yellow or above, the minimum altitude for flare release would be raised to 5,000 ft AGL and other appropriate safeguards would be implemented to minimize the possibility of wildfires. The risk of fire from flare use is minimal and therefore not significant due to the low failure rate of flares and procedures that limit flare use to 5,000 ft AGL during a yellow or above fire condition. With the placement of additional fire management resources at Melrose AFR and observance of expanded fire management practices, the risk that fire would leave the boundary of the range would be minimized.

4.6.2 Alternative 2

4.6.2.1 Ground and Construction Safety

Impacts would be comparable to those described for the Proposed Action.

4.6.2.2 Explosive Safety

Impacts would be comparable to those described for the Proposed Action and therefore not significant.

4.6.3 Alternative 3

4.6.3.1 Ground and Construction Safety

Impacts would be comparable to those described for the Proposed Action.

4.6.3.2 Explosive Safety

Impacts would be comparable to those described for the Proposed Action.

4.6.4 No Action Alternative

Under the No Action Alternative, no additional construction or realignment of assets would occur at Melrose AFR and AFSOC training would continue at current levels. Use of Melrose AFR by AFSOC and other units would continue the requirements for the existing safety measures on the range.

4.7 Air Quality

Air pollutant emissions produced from construction for range improvements are quantitatively estimated and then compared to the criteria identified in each alternative to determine their significance. Air quality impacts from construction would occur due to combustive and fugitive dust emissions from equipment usage during facility, fencing, and other range improvements; construction; and maintenance.

As previously discussed, Section 169A of the CAA established the PSD regulations to protect air quality in regions that already meet the NAAQS. Certain national parks, monuments, and wilderness areas have been designated as PSD Class I areas where appreciable deterioration in air quality is considered significant. The nearest PSD Class I area is the Salt Creek Wilderness Area located approximately 60 miles southwest of Melrose AFR. Since the project site is such a long distance from this Class I area, the Proposed Action would produce less than significant air quality impacts to this area. Additionally, the emissions from aircraft associated with the Proposed Action or action alternatives would not exceed those already analyzed and considered in the ROD for the *AFSOC Beddown EIS* (Air Force 2007).

4.7.1 Alternative 1 – Proposed Action

The Proposed Action consists of a number of range improvements to Melrose AFR to provide better utilization of the range in support of the 27 SOW mission goals. These improvements include the construction of facilities, improved and unimproved LZs, concrete pads for training activities, small arms firing range, fencing, etc. It is expected that these projects would be completed over a period of years, but to provide a worst-case scenario, the air emissions for these projects were analyzed assuming that all of the projects would be completed in a single year. Emissions are compared to the NAAQS and the Pecos-Permian Air Quality Control Region to apply the context and intensity of the emissions to the current emission levels. The CEQ defines significance in terms of context and intensity in 40 CFR 1508.27 requiring the significance of the action be analyzed in respect to the setting of the Proposed Action and based relative to the severity of the impact. The CEQ NEPA Regulations (40 CFR 1508.27(b)) provide ten key factors to consider in determining an impact's intensity.

The Air Conformity Applicability Model (ACAM) version 4.3.0 was utilized to provide a level of consistency with respect to emissions factors and calculations. The ACAM provides estimated air emissions from proposed federal actions in areas designated as non-attainment and/or maintenance for each specific criteria and precursor pollutant as defined in the NAAQS. ACAM was utilized to provide emissions for construction, grading, and paving activities by providing user inputs for each. Construction emissions include grading and site preparation, worker commuter emissions, and emissions from

construction equipment. Table 4–3 shows the cumulative emissions for all construction projects completed in the single year scenario.

Table 4−3. Construction Emissions Compared to Roosevelt and Curry Counties

	Emissions (tons per year)				
Emission Activities	CO	NO_x	PM_{10}	SO_2	VOC
Construction Emissions	21.31	15.61	277.44	1.69	2.30
Point Source	0.11	0.13	0.01	0.00	0.01
Munition Emissions	0.77	0.28	32.07	0.02	--
Total	**21.31**	**15.61**	**277.44**	**1.69**	**2.30**
Roosevelt & Curry	16,489.70	6,722.16	67,263.96	449.83	2,563.25
Percentage of County Emissions	0.13%	0.23%	0.41%	0.38%	0.09%

Key:
CO = Carbon Monoxide
NO_x = Nitrogen Oxides
PM_{10} = Particulate Matter with a Diameter of Less Than or Equal to 10 Microns
SO_2 = Sulfur Dioxide
VOC = Volatile Organic Compounds

Source: USEPA 2011

Emissions are below NAAQS for all criteria pollutants for this scenario and would be even less as these projects would not be completed concurrently and would thus show slight, temporary, and localized increases in air emissions (**Error! Not a valid bookmark self-reference.**). Since the project site for each alternative is a long distance from this designated Prevention of Significant Deterioration (PSD) Class I air quality area, the Proposed Action and Alternatives would not produce air quality impacts to these areas. Additionally, the emissions from aircraft associated with the Proposed Action or action alternatives would not exceed those already analyzed and considered in the ROD for the *AFSOC Beddown EIS* (Air Force 2007).

Table 4−4. Construction Emissions Compared to National Ambient Air Quality Standards (NAAQS)

Criteria Pollutant	Averaging Time	NAAQS (ppm)	Calculated Concentration (ppm)
Carbon Monoxide (CO)	1-Hour	35	8.863E-08
	8-Hour	9	6.204E-08
Nitrogen Oxides (NO_x)	Annual	0.053	5.912E-10
Sulfur Dioxide (SO_2)	3-Hour	0.5	2.766E-09
	24-Hour	0.14	1.229E-09
	Annual	0.03	2.458E-10
Particulate Matter with a Diameter of Less Than or Equal to 10 Microns (PM_{10})	24-Hour	150 µg/m^3	0.528 µg/m^3
	Annual	50 µg/m^3	0.106 µg/m^3

Key:
ppm = parts per million
µg/m^3= micrograms per cubic meter

Source: USEPA 2010

4.7.2 Alternative 2

Alternative 2 is the same as the Proposed Action with the exception of the relocation of the improved runway and taxiway, hangars, and the permanent exercise facilities to the southeast area of the range. Air emissions are compared to the counties that encompass all of Melrose AFR regardless of the location of the facilities. The impacts would be the same as described under the Proposed Action; therefore, no significant impacts to regional air quality would occur due to the proposed range improvements in this alternative.

4.7.3 Alternative 3

As stated for Alternative 2, project emissions would have the same impacts as described under the Proposed Action. Since emissions do not change with their location within the range, no adverse impacts to regional air quality would occur with the proposed range improvements for this alternative.

4.7.4 No Action Alternative

Under the No Action Alternative, no range improvements would occur. Air emissions would not change under this Alternative from baseline levels and no impacts to regional air quality would occur.

4.8 Physical Resources

The limited areas of proposed construction on Melrose AFR and the great depth to bedrock and to the aquifer in the locations of the proposed facilities make it unlikely that impacts could occur to geologic resources or groundwater. The potential impacts to physical resources, (primarily soil and water) are due to soil disturbance resulting in erosion or loss of vegetation, the creation of impervious surface leading to increased stormwater runoff, and potential surface or groundwater contamination or degradation.

4.8.1 Alternative 1 – Proposed Action

4.8.1.1 Earth Resources

Under the Proposed Action, ground surfaces would be temporarily disturbed due to construction and renovation activities required for construction of the proposed projects. Specific construction limitations and considerations would be dependent upon the type of construction occurring and the type(s) of soils encountered at each individual project location. General observations concerning the limitations of predominant soil associations present at Melrose AFR in relation to proposed range improvement projects are as follows (USDA 2010):

- **Springer Loamy Fine Sands –** Have a relatively high susceptibility to water and wind erosion, especially at higher slopes. They are also very limited for shallow excavations due to potential instability of excavated walls.
- **Clovis Loams –** Have a moderate susceptibility to water and wind erosion, especially at higher slopes and a moderate potential for corrosion of steel. They are also somewhat limited for shallow excavations due to potential instability of excavated walls.
- **Stegall Loams –** Have moderate potential for corrosion of steel and are somewhat limited for the construction of dwellings with basements due to shrink-swell potential and depth to hardpan.
- **Mansker Loams –** Have a moderate susceptibility to water and wind erosion and moderate potential for corrosion of steel.
- **Portales Loams –** Have a moderate susceptibility to water and wind erosion and moderate potential for corrosion of steel. They also are somewhat limited for the construction of dwellings with basements due to shrink-swell potential.
- **Olton Loams –** Have moderate potential for corrosion of steel. They are also somewhat limited for shallow excavations due to potential instability of excavated walls and somewhat limited for the construction of dwellings with basements due to shrink-swell potential.

Earthmoving for construction and renovation of several small facilities, installation of utilities, and road paving/maintenance would excavate soils and temporarily remove vegetation and/or expose them to wind

and water erosion (and, as noted, many of the soils located on Melrose AFR have increased potential for wind erosion). In general, accelerated erosion can be minimized for planned construction and maintenance projects by siting and designing facilities to take into account soil limitations, employing construction and stabilization techniques appropriate for the soils and climate, and implementing temporary and permanent erosion control measures. While soils would be changed by earthmoving and other construction activities, the effects would be localized and not result in significant impact on soil resources since BMPs, erosion and sediment controls, and other management measures would be implemented.

Compliance with the requirements of the NPDES Construction General Permit would be required if the area disturbed at any one time totals one acre or more. The NPDES Construction General Permit program does not apply since Melrose AFR does not contain any Waters of the U.S. BMPs used to stabilize the soils for erosion and sediment control would minimize soil loss from wind erosion by ensuring temporary measures protect the soil surface.

There are no additional special qualities for the soil resources associated with the Proposed Action; therefore, by using BMPs and other preventative measures, potential impact to soil resources resulting from the Proposed Action would be minimal and therefore not significant.

4.8.1.2 Water Resources

Land development changes the physical, chemical, and biological conditions of water resources. When land is developed, the hydrology (the natural cycle of water resources) can be altered. Impacts on hydrology can result from land clearing activities, disruption of the soil profile, loss of vegetation, introduction of pollutants, new impervious surfaces, and an increased rate or volume of runoff after major storm events. Without proper management controls, these actions can adversely impact the quality and/or quantity of water resources.

Several improvement projects are located in proximity to the major water features of the range (Canada del Tule, Sheep Canyon, and Chapman Draw) and are in proximity to range wells.

Under the Proposed Action, there would be a slight increase in surface water runoff. The issue would be managed through the implementation of basic measures to control storm water to prevent erosion, control sediment loss, and keep other pollutants from running off the site. Using BMPs and other preventative measures, potential impacts to water resources resulting from the Proposed Action would be minimal and therefore not significant.

4.8.1.3 Hazardous Materials and Waste Management

The qualitative and quantitative assessment of impacts from hazardous materials and waste management focuses on how, and to what degree, the alternatives affect hazardous materials usage and management, hazardous waste generation and management, and hazardous waste disposal. The impacts to solid waste are determined by estimating the quantity generated resulting from the Proposed Action and assessing the capability of the existing programs to handle any increased quantities. An impact was considered significant if the following criteria were met:

- The generation of hazardous waste types or quantities could not be accommodated by the current management system, or
- There is an increased likelihood of an uncontrolled release of hazardous materials, which could contaminate soil, surface water, groundwater, or air.

Construction and renovation activities may require the use of hazardous materials by contractors and other base personnel. In accordance with the Cannon AFB and Melrose AFR Hazardous Materials Management Plan, copies of Material Safety Data Sheets must be provided to the base and maintained for each construction site. The base would maintain any hazardous materials used by personnel in the operation of the complex and no adverse environmental consequences are anticipated. Project contractors would comply with federal, state, and local environmental laws and would employ affirmative procurement practices when economically and technically feasible.

Contractor personnel may generate hazardous waste, such as paints, adhesives, and batteries during construction and renovation activities. Storage and disposal of these wastes would be the responsibility of the site contractor and the base's hazardous waste program. Any hazardous waste generated by facilities covered by this EA during routine or special event operations, would be handled by Cannon AFB Hazardous Waste Managers in accordance with the Cannon AFB Hazardous Waste Management Plan. No adverse hazardous materials and waste management environmental consequences are expected resulting from the Proposed Action.

4.8.2 Alternative 2

4.8.2.1 Earth Resources

Effects to earth resources from the construction and renovation activities would be the same as those described under the Proposed Action.

4.8.2.2 Water Resources

Effects to water resources from the construction and renovation activities would be the same as those described under the Proposed Action.

4.8.2.3 Hazardous Materials and Waste Management

Effects to hazardous materials and waste management from the construction and renovation activities would be the same as those described under the Proposed Action.

4.8.3 Alternative 3

4.8.3.1 Earth Resources

Effects to earth resources from the construction and renovation activities would be the same as those described under the Proposed Action.

4.8.3.2 Water Resources

Effect to water resources from the construction and renovation activities would be the same as those described under the Proposed Action.

4.8.3.3 Hazardous Materials and Waste Management

Effects to hazardous materials and Waste Management from the construction and renovation activities would be the same as those described under the Proposed Action.

4.8.4 No Action Alternative

The CRP would not be implemented and the proposed construction or renovation activities would not occur. As a result, there would be no new impacts to earth resources or hazardous materials and waste management. Conditions would remain as described in Section 3.5.

4.9 Biological Resources

This section addresses consequences to biological resources related to construction and operations associated with the action alternatives at Melrose AFR. Planning included a full evaluation of environmental constraints areas and proposed construction projects would be sited to avoid areas of environmental concern whenever possible.

4.9.1 Alternative 1 – Proposed Action

The Proposed Action consists of a variety of range improvements at Melrose AFR including facilities and infrastructure construction associated with developing a range complex, training upgrades, ongoing maintenance and repair, and extending the Exclusive Use Area. Many of these projects were identified in the CRP of 2008. A list of proposed projects is provided in Section 2.0. Additional refinement would occur throughout the planning and construction process and may require some of the facilities to be relocated. An approximate total of 52 acres of vegetated lands is required for complete build-out of new facilities, in addition to the area required for new roads and utilities. In some cases, agricultural lease modifications would be used to obtain additional land for conversion to new uses. Some of this land is shortgrass to mixed-grass prairie habitat currently occupied by a variety of wildlife species. With a shift of the military activities and disturbance associated with the extended Exclusive Use Area (such as air-to-ground weapons impacts and site maintenance/preparation), different habitats may be more affected than they are currently affected, including potentially affecting more shrub-dominated habitats.

Since it is early in the planning process and specific on-the-ground plans have not been finalized, the potentially affected vegetation classes and associated wildlife is only speculative at this time. Species that occur on the project range have been exposed to past and ongoing military activities and many would be expected to be able to adjust to new uses. Melrose AFR is inhabited by many generalist species that are not dependent upon specific habitats and would likely be able to shift their use of habitats upon initiation of ground clearing and construction activities and redistribute themselves across the landscape. However, some permanent loss of habitat within the construction footprints would occur.

It is expected that habitats and wildlife individuals that remain near construction activities would be exposed to an increase in noise, dust, and other human intrusion during the construction phases. There is the potential, especially if ground-clearance occurs in the spring that young and other immobile animals may not be able to leave the area and may be harmed. This would be minimized by conducting site surveys prior to beginning construction.

The population of BTPD on Melrose Range has been reduced significantly due to disease so few BTPDs remain, none of which are currently located within the project area. The existing populations are being managed in accordance with the requirements of the *Environmental Assessment for the Black-Tailed Prairie Dog Management* by maintaining a minimum of 1,000 total acres for two populations (with one being at lease 500 acres) (BTPD 2005).

Burrowing owls may be impacted by construction; however the construction sites will be surveyed prior to construction in accordance with the requirements of the Cannon AFB INRMP and the recommend guidelines contained in the *New Mexico Department of Game and Fish Guidelines and Recommendations for Burrowing Owl Surveys and Mitigation* (NMDGF 2007).

The northwest project area proposed for many of the facilities associated with the range complex under this alternative would be expected to have more construction occur and intensive uses than the majority of the training range. Currently, a large portion of this area is characterized on vegetation mapping as agricultural and a change in its use is not expected to represent a significant loss of habitat for most biological resources. However, the current location for several components of the Proposed Action, including the proposed clear zone for the improved LZ taxiway is likely to overlap with a portion of habitat mapped in association with an inactive lek formally used by lesser prairie chickens, which are a federal candidate for listing (Air Force 2010).

No direct adverse effects to the species would be expected from implementation of this alternative if BMPs for pre-ground disturbance bird surveys are followed. However, ground clearing associated with construction of the taxiway and/or the small arms range would likely remove prairie chicken habitat, including foraging habitat within agricultural fields. Evidence suggests that lesser prairie chickens would avoid even a high-quality habitat if it were near human disturbance. For example, within 0.1 mile (200 meters) of a single oil or gas well pump, within 0.4 to 0.5 mile (600 to 860 meters) of an improved road, and within 0.2 to 0.6 mile (366 to 1,000 meters) of an elevated power line (where avian predators may perch) (OSU no date; Robel *et al.* 2004 cited in NMACP 2010). In addition, hens typically nest 0.7 mile (1.2 kilometers km) to 2.1 mile (3.4 kilometers) from a lek (NatureServe 2010).

The taxiway's northern clear zone under this alternative is located within one mile of an inactive lek, essentially reducing the suitability of those areas for lesser prairie chicken nesting. As recommended by the NMDGF, construction activities would not occur within one mile of active lesser prairie chicken leks during the breeding period of February 15 to July 1 between 3:00 AM and 9:00 AM.

Operations disturbances to breeding prairie chickens using the leks may also occur from overflights if the overflights are conducted in the spring. Substantial research into the startle response in various wildlife species caused by low elevation aircraft has been conducted (Manci *et al.* 1988; Westman and Walters 1981; Harrington and Veitch 1991). The magnitude of overflight effects vary depending on species, duration and frequency of flights, type of aircraft, flight speed and proximity, and circumstances for the wildlife individual (i.e., breeding, nesting, etc.). There is some evidence of wildlife habituating to repetitive noise disturbances (Conomy *et al.* 1998; Krausman *et al.* 1998) so effects from noise disturbance may diminish over time. No threatened, endangered, or other sensitive species are known to occur in the proposed construction area and, therefore, no effects to sensitive species other than the lesser prairie chicken are anticipated. With restrictions on construction activities, no significant impacts on the lesser prairie chicken are expected.

4.9.2 Alternative 2

Alternative 2 consists of those components contained in the Proposed Action but relocates the improved runway and taxiway, hangers and the PEF to the southeast area of Melrose AFR (Figure 2–3). Since final designs are not in place, the potential impacts to biological resources are speculative at this time. With the change in location of these facilities, approximately 50 acres of habitats, some of which are mapped as suitable for lesser prairie chicken. Those habitats would not be directly affected by ground-clearance and construction activities as they are in the Proposed Action. This change, with facilities placed in the southeast portion of the range, would primarily affect more shortgrass prairie habitats and less agricultural lands than the Proposed Action. This change, with facilities placed in the southeast portion of the range, would primarily affect more shortgrass prairie habitats and less agricultural lands than the Proposed Action. This has the potential to affect other native species that occupy shortgrass habitats, but no sensitive species are known to be present in the Alternative 2 project area. The construction of the Small Arms Range would occur in the same locations as for the Proposed Action and potentially adversely affect lesser prairie chicken habitat as described for that alternative. Construction in the southeastern

portion of the range has the potential to affect Canada del Tule, but no unique species were identified as associated with this ephemeral drainage. No jurisdictional wetlands would be affected by Alternative 2 construction projects and no threatened, endangered, or sensitive species other than the lesser prairie chicken are known to occur in the proposed construction area. With restrictions on construction activities, no significant impacts on the lesser prairie chicken are expected.

4.9.3 Alternative 3

Alternative 3 consists of the project components contained in the Proposed Action, but does not extend the existing Exclusive Use Area. Alternative 3 would affect biological resources (habitats and wildlife species) the same as the Proposed Action. No jurisdictional wetlands would be affected by this change in range use. The potential effects to lesser prairie chicken habitat from construction and operation of the improved taxiway and small arms range would be the same as described for the Proposed Action. No other threatened, endangered, or sensitive species are known to occur in the proposed new range use area. With restrictions on construction activities, no significant impacts on the lesser prairie chicken are expected.

4.9.4 No Action Alternative

Under the No Action Alternative, specific construction or related repair projects would not be implemented and effects to biological resources would remain the same as they are currently. Selection of the No Action Alternative represents continued use of the existing Melrose AFR and existing range facilities for training at current levels. The No Action Alternative would not create the range complex so the AFSOC training goals, especially regarding the Special Forces expanded mission requirement would not be met.

4.10 Cultural Resources

Impact analysis on Melrose AFR follows the definition of impacts and effects presented in Section 3.7.1. The Proposed Action and Alternative 3 locate the landing strips, taxiway, and associated infrastructure northwest of the existing Exclusive Use Area. Alternative 2 locates these improvements to the southeast. The Proposed Action extends the Exclusive Use Area to the west. Project types that could have a direct impact on archaeological sites include the following:

1. Construction that disturbs the ground surface including clearing, leveling, excavation, compaction, and earth moving.
2. Burial of utilities such as power lines or water lines.
3. Construction, replacement, and removal of fencing.
4. Road building and parking area construction, whether or not those facilities are paved.
5. Landscaping that involves clearing, earth moving or other ground-disturbing activities.

Indirect effects could occur if construction workers, off-duty service members, or other staff intentionally or unintentionally impacted archaeological sites through surface disturbance such as trampling or driving through a location.

No building demolitions or alterations are planned for existing facilities so there would be no effect to any standing structures. Furthermore, most recent NRHP evaluations of architectural resources found that the built environment at Melrose AFR is not eligible for the NRHP (AFSOC 2009).

In planning the locations for the projects proposed in the Melrose CRP, the Cannon AFB Cultural Resources Manager (CRM) was consulted. The CRM in turn consulted the database showing the location for all known archaeological sites and isolates located on Melrose AFR. Based on these maps, planners attempted to locate the projects away from known NRHP-eligible archaeological sites. Once decisions are made as to the precise locations for individual projects, it is the CRM's practice to reinvestigate the location prior to any ground-disturbing activity. Any previously unrecorded resource is recorded and evaluated for NRHP eligibility and any unevaluated resource is evaluated. If it is not possible to avoid an NRHP-eligible resource, then impacts are minimized and/or mitigated in accordance with the ICRMP and Section 106 of the NHPA.

The Air Force has determined, and the New Mexico State Historic Preservation Office and the Advisory Council for Historic Preservation have concurred, that the following projects included in the proposed action will have no adverse effects on historic properties (see Appendix D for correspondence regarding this approach):

- **Repair Cattle Guards and Fences –** Enclose Exclusive Use Area of range removing existing fences and installing 8.5 miles of new fence and gates.
- **Unimproved C-130 Strip –** Unimproved dirt landing zone 5,000 ft x 150 ft with 300-foot turnarounds at each end (Figure 2-1, Map Reference 9).
- **Mountain Terrorist Village and Survival Training Complex –** Four Cave Complex; Container based Mountain Village in area of cave complex; SERE Urban Training Area 500 ft x 700 ft using 60-containers; 3-story SERE Tower on 60 ft x 90 ft concrete pad (Figure 2-1, Map Reference 6, 6A, and 8).
- **SOF Operations Planning Facility –** Temporary facility adjacent to Building 3160.
- **Convoy Escort –** Vehicle maneuvering area simulates rural road with series of obstacles using container construction to enabling weapons firing from vehicles (Figure 2-1, Map Reference 5).

For all other projects included in the proposed action or alternatives, the Air Force will complete NHPA Section 106 consultation requirements prior to the expenditure of any funds by following the standard operating procedures outlined in the Cannon Air Force Base Integrated Cultural Resources Management Plan (CRMP) 2009. This includes consultation with the New Mexico State Historic Preservation Office regarding the determination of areas of potential effects; determining the eligibility of cultural resources for listing on the National Register; and resolving adverse effects. To the maximum extent practical, facilities will be sited to avoid areas in which cultural resources are known to exist as shown in the site surveys of cultural resources at Melrose AFR. Therefore, no significant impacts on cultural resources are expected. Correspondence regarding this determination is provided in Appendix E.

4.10.1 Alternative 1 – Proposed Action

The expansion area supporting the Proposed Action has been surveyed for cultural resources and evaluated to determine if any of the cultural resources located in the expansion area are eligible for the NRHP. A number of archeological sites were identified as eligible for the NRHP and a number of sites remain to be evaluated.

As with all of the alternatives, prior to ground disturbing activities, the Air Force would conduct Section 106 consultation with the New Mexico SHPO regarding the proposed undertaking to identify any issues and concerns regarding cultural resources on Melrose AFR.

Under the Proposed Action, the extended Exclusive Use Area may require Air Force Section 106 consultation with the SHPO to address the area of potential effect and the effect of the proposal on

historic properties. For all construction projects (including utility lines), it is possible that ground disturbance associated with the construction could encounter previously unknown or unrecorded cultural resources. In this situation, following the ICRMP (AFSOC 2009), work would stop until the Cannon AFB cultural resources manager evaluated the resource in consultation with the New Mexico SHPO. If the resource were to be determined eligible for the NRHP then (in compliance with the ICRMP and Section 106 of the NHPA) the Air Force in consultation with the SHPO (as required) would develop a plan to manage the resource.

4.10.2 Alternative 2

Alternative 2 differs from the Proposed Action by moving the landing strip and associated projects to the southeast of the existing Exclusive Use Area. This area has been surveyed completely for archaeological resources, and the project elements are located away from known archaeological sites. As with the other alternatives, in compliance with Section 106 of the NHPA and other laws and regulations the Air Force would consult with the New Mexico SHPO prior to initiating ground-disturbing actions. If there were any unanticipated discoveries, the Air Force would follow the standard operating procedures outlined in the ICRMP including consulting with the SHPO regarding resource eligibility and, if necessary, developing a management plan that may include mitigations for adverse impacts to eligible resources.

4.10.3 Alternative 3

For Alternative 3, all construction projects are located away from known historic properties. Linear projects (such as the removal and installation of fencing and burying utility lines) could pass through sites that have been recorded as required by the ICRMP (AFSOC 2009). Compliance with the consultation requirements of Section 106 of the NHPA and other federal laws and regulations would remain the same as with the other alternatives. The Air Force must consult with the New Mexico SHPO, as required, prior to initiating ground-disturbing actions. If there were unanticipated discoveries, the Air Force would follow the standard operating procedures outlined in the ICRMP, including consulting with the SHPO regarding resource eligibility and, if necessary, developing a management plan that may include mitigations for adverse impacts to eligible resources.

4.10.4 No Action Alternative

There would be no impact to cultural resources since there would be no construction activities implemented under the No Action Alternative. Melrose AFR would continue to manage its cultural resources in accordance with the Cannon AFB and Melrose AFR ICRMP (AFSOC 2009) and the applicable federal laws and regulations.

4.11 Land Use

Potential impacts to land use and ranching are evaluated by determining if an action is compatible with existing land use and in compliance with adopted land use plans and policies. In general, land use impacts would be considered significant if they were to (1) be inconsistent or noncompliant with applicable land use plans and policies, (2) prevent continued use or occupation of an area, or (3) be incompatible with adjacent or nearby land use to the extent public health or safety is threatened.

4.11.1 Alternative 1 – Proposed Action

Under the Proposed Action, range activities and short-term construction are a potential source of noise. Land use compatibility guidelines established by the Department of Housing and Urban Development and based on findings of the Federal Interagency Committee on Noise recommend acceptable levels of noise exposure for various types of land uses. These include encouraging compatible land use planning and land use patterns for housing and other sensitive areas. Noise impacts were evaluated qualitatively for the Proposed Action and Alternatives against the acceptable noise levels.

Noise generated from construction and range operations is not expected to affect worker safety. It is expected to occur during a standard workday and be short-term. Although construction noise could result in some disturbance or transitory annoyance, it would not have a long-term or a significant environmental impact. Operations on the range could result in noise levels that could potentially affect range personnel, but the use of personal protective equipment during operations would address any adverse impacts. There are no anticipated adverse or significant impacts for land use under the Proposed Action.

Additionally, under the Proposed Action, the implementation of those actions described in the CRP and this EA would not be inconsistent or noncompliant with applicable land use plans and policies, would not prevent continued use or occupation of an area, or be incompatible with adjacent or nearby land use to the extent public health or safety is threatened. As such, no significant impacts are expected.

4.11.2 Alternative 2

Land use effects for Alternative 2 would be the same as those discussed under the Proposed Action.

4.11.3 Alternative 3

Land use effects for Alternative 3 would be the same as those discussed under the Proposed Action.

4.11.4 No Action Alternative

Under the No Action Alternative, there would be no construction projects or changes to the current range operations as proposed for the action alternatives, therefore, there would be no impact to land use.

4.12 Socioeconomics

4.12.1 Alternative 1 – Proposed Action

The Air Force construction expenditures used to fund the projects proposed for Melrose AFR would have a beneficial economic effect on Roosevelt County, Curry County, and the surrounding communities by creating jobs in the construction industry. The extent of the construction in any given year would determine the number of jobs created and, if the construction activity is particularly concentrated within one year, there is the possibility that more workers would move to the area to capture the new jobs. It is possible that the influx of workers could encourage job growth in other industries such as food and retail to provide needed services. However, these beneficial impacts would be temporary and would last only as long as the construction activities were underway.

The Air Force proposes to allow the current leases to continue until expiration. Once expired, the leases would be modified to remove the leased land within the proposed extended Exclusive Use Area. The non-renewal of the grazing and agricultural leases would not have an adverse impact on the regional cattle industry; however, it could have an adverse impact on the operations of the individual ranches and farms leasing the land. The leased lands on Melrose AFR would typically support one Animal Unit (AU)

defined as one cow and calf per 40 acres. The Proposed Action would terminate (or not allow renewal on) approximately 31,000 acres, which could potentially support up to 1,235 Aus. Roosevelt County, according to the 2007 Census of Agriculture, supports 130,462 cattle and calves (USDA 2007). A reduction of 1,235 Aus would not significantly affect regional cattle operations but could detrimentally affect ranching operations of the affected lessees. Similarly, for the two leased areas supporting irrigated croplands, the loss of the leased areas is not expected to significantly affect regional farming output, however, it could have a detrimental effect to the lessee.

4.12.2 Alternative 2

Socioeconomic effects from Alternative 2 would be the same as those discussed under the Proposed Action.

4.12.3 Alternative 3

Socioeconomic effects from Alternative 3 would be the same as those discussed under Alternative.

4.12.4 No Action Alternative

Under the No Action Alternative, construction expenditures would not be spent and therefore, no new construction-related jobs or support jobs would be created. No changes would occur to the leasing agreements between the Air Force and current lessees.

4.13 Environmental Justice

4.13.1 Alternative 1 – Proposed Action

For the Proposed Action, there are no permanent residents on the 60,010-acre Melrose AFR. All construction activities would be contained within the range boundary. As discussed in Section 4.2 Noise, noise levels extending off range would be 75 dB DNL or less. Noise level of 75 and 70 dB DNL would extend off range near the proposed Trucker LZ. There are no permanent residences within the affected area. Therefore, no disproportionately high and adverse environmental or human health impacts to minority, low-income, or children are anticipated.

4.13.2 Alternative 2

Environmental justice impacts would be the same as those described for the Proposed Action.

4.13.3 Alternative 3

Environmental justice impacts would be the same as those described for under the Proposed Action.

4.14 No Action Alternative

Under the No Action Alternative, no construction activities would take place and conditions would remain as discussed under the Affected Environment. Noise levels would remain the same as those described under baseline conditions in Section 3.2 Noise. No disproportionately high and adverse environmental or human health impacts to minority, low-income, or children are anticipated.

5.0 CUMULATIVE IMPACTS

5.1 Cumulative Effects

CEQ regulations and 32 CFR Part 989 stipulate that the cumulative effects analysis in an EA should consider the potential environmental impacts resulting from "the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions" (40 CFR 1508.7).

The first step in assessing cumulative effects involves identifying and defining the scope of other actions and their interrelationship with the Proposed Action or Alternatives (CEQ 1997). The scope must consider other projects that coincide with the location and timetable of the Proposed Action and other actions. Cumulative effects analyses evaluate the interactions of multiple actions.

This chapter identifies relevant past, present, and reasonably foreseeable actions. These include military actions in the region as well as other federal actions. Non-federal actions are also identified and discussed. An analysis of how the impacts of the identified actions might be affected by those resulting from the Proposed Action for each of the environmental resources is also presented. The chapter concludes with a discussion of the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity and irreversible and irretrievable commitment of resources.

5.1.1 Past, Present, and Reasonably Foreseeable Actions

5.1.1.1 Melrose AFR and Other Military Actions

Recent past and present military actions in the region were considered as part of the baseline or existing conditions in the ROI. As presented in Table 5–1, these actions were considered for their relevance to the implementation of the CRP at Melrose AFR.

Each environmental document or other information regarding the actions was reviewed to consider the implication of each action and its synergy with the Proposed Action. Of particular concern were potential overlap in affected area and project timing. As depicted in Table 5–1, not all actions are relevant to the Melrose AFR CRP.

In 2003, Cannon AFB was authorized to use white phosphorus rockets on Melrose AFR. In 2004, an EA of infrastructure development and improvement projects at Cannon AFB and Melrose AFR was prepared to address the Wing Infrastructure Development Outlook (WINDO) plan. In 2007, AFSOC assets were bedded down at Cannon AFB and Melrose AFR. In 2009, Cannon AFB analyzed the use of 40 mm Armor Piercing Incendiary (API) modified ammunition and 40 mm Armor Piercing Tracer (APT) ammunition on Melrose Range. A Categorical Exclusion (CATEX) was issued for both actions (Air Force 2009b; Air Force 2009c).

Table 5−1. Past and Present Military Actions

Action	Documentation	Relevance to Melrose AFR
Realistic Bomber Training Initiative	Air Force 2000	Yes, changed use of Mt. Dora airspace proposed for scheduling by Air Force Special Operations Command (AFSOC).
Use of White Phosphorus Rockets at Melrose Air Force Range (AFR), New Mexico	Air Force 2003	Yes, there may be White Phosphorus (WP) munitions use at Melrose AFR.
Cannon AFB Wing Infrastructure Development Outlook (WINDO) Plan	Air Force 2004	Yes, affects infrastructure at Cannon AFB and Melrose AFR.
Installation of a Digital Airport Surveillance Radar at Cannon Air Force Base (AFB)	Air Force 2005	Yes, possible installation in the southwest area of Cannon AFB.
New Mexico Training Range Initiative	Air Force 2006a	Yes, changed use of airspace near Melrose AFR.
Transforming the 49th Fighter Wing (49 FW) Combat Capability, Holloman AFB	Air Force 2006b	No, assesses beddown of F-22A at Holloman AFB. Holloman AFB airspace not proposed for use by AFSOC.
Air Force Special Operations Command 2007 Assets Beddown at Cannon AFB, New Mexico Environmental Impact Analysis Process (*AFSOC Beddown EIS*)	Air Force 2007	Yes, assess mission change from Air Combat Command (ACC) to AFSOC
Cannon Low Altitude Navigation Training	Ongoing	Yes, would establish a Low Area Tactical Navigation (LATN) area in New Mexico and Colorado.
Cannon Capital Improvement Plan	Ongoing	Yes, would implement Cannon AFB Capital Improvement Plan (CIP).
Cannon AFB Housing Privatization	Air Force 2009a	Yes, would implement housing construction and demolition projects.
Comprehensive Range Plan (CRP)	CRP 2008 and Ongoing	Yes, establishes the requirements for range facilities to meet training needs.
Categorical Exclusion	Air Force 2009b	Yes, allows use of 40 millimeter (mm) Armor Piercing Incendiary (API) modified ammunition on the Jockey and Spirit target areas on Melrose Range.
Categorical Exclusion	Air Force 2009c	Yes, allows use of 40 mm Armor Piercing Tracer (APT) ammunition on the Jockey and Spirit target areas on Melrose Range.
Categorical Exclusion	Air Force 2009d	Yes, established locations in northern, eastern, and southwestern areas on Melrose Range for siting Landing Zones/Drop Zones (LZ/DZ).
Categorical Exclusion	Air Force 2008	Yes, established location in southwestern areas on Melrose Range for Survival, Evasion, Resistance, and Escape (SERE) training area.

5.1.1.2 Reasonably Foreseeable Actions

The following were taken into account when determining cumulative impacts for implementation of the Proposed Action and Alternatives:

1. Current base and range use as well as current aircraft operations.
2. Cumulative analysis also required consideration of reasonably foreseeable actions.
3. Cannon AFB is proposing establishment of a Low Area Tactical Navigation (LATN) area in the New Mexico and Colorado airspace. The EA is currently in the scoping stage of the NEPA process. Cannon AFB is proposing implementation of its 2007 Capital Improvement Plan, which is now going through the environmental analysis process.

5.1.1.3 Other Federal Actions

Other past, current, and future federal actions in the area could also contribute to cumulative effects of the Proposed Action or Alternatives. Federal agencies with jurisdiction within the ROI include the BLM, Bureau of Reclamation, USACE, USFWS, FAA, Federal Highway Administration, and Federal Energy Regulatory Commission. Potential actions within the area and occurring in the same timeframe as the implementation of the CRP were identified and considered in preparation of this EA.

BLM manages large areas of land near Melrose AFR. Activities on BLM land include livestock grazing, oil and gas development, and recreation. The Roswell Field Office published its *Resource Management Plan* in 1997 (BLM 1997). The BLM completed a ROD for an *Approved Special Status Species Resource Management Plan Amendment* in 2008 (BLM 2008).

5.1.1.4 Non-Federal Actions

Non-federal actions include activities by the State of New Mexico, county, and private projects. General ongoing state activities include oil, gas, and grazing leases on state trust lands, land exchanges, road projects, and improvements to state parks.

Some land development projects are occurring under the airspace including construction of the Bosque Redondo Memorial at Fort Sumner to commemorate the Long Walk of 8,000 Navajo people from their homeland to life in captivity at Bosque Redondo during the 1860s. The memorial would include an exhibit space, resource rooms, and educational facilities as a forum for interpretation of the fort and surrounding reservation (Museum of New Mexico 2001). Fort Sumner is under the existing Pecos MOA.

Wind energy development continues to be an important industry in New Mexico as they are ranked 5th in the U.S. for wind power potential. The New Mexico State University Agricultural Science Center is currently evaluating the potential for further wind energy generation in east central New Mexico. The center (13 miles north of Clovis) erected a 50-meter meteorological tower in November 2006 and has is collecting site-specific wind data (NMSU 2007).

The SunZia Southwest Transmission Project consists of approximately 460 miles of extra-high voltage electric transmission lines and substations that would transport primarily renewable energy from Arizona and New Mexico to markets across the southwestern U.S. SunZia is solely an electric transmission project and is not a power generation facility. The closest study area for the transmission line associated with this project is located approximately 100 miles from Melrose AFR.

5.1.2 Cumulative Effects Analysis

The following analysis examines how the impacts of the actions presented above might be affected by those resulting from the Proposed Action or Alternatives and whether such a relationship would result in potentially significant impacts not yet identified when the Proposed Action or Alternative are considered together, and then identifies what those impacts might be.

5.1.2.1 Airspace and Range Management

As described in Section 3.1, AFSOC intends to implement the CRP. Airspace management is not expected to change from current conditions therefore no cumulative impacts are anticipated.

5.1.2.2 Noise

Noise conditions addressed for the implementation of the CRP takes into consideration the Proposed Actions. The noise analysis presented in Section 3.2 is effectively a cumulative analysis.

5.1.2.3 Safety

Ground, construction, explosives, and munitions safety associated with the implementation of the CRP is not expected to have any cumulative effects in conjunction with other past, present, and reasonably foreseeable actions.

5.1.2.4 Physical and Biological Resources

Impacts associated with the implementation of the CRP relate to ground-disturbing activities for with construction and munitions use on Melrose AFR. The Melrose AFR Proposed Action and Alternatives as described in Chapters 3.0 and 4.0 of this EA would not significantly impact either physical and biological resources. Since no cumulative actions have been identified for these specific project areas, no additional cumulative impacts are anticipated.

5.1.2.5 Cultural Resources

There are no projected adverse effects to cultural resources due to the EA Proposed Action and Alternatives. Issues and concerns related to cultural resources should not add to any adverse effects to cultural resources resulting from other projects, either recently completed, ongoing, or proposed within the project area.

Any federal project that includes ground-disturbing activities has the potential to affect cultural resources adversely and is subject to NEPA compliance and Section 106 consultation. Such projects include construction including wind farms, pipelines or other facilities, highway work, or any other ground-disturbing undertaking that affects public land.

5.1.2.6 Land Use Resources

Land use impacts associated with this action relate to land management on Melrose AFR. The increased personnel and construction activity that might coincide with other local projects would likely be absorbed into the local transportation network. Recreational resources should not see a cumulative impact from these projects.

5.1.2.7 Socioeconomics and Environmental Justice

No anticipated cumulative consequences beyond those described for the Proposed Action and Alternatives are expected to have any significant adverse impacts separately or cumulatively on minority or low-income communities. The incremental effects of this proposal, in combination with potential impacts associated with the reasonably foreseeable future actions described in the previous sections, would also not be expected to have any cumulative effects on children.

5.2 Other Environmental Considerations

5.2.1 Relationship between Short-Term and Long-Term Uses

CEQ regulations (Section 1502.16) specify that environmental analysis must address “the relationship between short-term uses of man’s environment and the maintenance and enhancement of long-term productivity”. Special attention should be given to impacts that narrow the range of beneficial uses of the environment in the long-term or pose a long-term risk to human health or safety. This section evaluates the short-term benefits of the proposed alternatives compared to the long-term productivity derived from not pursuing the proposed alternatives.

A short-term use of the environment is generally defined as a direct consequence of a project in its immediate vicinity. Short-term effects could include localized disruptions and higher noise levels in some areas. Implementing the CRP at Melrose AFR would result in short-term increase of use of the environment due to the extent of the multiple construction activities at Melrose AFR. Depending on their location, humans and animals cumulatively experience somewhat increased levels of noise in some areas.

Noise effects would be short-term and would not be expected to result in permanent damage or long-term changes in wildlife and livestock productivity or habitat use.

Implementation of the CRP at Melrose AFR would largely involve improvements to existing military lands and should not impact the long-term productivity of the land. Use of chaff and flares would remain at existing levels of use and would not negatively affect the long-term quality of the land, air, or water.

5.2.2 Irreversible and Irretrievable Commitment of Resources

NEPA CEQ regulations require environmental analyses to identify "…any irreversible and irretrievable commitments of resources which would be involved in the Proposed Action should it be implemented" (40 CFR Section 1502.16). Primary irreversible effects result from permanent use of a nonrenewable resource (e.g., minerals or energy). Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action (e.g., disturbance of a cultural site) or consumption of renewable resources that are not permanently lost (e.g., old growth forests). Secondary impacts could result from environmental accidents such as accidents or fires. Natural resources include minerals, energy, land, water, forestry, and biota. Nonrenewable resources are those resources that cannot be replenished by natural means including oil, natural gas, and iron ore. Renewable natural resources are those resources that can be replenished by natural means including water, lumber, and soil.

For the implementation of the CRP at Melrose AFR, most impacts are short-term and temporary or longer lasting but negligible. Short-term reactions of wildlife or livestock could include temporary shifts in habitat use or activity, but long-term habituation is expected. Military training necessarily involves consumption of nonrenewable resources such as gasoline for vehicles and jet fuel for aircraft. No irreversible or irretrievable effects are expected for cultural resources or other natural resources including land and water.

Direct and secondary impacts to natural resources could occur due to live munitions use on Melrose AFR. Additional aggressive fire management practices have been introduced to reduce the risk of an accidental fire exiting Melrose AFR. While any fire can affect agricultural resources, wildlife, and habitat, the increased fire management procedures reduce the risk of fire hazard due to cumulative military operations.

5.2.3 No Action Alternative

Under the No Action Alternative, no construction activities would take place and conditions would remain as discussed under the Affected Environment.

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8.0 ACRONYMS AND ABBREVIATIONS

27 SOG	27th Special Operations Group
27 SOSS/OSR	27th Special Operations Support Squadron/Operation Support Range
27 SOW	27th Special Operations Wing
ACC	Air Combat Command
ACAM	Air Conformity Applicability Model
AFB	Air Force Base
AFI	Air Force Instruction
AFOSH	Air Force Occupational Safety and Health
AFR	Air Force Range
AFSOC	Air Force Special Operations Command
AGL	Above Ground Level
AOC	Area of Concern
AP	Armor Piercing
APERS	Antipersonnel
API	Armor Piercing Incendiary
APT	Armor Piercing Tracer
AST	Aboveground Storage Tank
ATC	Air Traffic Control
ATCAA	Air Traffic Control Assigned Airspace
AU	Animal Unit
BASH	Bird-Aircraft Strike Hazard
BMP	Best Management Practices
BDU	Bomb Dummy Unit
BP	Before Present
BTPD	Black-Tailed Prairie Dog
CAA	Clean Air Act
CATM	Combat Arms Training and Maintenance
CDNL	C-Weighted Day-Night Sound Level
CEAN	Civil Engineering Asset Management –Natural Resource
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CRM	Cultural Resource Manager
CRP	Comprehensive Range Plan
CSE	Center Scheduling Enterprise
CTIT	Celsius Turbine Inlet Temperature
CWA	Clean Water Act
dB	decibels

dBA	decibels A-Weighted
dBC	decibels C-Weighted
DERA	Defense Environmental Restoration Act
DIT	Dynamics of International Terrorism
DoD	Department of Defense
DRMO	Defense Reutilization and Marketing Office
EA	Environmental Assessment
ECM	Electronic Counter Measure
ECR	Electronic Combat Range
EIS	Environmental Impact Statement
EMNRD	Energy, Mineral, and Natural Resources Department
EO	Executive Order
EOD	Explosive Ordnance Disposal
ERP	Environmental Restoration Program
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FARP	Forward Area Refueling Point
FONSI	Finding of No Significant Impact
GBU	Guided Bomb Unit
GS	Green Smoke
HC	High Capacity
HE	High Explosive
HEAA	High Explosive Anti-Armor
HEDP	High Explosive Dual Purpose
HEI	High Explosive Incendiary
HF	High Fragmentation
HQ USAF/A3O-BR	Air Force Ranges and Airspace Division
HVAC	Heating, Ventilation, and Air Conditioning
ICRMP	Integrated Cultural Resources Management Plan
IED	Improvised Explosive Device
IFR	Instrument Flight Rules
IICEP	Interagency Intergovernmental Coordination for Environmental Planning
INRMP	Integrated Natural Resources Management Plan
IRP	Installation Restoration Program
LATN	Low Area Tactical Navigation
LAW	Light Anti-Tank Weapon
L_{dn}	Day-Night Average Sound Level
L_{dnmr}	Onset-Rate Adjusted Monthly Day-Night Average Sound Level
L_{max}	Maximum Sound Level
LZ	Landing Zone
Ma	Million years (geology)

Melrose AFR	Melrose Air Force Range
MAJCOM	Major Command
MBTA	Migratory Bird Treaty Act
MC	Basic designation for a family of special mission aircraft operated by the United States Air Force Special Operations Command
MILCON	Military Construction
MLRA	Major Land Resource Area
MK	Mark
MOA	Military Operations Area
MOU	Memorandum of Understanding
MOUT	Military Operations in Urban Terrain
MPPEH	Material Potentially Presenting an Explosive Hazard
MRTFB	Major Range and Test Facility Base
MR_NMAP	Military Operating Area and Range Noise Model Program
MSL	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
NANSR	Nonattainment Area New Source Review
NAS	National Airspace System
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMAAQS	New Mexico Ambient Air Quality Standards
NMAC	New Mexico Administrative Code
NMAQB	New Mexico Air Quality Bureau
NMDGF	New Mexico Department of Game and Fish
NMED	New Mexico Environment Department
NO_x	Nitrogen Oxides
NO_2	Nitrogen Dioxide
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic places
NSAV	Non-Standard Aviation
NSPS	New Source Performance Standards
NSR	New Source Review
NWR	National Wildlife Refuge
O&M	Operations and Maintenance
O_3	ozone
OSHA	Occupational Safety and Health Act
Pb	lead
P/CG	Pilot/Controller Glossary
PEF	Permanent Exercise Facility
P.L.	Public Law

$PM_{2.5}$	Particulate Matter Less Than or Equal to 2.5 Micrometers in Diameter
PM_{10}	Particulate Matter Less Than or Equal to 10 Micrometers in Diameter
ppm	parts per million
PSD	Prevention of Significant Deterioration
PTR	Primary Training Range
Q-D	Quantity-Distance
RCO	Range Control Officer
RCRA	Resource Conservation and Recovery Act
ROA	Range Operating Agency
ROD	Record of Decision
ROI	Region of Influence
RPA	Remotely Piloted Aircraft
RPG	Rocket Propelled Grenade
RR	Railroad
RS	Red Smoke
SARNAM	Small Arms Range Noise Assessment Model
SEL	Sound Exposure Level
SERE	Survival, Evasion, Resistance, and Escape
SGCN	State Species of Greatest Conservation Need
SHPO	State Historic Preservation Office
SIP	State Implementation plan
SO_2	Sulfur Dioxide
SO_x	Sulfur Oxides
SOF	Special Operations Forces
SOPGM	Stand Off Precision Guided Munition
SOSS	Special Operations Support Squadron
SOW	Special Operations Wing
sq ft	square feet
SUA	Special Use Airspace
SWDA	Solid Waste Disposal Act
SWMU	Solid Waste Management Unit
TDY	Temporary Duty Assignment
TIA	Target Impact Area
TP	Target Practice
TPY	Tons Per Year
$\mu g/m^3$	micrograms per cubic meter
U.S.	United States
USACE	United States Army Corps of Engineers
USC	United States Code
USGS	United States Geological Survey
USEPA	U.S. Environmental Protection Agency

USFWS	United States Fish and Wildlife Service
USSOCOM	United States Special Operations Command
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VFR	Visual Flight Rules
WFMP	Wildland Fire Management Plan
WFWG	Wildland Fire Working Group
WINDO	Wing Infrastructure Development Outlook
WP	White Phosphorus
WS	White Smoke

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APPENDIX A
PROPOSED MUNITIONS UTILIZATION

Appendix A - Proposed Munitions Utilization

AIR TO GROUND		
Aircraft	Type	Amount
	BDU33 INERT (BOMB DUMMY UNIT)	2,000
	BDU38 INERT	50
	BDU48 INERT	50
	BDU50HD INERT	50
	BDU50LD INERT	50
	BDU56 INERT	50
	BDU85 INERT	50
	GBU10 INERT (GUIDED BOMB UNIT)	50
	GBU12 INERT	50
	GBU31 INERT	50
	GBU38/39 INERT	50
	GBU 40 INERT	50
	GBU 44 INERT	50
	GBU 53 INERT	50
	MK81 INERT	50
	MK82 INERT	50
	MK83 INERT	50
	MK84 INERT	50
	MK106 INERT	50
	20 MILLIMETER (MM)	3,500
AC-130	25 MM-TP (TARGET PRACTICE)	20,000
AC-130	25 MM-HE (HIGH EXPLOSIVE)	10,000
AC-130	30 MM-TP	30,000
MC-130	30 MM-TP	20,000
AC-130	30 MM-HEI (HIGH EXPLOSIVE INCENDIARY)	50,000
MC-130	30 MM-HEI	40,000
AC-130	40 MM-TP	40,000
AC-130	40 MM-APT (ARMOR PIERCING TRACER)	40,000
AC-130	40 MM-HEI/API (ARMOR PIERCING INCENDIARY)	40,000
AC-130	105 MM-TP	20,000
AC-130	105 MM-HE	10,000
AC-130	105 MM-HE/HF (HIGH FRAGMENTATION)	3,000
AC-130	105 MM-WP (WHITE PHOSPHORUS)	1,000
	2.75 ROCKET	
	M-151	100
	OTHER	25
	70 MM ROCKET	
	WP	1,000
	SPOT	1,000

AIR TO GROUND		
Aircraft	Type	Amount
	HE	1,000
	TP	1,000
	FLECHETTE	1,000
CV-22	.50 CAL BALL	50,000
CV-22	.50 CAL APT/API (ARMOR PIERCING TRACER)	50,000
	.50 CAL BALL	20,000
	.50 CAL APT/API	20,000
	.50 CAL HE	10,000
	SOPGM (Stand Off Precision Guided Munition)	200
	AGM114P (AIR TO GROUND MISSILE)	50

GROUND USER	
Type	Amount
12 GAUGE	
#00 BUCK	5,000
#9	33,000
NONLETHAL	1,000
5.56	
BALL	6,000,000
BLANK	1,000,000
PLASTIC	410,000
TRACER	40,000
7.62	
BLANK	30,000
LINK	30,000
BALL LINK	2,500,000
9 MM	
TRACER	1,000
BALL	1,960,000
.45 CALIBER	
BALL	20,000
.50 CALIBER	
BALL LINK	850,000
LINK TRACER	500,000
BLANK	10,000
SINGLE ROUND	1,000

GROUND USER	
Type	Amount
40 MM	
GREEN STAR	100
RED STAR	100
TP	26,250
WHITE STAR	100
HE	80,000
SMOKE	500
MULTI PROJECT XM576	50
HEDP M433 (HIGH EXPLOSIVE DUAL PURPOSE)	9,000
60 MM	
HE	7,000
ILLUMINATION	100
81 MM	
HE	5,000
ILLUMINATION	100
84 MM ROCKET	410
83 MM HIGH EXPLOSIVE ANTI-ARMOR (HEAA) MK6	10
FUZE HAND PRACTICE	50
HAND GRENADE	
GREEN FRAGMENTATION	5,000
SMOKE	3,000
MINE ANTIPERSONNEL (APERS)	2,200
CHARGE DIVERSIONARY	2,000
MISSILE SURFACE (JAVELIN)	10
SIGNAL ILLUMINATION (GREEN SMOKE) GS PARACHUTE	50
SIGNAL ILLUMINATION (RED SMOKE) RS CLUSTER	25
SIGNAL ILLUMINATION (WHITE SMOKE) WS CLUSTER	50
SIGNAL ILLUMINATION RS PARA	25
SIGNAL ILLUMINATION WS PARA	50
SIGNAL ILLUMINATION GS CLUSTER	50
FUZE WARNING RAILROAD (RR) RED	50
SIMULATED PROJECT GROUND BURST	1,000
SIMULATED BOOBY TRAP FLASH	500
SIMULATED BOOBY TRAP ILLUMINATION	500
SIMULATED BOOBY TRAP WHISTLING	500
SIMULATED HAND GRENADE	200
C4 BLOCK 1.25 POUNDS	100
CAP BLAST	25
CAP BLAST NON-ELECTRIC	100

GROUND USER	
Type	Amount
DETONATOR CORD	1,500
TIME FUZE	1,500
IGNITER FUZE	100
CAP BLAST N-ELECTRIC 30 FT	50
CAP BLAST N-ELECTRIC 500 FT	50
CAP BLAST N-ELECTRIC 1,000 FT	50
IGNITER TIME FUZE	100
TIME DELAY FIRING DEVICE	50
5.45 X 39 MM BALL	26,000
7.62 X 39 MM BALL	15,000
7.62 X 54 MM BALL	5,000
ROCKET PROPELLED GRENADE (RPG)-7	50
SIGNAL KIT	25
COMPOSITION 4 1.25 DEMO CHARGE	100
COMPOSITION B DEMO CHARGE	10
35 MM/M190 LAUNCHER ROCKET	1,500
INNERTUBE ASSEMBLY LAUNCHER M190	1,500
66 MM LAUNCHER ROCKET	30
66 MM M72A3 HE ROCKET	10
TRAINING FLARES	1,000
66 MM LIGHT ANTI-TANK WEAPON (LAW) ROCKET	100
120 MM MORTAR TP	500
120 MM MORTAR ILLUMINATION	500
MK124-0	25
MK125A1	25
MK49A1	25
MK25 MARKER	25
1 POUND TNT DEMO CHARGE	100
40 MM TP M918 LINKED	16,000
HAND SMOKE WHITE HIGH CAPACITY (HC)	32
HAND INCENDIARY	16
35 MM PRACTICE F/M190 LAUNCHER ROCKET	1,100
PRACTICE LAUNCHER	25
SMOKE GRENADES	60
MINES	2,200
GRENADES	7,600
FLARES	2,100
84 MM ANTI-TANK-4	60

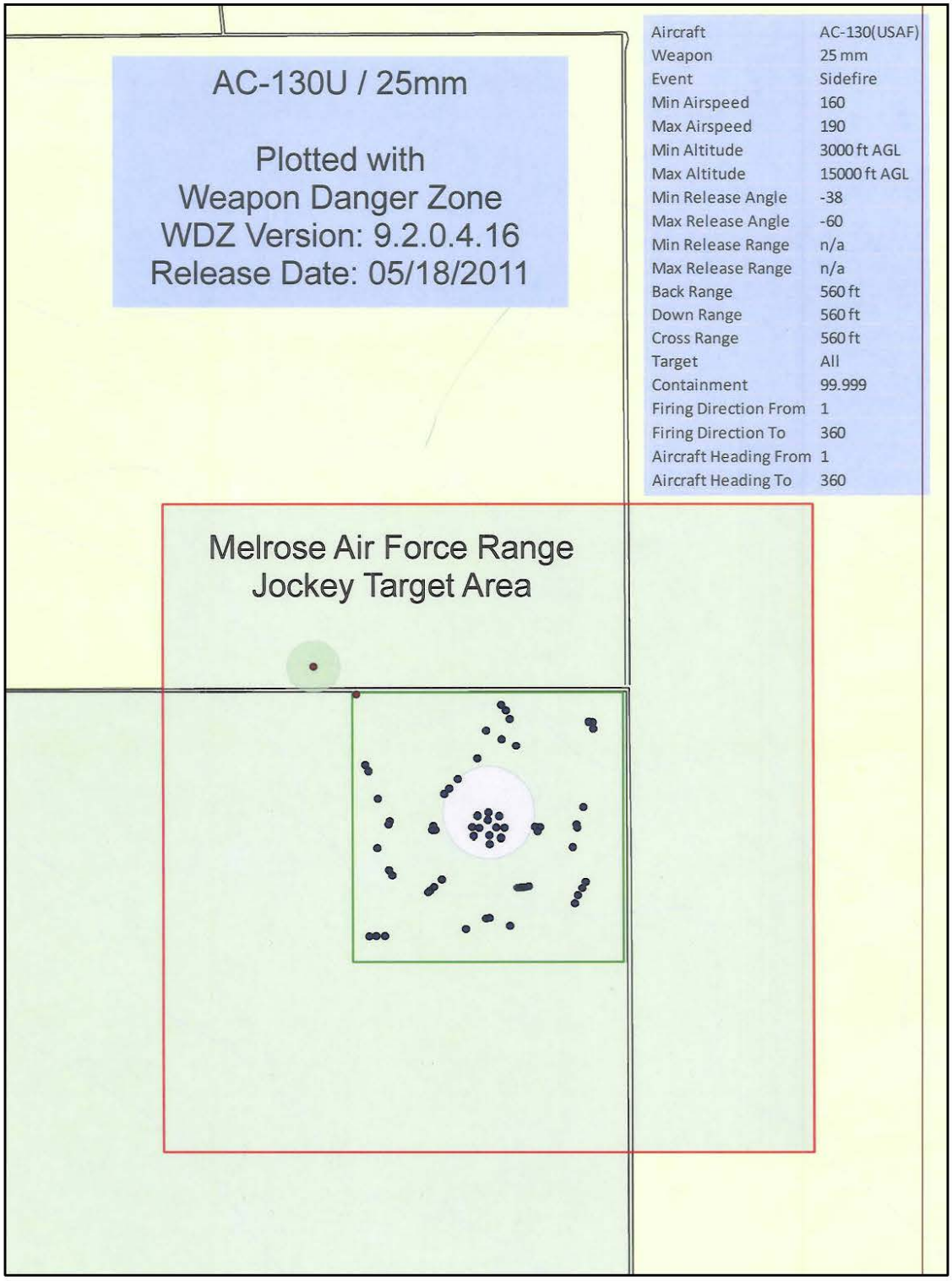

Figure A 1. 25 mm Weapons Safety Footprint Analysis

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APPENDIX B
PUBLIC AND AGENCY OUTREACH

Appendix B - Public and Agency Outreach

Newspaper Advertisement Distribution and Publication Dates

PAGE 2 ✦ TUESDAY, APRIL 12, 2011 LOCAL CLOVIS NEWS JOURNA

Notice of Availability

U.S. Air Force Draft Environmental Assessment (EA) for the Comprehensive Range Management Plan, Melrose Air Force Range Cannon Air Force Base (AFB), New Mexico

The U.S. Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) assessing the potential environmental impacts associated with the implementation of the Comprehensive Range Plan (CRP) dated February 2009 for Melrose Air Force Range, New Mexico.

Proposed Action consists of range improvements to be made to Melrose AFR to meet the Air Force, USSOCOM, AFSOC and the 27th Special Operations Wing's (27 SOW's) mission goals. These improvements occur primarily with the construction of the facilities, improved and unimproved Landing Zones (LZs), concrete pads for training activities, small arms firing range and fencing. It is expected that these projects would be completed over a period of years. Implementation of an extended Exclusive Use Area would require the movement of the existing Exclusive Use Area to meet Krider Road on the east side.

Alternative 2 is the same as the Proposed Action with the exception of relocating of the improved runway and taxiway, hangars and the Permanent Exercise Facilities (PEF) to the southeast area of the range. Alternative 3 consists of those projects contained in the Proposed Action, but does not extend the Exclusive Use Area to Krider Road.

Under the No Action Alternative, specific construction or repair projects associated with the CRP would not be implemented. Selection of the No Action Alternative represents continued use of the existing Melrose AFR and existing range facilities for training at current levels.

A copy of the Draft EA and FONSI will be available April 12, 2011 at the Clovis-Carver Public Library at 701 N. Main Street, Clovis, NM and the Portales Public Library at 218 S. Avenue B., Portales, NM 88130. An electronic copy of the document is also located on Cannon AFB webpage at http://www.cannon.af.mil/. You may also request a copy of the document from 27 SOW Public Affairs at (575) 784-4131. Please provide any comments on the Draft EA by May 11, 2011 to the address below.

Mike Rierson
27 SOCES/CEAO
506 N. DL Ingram Blvd
Cannon AFB, NM 88103-5003

Sample IICEP Letter to Native American Tribes

DEPARTMENT OF THE AIR FORCE
27TH SPECIAL OPERATIONS WING (AFSOC)
CANNON AIR FORCE BASE NEW MEXICO

23 Feb 11

Colonel Stephen A. Clark
Commander
100 S DL Ingram Blvd, Suite 100
Cannon AFB, NM 88103-5214

Michael Burgess
Chairman
Comanche Indian Tribe
PO Box 908
Lawton, OK 73502

Dear Chairman Burgess

The United States Air Force (Air Force) is preparing an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended (42 *United States Code* 4321, et seq.), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA [40 *Code of Federal Regulations* (CFR) Parts 1500-1508], and the Air Force policy and procedures (32 CFR Part 989) to assess the potential environmental consequences of the implementation of a Comprehensive Range Plan (CRP) for Melrose Air Force Range (AFR) located in Roosevelt and Curry counties, NM. This plan incorporates numerous range improvements within the range boundary needed for the 27 Special Operations Wing (SOW) to achieve its current and future missions.

The Air Force intends to coordinate public involvement for the purpose of Section 106 review under the National Historic Preservation Act (NHPA) with public involvement in the EA prepared under the Environmental Impact Analysis Process. Correspondence with public, agency, and Native American stakeholders during this process will help identify the full range of reasonable alternatives, potential impacts, and key issues to be considered in the environmental impact analysis process.

Public and agency comments received by the Air Force throughout the environmental process will be considered in the preparation of the EA. We look forward to hearing from you not later than **March 25, 2011** in order to incorporate updated information in the Draft EA. We request that you send comments and relevant information to our cultural resources representative at SAIC, Ms. Lorraine Gross, 405 S. 8th Street, Suite 301, Boise, ID 83702. We would appreciate identification of a point of contact for any follow-up questions we may have.

Thank you for your assistance in this matter.

Sincerely

STEPHEN A. CLARK, Colonel, USAF

Distribution List for the IICEP Letters to Native American Tribes

Michael Burgess
Chairman
Comanche Indian Tribe
PO Box 908
Lawton, OK 73502

Henry Kostzuta
Chairman
Apache Tribe of Oklahoma
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Anadarko, OK 73005

Don Tofpi
Chairman
Kiowa Tribe of Oklahoma
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Carnegie, OK 73015

Mr. Marvis Aragon
Deputy Cabinet Secretary
New Mexico Indian Affairs Department
Wendell Chino Building, Second Floor
Santa Fe, NM 87505

Holly Houghton
THPO
Mescalero Apache Tribe
PO Box 227
Mescalero, NM 88340

Levi Pesata
President
Jicarilla Apache Nation
PO Box 507
Dule, NM 87528

Mr. Bill Walker
Regional Director
Bureau of Indian Affairs Southwest Region
1001 Indian School Road, NW
Albuquerque, NM 87104

Sample IICEP Letter to Local, State, Congressional, and General Government Agency Representatives

DEPARTMENT OF THE AIR FORCE
27TH SPECIAL OPERATIONS WING (AFSOC)
CANNON AIR FORCE BASE NEW MEXICO

23 Feb 11

Colonel Stephen A. Clark
Commander
100 S DL Ingram Blvd, Suite 100
Cannon AFB, NM 88103-5214

Mr. Alexander Dennis
State Conservationist
Natural Resources Conservation Service
6200 Jefferson NE
Albuquerque, NM 87109-3734

Dear Representative Dennis

The United States Air Force (Air Force) is preparing an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended (42 *United States Code* 4321, et seq.), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA [40 *Code of Federal Regulations* (CFR) Parts 1500-1508], and the Air Force policy and procedures (32 CFR Part 989) to assess the potential environmental consequences of the implementation of a Comprehensive Range Plan (CRP) for Melrose Air Force Range (AFR) which is located in Roosevelt and Curry counties, NM. The plan incorporates numerous range and infrastructure improvements identified within the range boundary for the 27 Special Operations Wing (SOW) to achieve its current and future missions.

The need to implement the Melrose AFR CRP has become imperative due to the increased requirements and changing mission focus within the Air Force. There is a particular need at Melrose AFR to address the Air Force, Air Force Special Operations Command (AFSOC), United States Special Operations Command (USSOCOM), and overall DoD current and future training needs. New users, tactics, and joint force training are creating demands upon Melrose AFR, which was originally configured to support air-to-ground bombing and gunnery training.

In an effort to analyze the potential effects of this proposed implementation of the CRP at Melrose AFR, the Air Force or its contractor, SAIC, may contact you in their data collection efforts. Please provide your comments or information regarding the proposed EA not later than **March 25, 2011** so that they may be incorporated in the preparation of the Draft EA. We request that you send comments to Mike Rierson 27 SOCES/CEAO 506 N DL Ingram Blvd, Cannon, NM 88103-5003.

Thank you for your assistance in this matter.

Sincerely

STEPHEN A. CLARK, Colonel, USAF

Distribution List for the IICEP Letters to Local, State, Congressional, and General Government Agency Representatives Distribution List

The Honorable Jeff Bingaman
United States Senate
703 Hart Senate Office Building
Washington, DC 20510-3102

Cabinet Secretary
Energy, Minerals, and
Natural Resources Department
1220 S St. Francis Drive
Santa Fe, NM 87505

Ms. Anna Crook
New Mexico House of Representatives
1041 Fairway Terrace
Clovis, NM 88101

Mr. Ron Curry, Cabinet Secretary
New Mexico Environment Department
Harold S. Runnels Building
1190 St. Francis Drive S4100
P.O. Drawer 5469
Santa Fe, NM 87505

Senator Gay Kernan
New Mexico Senate
Room 415E
Santa Fe, NM 87503

Mayor Sharon King
Mayor of Portales
100 West First Street
Portales, NM 88130

Congressman Ben Lujan
502 Cannon HOB
Washington, DC 20515-3103

Mr. Ray Powell
Commissioner of Public Lands
New Mexico State Land Office
PO Box 1148
Santa Fe, NM 87504

Mr. Bob Wooley
New Mexico House of Representatives
4504 Verdre Drive
Roswell, NM 88201

Mayor Gayla Brumfield
Mayor of Clovis
City Hall
321 North Connelly
Clovis, NM 88101

Senator Stuart Ingle
New Mexico Senate
Room 109A
Santa Fe, NM 87503

Mr. Fernando Martinez, Division Director
Department of Energy, Minerals, and Natural Resources
New Mexico Parks and Recreation Division
1220 S St. Francis Drive
Santa Fe, NM 87505

Senator Clinton D. Harden
New Mexico Senate
Room 416E
Santa Fe, NM 87503

Governor Susana Martinez
Office of the Governor
490 Old Santa Fe Trail Room 400
Santa Fe, NM 87501

Congressman Steve Pearce
2432 Rayburn House Office Building
Washington, DC 20515

Mr. David Ploeger, Aviation Director
New Mexico Department of Transportation
Aviation Division
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Albuquerque, NM 87116

Mr. Dennis J. Roch
New Mexico House of Representatives
Box 355
Texico, NM 88135

Ms. Linda Rundell
State Director
Bureau of Land Management
PO Box 27115
Santa Fe, NM 87502-0115

Mr. Robert O. Sandoval
Chair, County Board of Commissioners
Curry County
700 N Main Street, Suite 10
Clovis, NM 88101-6664

Brigadier General Brigadier General
Hanson Scott, USAF (Ret.)
Director, Office of Military Base Planning & Support
Joseph M. Montoya Building, Room 1060
1100 St. Francis Drive
Santa Fe, NM 87505

Mr. David Simon, Director
New Mexico State Parks Division
Energy, Minerals, and Natural Resources Department
PO Box 1147
Santa Fe, NM 87501

Ms. Nan Terry
Regional Administrator
Federal Aviation Administration
2601 Meacham Boulevard
Fort Worth, TX 76137-4298

Mr. John Denko
Cabinet Secretary
New Mexico Department of Public Safety
PO Box 1628
Santa Fe, NM 87504-1628

The Honorable George Dodge, Jr.
New Mexico House of Representatives
District 63, Box 316
Santa Rosa, NM 88435

Mr. David Sanders
Chair, County Board of Commissioners
Roosevelt County
109 W 1st Street
Portales, NM 88130-5969

Mr. Stephen R. Spencer
Regional Environmental Officer
US Department of the Interior
PO Box 26567 (MC-9)
Albuquerque, NM 87125-6567

Ms. Rhonda Smith
Chief, Office of Planning and Coordination
(6EN-XP)
EPA Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

Senator Tom Udall
United States Senate
110 Hart Senate Office Building
Washington, DC 20510-3101

Mr. Alexander Dennis
State Conservationist
Natural Resources Conservation Service
6200 Jefferson NE
Albuquerque, NM 87109-3734

Sample IICEP Letter for Fish and Wildlife Representatives

DEPARTMENT OF THE AIR FORCE
27TH SPECIAL OPERATIONS WING (AFSOC)
CANNON AIR FORCE BASE NEW MEXICO

23 Feb 11

Colonel Stephen A. Clark
Commander
100 S DL Ingram Blvd, Suite 100
Cannon AFB, NM 88103-5214

Joy Nicholopoulos
US Fish and Wildlife Service
New Mexico Ecological Field Service Office
2105 Osuna NE
Albuquerque, NM 87113

Dear Dr. Nicholopoulos

The United States Air Force (Air Force) is preparing an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended (42 *United States Code* 4321, et seq.), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA [40 *Code of Federal Regulations* (CFR) Parts 1500-1508], and the Air Force policy and procedures (32 CFR Part 989) to assess the potential environmental consequences of the implementation of a Comprehensive Range Plan (CRP) for Melrose Air Force Range (AFR) within Roosevelt and Curry counties, NM. This plan incorporates numerous range improvements identified within the range boundary for the 27 Special Operations Wing (SOW) to achieve its current and future missions.

Pursuant to the Federal Endangered Species Act and the analysis of the environmental impacts at Melrose AFR, we would like to request information regarding federally listed threatened, endangered, candidate, and proposed to be listed species that occur or may occur in the potentially affected area. Please send this information to our representative at SAIC, Ms. Debra Barringer, 5464 Carpinteria Avenue, Ste. K, Carpinteria, CA 93013. We would also appreciate your office identifying a point of contact for any follow-up actions. Please provide your agency comments or information regarding the EA not later than ***March 25, 2011*** so they may be incorporated into the preparation of the Draft EA.

Thank you for your assistance in this matter.

Sincerely

STEPHEN A. CLARK, Colonel, USAF

Distribution List for the IICEP Letter to Fish and Wildlife Representatives

Joy Nicholopoulos
US Fish and Wildlife Service
New Mexico Ecological Field Service Office
2105 Osuna NE
Albuquerque, NM 87113

Dr. Benjamin Tuggle
SW Region Director
US Fish and Wildlife Service
PO Box 1306
Albuquerque, NM 87103-1306

Mr. Donald Hall
Realty Specialist
US Forest Service
333 Broadway SE
Albuquerque, NM 87102

Mr. Matt Wunder
Division Chief
New Mexico Game and Fish
PO Box 25112
Santa Fe, NM 87504

Ms.Lisa Kirkpatrick
State of New Mexico
Department of Game and Fish
PO box 25122
Santa Fe, NM 87504

Sample IICEP Letter for State Historical Preservation Consultation

DEPARTMENT OF THE AIR FORCE
27TH SPECIAL OPERATIONS WING (AFSOC)
CANNON AIR FORCE BASE NEW MEXICO

23 Feb 11

Colonel Stephen A. Clark
Commander
100 S DL Ingram Blvd, Suite 100
Cannon AFB, NM 88103-5214

Ms. Jan Biella, Interim SHPO
Bataan Memorial Building
407 Galisteo Street, Ste. 236
Santa Fe, NM 87501

Dear Ms. Biella

The United States Air Force (Air Force) is preparing an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended (42 *United States Code* 4321, et seq.), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA [40 *Code of Federal Regulations* (CFR) Parts 1500-1508], and the Air Force policy and procedures (32 CFR Part 989) to assess the potential environmental consequences of the implementation of a Comprehensive Range Plan (CRP) for Melrose Air Force Range (AFR) which is located in Roosevelt and Curry Counties, NM. This plan incorporates numerous range improvements within the range boundary identified for the 27 Special Operations Wing (SOW) to achieve its current and future missions.

The purpose of this correspondence is to initiate the Section 106 process of the National Historic Preservation Act of 1966 (as amended) in the potentially affected areas within Melrose AFR, NM. We are in the early stages of gathering information concerning previous archaeological and historical studies for the areas within the affected region. We would appreciate any assistance you could provide in identifying and retrieving this important information, as well as concerns you may have about the potential effects of the proposal on significant cultural resources.

Public and agency comments received by the Air Force throughout the environmental process will be considered in the preparation of the EA. We look forward to hearing from you not later than **March 25, 2011** in order to incorporate updated information in the Draft EA. We request that you send comments and relevant information to our cultural resources representative at SAIC, Ms. Lorraine Gross, 405 S. 8th Street, Suite 301, Boise, ID 83702. We would appreciate identification of a point of contact for any follow-up questions we may have.

Thank you for your assistance in this matter. Any questions may be addressed to my point of contact, Mr. Steve Coffin, at 575-784-0752.

Sincerely

STEPHEN A. CLARK, Colonel, USAF

Distribution List for IICEP Letters to State Historical Preservation Consultation

Ms. Jan Biella, Interim SHPO
Bataan Memorial Building
407 Galisteo Street, Ste. 236
Santa Fe, NM 87501

IICEP Response Letters

GOVERNOR
Susana Martinez

DIRECTOR AND SECRETARY
TO THE COMMISSION
Tod W. Stevenson

STATE OF NEW MEXICO
DEPARTMENT OF GAME & FISH

One Wildlife Way
Post Office Box 25112
Santa Fe, NM 87504
Phone (505) 476-8008
Fax (505) 476-8124

Visit our website at www.wildlife.state.nm.us
For information call (505) 476-8000
To order free publications call (800) 862-9310

STATE GAME COMMISSION

JIM McCLINTIC, Chairman
Albuquerque, NM

DR. TOM ARVAS, Commissioner
Albuquerque, NM

GARY W. FONAY, Commissioner
Hobbs, NM

KENT A. SALAZAR, Commission
Albuquerque, NM

M.H. "DUTCH" SALMON, Commi
Silver City, NM

THOMAS "DICK" SALOPEK, Con
Las Cruces, NM

March 8, 2011

Ms. Debra Barringer
5464 Carpinteria Ave., Suite K
Carpinteria, CA 93013

Re: Scoping for Melrose Air Force Range Comprehensive Range Plan; NMDGF Doc. No. 14150

Dear Ms. Barringer:

The Department of Game and Fish (Department) has reviewed the 23 February 2011 letter from Colonel Stephen A. Clark requesting information on federally listed threatened, endangered, candidate and proposed species that occur in Roosevelt and Curry Counties. We have attached our New Mexico Wildlife of Concern lists for both counties, which includes state and federally listed species. For the most current listing of federally listed species, contact the U.S. Fish and Wildlife Service at (505-346-2525) or http://www.fws.gov/southwest/es/NewMexico/SBC.cfm . For a list of state-listed plants in the area, contact New Mexico State Forestry Division at (505-476-3334) or http://nmrareplants.unm.edu/index.html . For information on wildlife species, access our Biota Information System of New Mexico (BISON-M) species accounts at http://www.bison-m.org . Heritage New Mexico also provides an online database of records of plant and animal occurrences in New Mexico at http://nhnm.unm.edu .

The scoping letter also requests that we provide comments for the Comprehensive Range Plan draft environmental assessment (DEA). We request that the DEA analyze the potential direct, indirect and cumulative effects of all proposed range activities on all of the species identified in the two counties lists attached, with special attention to Lesser Prairie-Chicken (*Tympanuchus pallidicintus*), Black-tailed Prairie Dog (*Cynomys ludovicianus*) and Burrowing Owl (*Athene cunicularia*) populations that are known to occur on Melrose Air Force Range.

We look forward to reviewing the DEA. Should you have any questions regarding these comments, please contact Mark Watson, Habitat Specialist, of my staff at (505) 476-8115, or <mark.watson@state.nm.us>.

Sincerely,

Matt Wunder, Ph.D.
Chief, Conservation Services Division

MW/MLW

CC: Wally Murphy (Ecological Services Field Supervisor, USFWS)
George Farmer (Southeast Area Habitat Specialist, NMDGF)
Mark Watson (Conservation Services Habitat Specialist, NMDGF)

NEW MEXICO WILDLIFE OF CONCERN
CURRY COUNTY

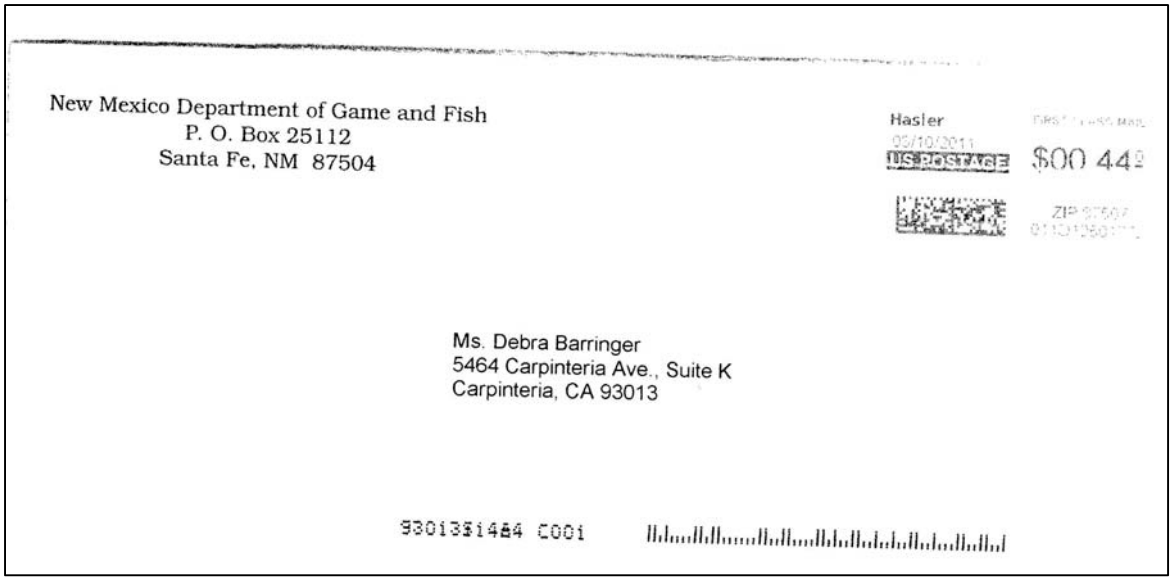
For complete up-dated information on federal-listed species, including plants, see the US Fish & Wildlife Service NM Ecological Services Field Office website at http://www.fws.gov/southwest/es/NewMexico/SBC.cfm. For information on state-listed plants, contact the NM Energy, Minerals and Natural Resources Department, Division of Forestry, or go to http://nmrareplants.unm.edu/. If your project is on Bureau of Land Management, contact the local BLM Field Office for information on species of particular concern. If your project is on a National Forest, contact the Forest Supervisor's office for species information. E = Endangered; T = Threatened; s = sensitive; SOC = Species of Concern; C = Candidate; Exp = Experimental non-essential population; P = Proposed

Common Name	Scientific Name	NMGF	US FWS	critical habitat
Bald Eagle	Haliaeetus leucocephalus	T		
Peregrine Falcon	Falco peregrinus	T	SOC	
Lesser Prairie-Chicken	Tympanuchus pallidicinctus	s	C	
Mountain Plover	Charadrius montanus	s	SOC	
Least Tern	Sterna antillarum	E	E	
Yellow-billed Cuckoo	Coccyzus americanus	s	SOC	
Burrowing Owl	Athene cunicularia		SOC	
Loggerhead Shrike	Lanius ludovicianus	s		
Sprague's Pipit	Anthus spragueii		C	
Black-tailed Prairie Dog	Cynomys ludovicianus ludovicianus	s	SOC	
Swift Fox	Vulpes velox velox	s	SOC	
Ringtail	Bassariscus astutus	s		
Black-footed Ferret	Mustela nigripes		E	

NEW MEXICO WILDLIFE OF CONCERN
CURRY COUNTY

For complete up-dated information on federal-listed species, including plants, see the US Fish & Wildlife Service NM Ecological Services Field Office website at http://www.fws.gov/southwest/es/NewMexico/SBC.cfm. For information on state-listed plants, contact the NM Energy, Minerals and Natural Resources Department, Division of Forestry, or go to http://nmrareplants.unm.edu/ If your project is on Bureau of Land Management, contact the local BLM Field Office for information on species of particular concern. If your project is on a National Forest, contact the Forest Supervisor's office for species information. E = Endangered T = Threatened; s = sensitive; SOC = Species of Concern; C = Candidate; Exp = Experimental non-essential population; P = Proposed

Common Name	Scientific Name	NMGF	US FWS	critical habitat
Bald Eagle	Haliaeetus leucocephalus	T		
Peregrine Falcon	Falco peregrinus	T	SOC	
Lesser Prairie-Chicken	Tympanuchus pallidicinctus	s	C	
Mountain Plover	Charadrius montanus	s	SOC	
Least Tern	Sterna antillarum	E	E	
Yellow-billed Cuckoo	Coccyzus americanus	s	SOC	
Burrowing Owl	Athene cunicularia		SOC	
Loggerhead Shrike	Lanius ludovicianus	s		
Sprague's Pipit	Anthus spragueii		C	
Black-tailed Prairie Dog	Cynomys ludovicianus ludovicianus	s	SOC	
Swift Fox	Vulpes velox velox	s	SOC	
Ringtail	Bassariscus astutus	s		
Black-footed Ferret	Mustela nigripes		E	



New Mexico Department of Game and Fish
P. O. Box 25112
Santa Fe, NM 87504

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ZIP 87504
011D12501

Ms. Debra Barringer
5464 Carpinteria Ave., Suite K
Carpinteria, CA 93013

9301381484 C001

NEW MEXICO DEPARTMENT OF PUBLIC SAFETY
POST OFFICE BOX 1628 • SANTA FE, NEW MEXICO 87504-1628

SUSANA MARTINEZ
GOVERNOR

GORDEN E. EDEN, JR.
CABINET SECRETARY

ROBERT W. SHILLING
INTERIM—STATE POLICE CHIEF

OFFICE OF THE SECRETARY
827-3370

OFFICE OF THE CHIEF
NEW MEXICO STATE POLICE
827-9219

ADMINISTRATIVE SERVICES
827-3332

INFORMATION TECHNOLOGY
827-9262

MOTOR TRANSPORTATION
POLICE DIVISION
476-2457

SPECIAL INVESTIGATIONS
841-8053

TECHNICAL SUPPORT
827-9221

TRAINING AND RECRUITING
827-9251

March 8, 2011

Mr. Mike Rierson
27 SOCES/CEAO
506 N. DL Ingram Blvd.
Cannon, New Mexico 88103-5003

Dear Mr. Rierson:

After reviewing the letter I received from Colonel Stephen Clark, I am notifying you, per his request, that the Department of Public Safety does not have any concerns or comments regarding the proposed Environmental Assessment (EA) at this time.

Thank you for considering our agency for input.

Sincerely,

Gorden E. Eden, Jr.
Cabinet Secretary

GEE:mm

CALEA ACCREDITED LAW ENFORCEMENT AGENCY

United States Department of Agriculture

NRCS
Natural Resources Conservation Service
6200 Jefferson NE, Room 305
Albuquerque, NM 87109
Phone: (505) 761-4400 **Fax:** (505) 761-4462
Website: www.nm.nrcs.usda.gov

March 22, 2011

Mike Rierson
Department of the Air Force
27 SOCES/CEAO 506 N DL Ingram Blvd.
Cannon, New Mexico 88103-5003

Dear Mr. Rierson:

Thank you for providing the Natural Resources Conservation Service (NRCS) the opportunity to comment on the Comprehensive Range Plan for Melrose Air Force Range located in Roosevelt and Curry counties. Without further information, the NRCS has no comments concerning the plan.

Thank you for the opportunity to comment.

Sincerely,

DENNIS L. ALEXANDER
State Conservationist

cc:
Chanda Pettie, State Wildlife Biologist, NRCS, Albuquerque, NM

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United States Department of Agriculture
Natural Resources Conservation Service
6200 Jefferson N.E., Suite 305
Albuquerque, New Mexico 87109

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Department of the Air Force
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Susana Martinez

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DEPARTMENT OF GAME & FISH

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Las Cruces, NM

May 4, 2011

Mr. Mike Rierson
27 SOCES/CEAO
506 N. DL Ingram Blvd.
Cannon AFB, NM 88103-5003

Re: Comprehensive Range Plan Draft Environmental Assessment NMDGF Doc. No. 14269

Dear Mr. Rierson:

The Department of Game and Fish (Department) has reviewed the Draft Environmental Assessment for the Melrose Air Force Range Comprehensive Range Plan (DEA). With regard to potential effects of construction and future over-flight activities of Lesser Prairie Chickens (*Tympanuchus pallidicinctus*)(LPC), a federal candidate species, page 4-26 states:

> However, the current location for several components of Alternative 1, including the proposed clear zone for the improved LZ taxiway is likely to overlap with a portion of habitat mapped in association with an active lek used by lesser prairie chickens, which are a federal candidate for listing (Air Force 2010). No direct adverse effects to the species would be expected from implementation of this alternative if the Environmental Protection Measure proposed in Chapter 2 for pre-ground disturbance bird surveys is followed. However, ground clearing associated with construction of the taxiway and/or the small arms range would likely remove prairie-chicken habitat, including foraging habitat within agricultural fields. Evidence suggests that lesser prairie chickens would avoid even a high-quality habitat if it is near human disturbance. For example, within 0.1 mile (200 meters) of a single oil or gas well pump, within 0.4-0.5 mile (600-860 meters) of an improved road, and within 0.2-0.6 mile (366-1,000 meters) of an elevated power line (where avian predators may perch) (OSU no date; Robel *et al.* 2004 cited in NMACP 2010). In addition, hens typically nest 0.7 mile (1.2 km) to 2.1 mile (3.4 km) from a lek (NatureServe 2010). The taxiway's northern clear zone under this alternative is located within one mile of a lek, essentially reducing the suitability of those areas for lesser prairie-chicken nesting.

Based on advisement from Cannon AFB staff, it is our understanding that the lek mentioned above is an inactive lek that has not been active since 2008, and that a cleared zone would overlap a one-mile buffer circle drawn around the inactive lek, not the actual runway. We also understand that the proposed location for the ammo storage area, which appears on the map on

page 2-3 to be proposed for construction very near the active LPC lek, will be removed from the DEA.

With regard to the potential for disturbance to LPCs from construction activities, the Department requests that during the breeding period of February 15 to July 1, no construction activities occur within 1.0 miles of the active lek between the times of 3:00 A.M. to 9:00 A.M.

With regard to potential effects of construction activities for new facilities proposed in the DEA, it is not clear from discussion in the DEA if Black-tailed Prairie Dogs (*Cynomys ludovicianus*)(BTPD) and Burrowing Owls (*Athene cunicularia*) might be effected. The Cannon Air Force Base/Melrose Air Force Range Integrated Natural Resource Management Plan committed to maintaining a minimum of 1,000 acres of BTPD towns in at least two populations, with one population a minimum of 500 acres in size. Does an extant population of BTPDs still occur within the area proposed for development? If so, will efforts be made to salvage and relocate these animals? We request that the DEA clarify this situation. Burrowing Owls are protected from killing by the Migratory Bird Treaty Act. Department recommended guidelines for detecting and relocating Burrowing Owls can be found at http://wildlife.state.nm.us/conservation/habitat_handbook/documents/2007burrowingowlfinalfinal.pdf

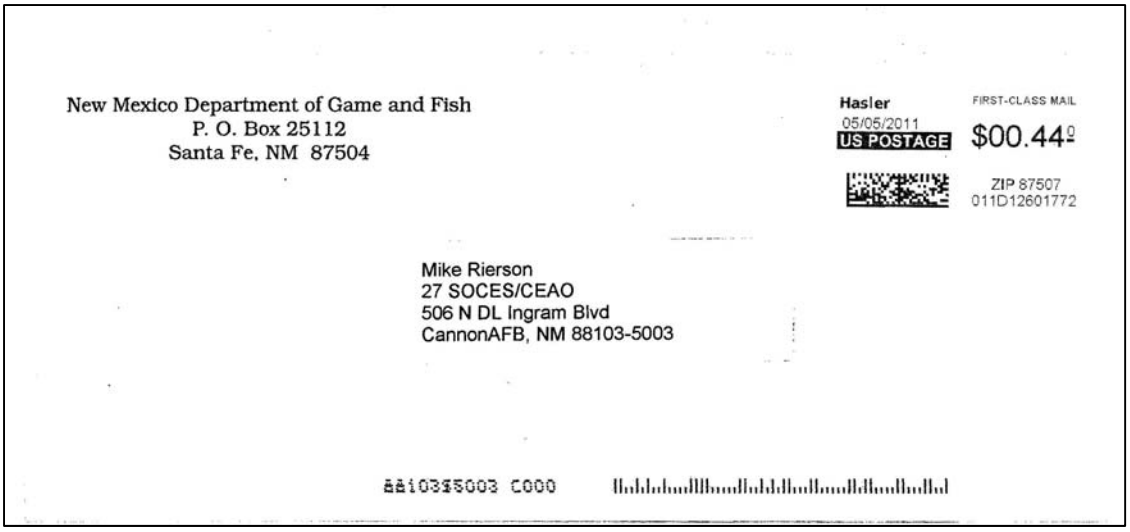
We appreciate the opportunity to comment on this project. Should you have any questions regarding our comments, please contact Mark Watson, Habitat Specialist, of my staff at (505) 476-8115, or <mark.watson@state.nm.us>.

Sincerely,

Matt Wunder, Ph.D.
Chief, Conservation Services Division

MW/MLW

CC: Wally Murphy (Ecological Services Field Supervisor, USFWS)
Leon Redman (Southeast Area Operations Supervisor, NMDGF)
George Farmer(Southeast Area Operations Habitat Specialist, NMDGF)
Grant Beauprez (Lesser Prairie Chicken Biologist, NMDGF)
Jim Stuart (Non-game Mammalogist, NMDGF)
Hira Walker (Non-game Ornithologist, NMDGF)
Mark Watson (Conservation Services Habitat Specialist, NMDGF)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Albuquerque, New Mexico 87113
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May 13, 2011

Cons. #22420-2011-CPA-0014

Colonel Stephen A. Clark, Commander
ATTN: Mr. Mike Rierson
27 SOCES/CEAO
506 N DL Ingram Blvd
Cannon AFB, New Mexico 88103-5003

Dear Commander Clark:

Thank you for your letter of April 11, 2011, requesting review of the Draft Environmental Assessment and Finding of No Significant Impact (DEA/FONSI) for the Implementation of the Comprehensive Range Plan, Melrose Air Force Range, New Mexico. The United States Air Force (Air Force), 27th Special Operations Wing (27 SOW) is proposing to implement actions associated with the Comprehensive Range Plan (CRP) dated February 2009 for Melrose Air Force Range (AFR) in New Mexico (CRP 2009).

The proposed action includes implementation and updating the CRP through a variety of range improvements designed to guide replacement of Melrose AFR infrastructure, facility, range, and airspace improvements over the next 5 to 10 years. All of the proposed projects are independent of each other and have stand-alone utility, therefore, it is possible that some projects could be implemented and others not. The DEA/FONSI attempts to address all the potential impacts (direct and indirect) individually and cumulatively to the extent feasible.

In general, the DEA/FONSI adequately addresses fish and wildlife resource concerns. Based upon our review of information you provided, we found the federally listed species review complete and accurate. After reviewing your electronic correspondence with New Mexico Department of Game and Fish, we appreciate your clarification and how you propose to address the concerns for the Federal candidate lesser prairie chicken (*Tympanuchus pallidicinctus*) and the leks on the Melrose Range. In your correspondence with New Mexico Department of Game and Fish you addressed our concerns for the lesser prairie chicken and their habitat.

We want to encourage you to continue your coordination and implementation of the Cannon Air Force Base/Melrose Air Force Range Integrated Natural Resource Management Plan (INRMP). In particular the INRMP includes conservation actions for the black-tailed prairie dog (*Cynomys ludovicianus*) and the burrowing owl (*Athene cunicularia*). Although the prairie dog is not abundant now as it has been in the past and we expect it to return over time. We encourage you to continue management of this species as described in the INRMP. The prairie dog and the

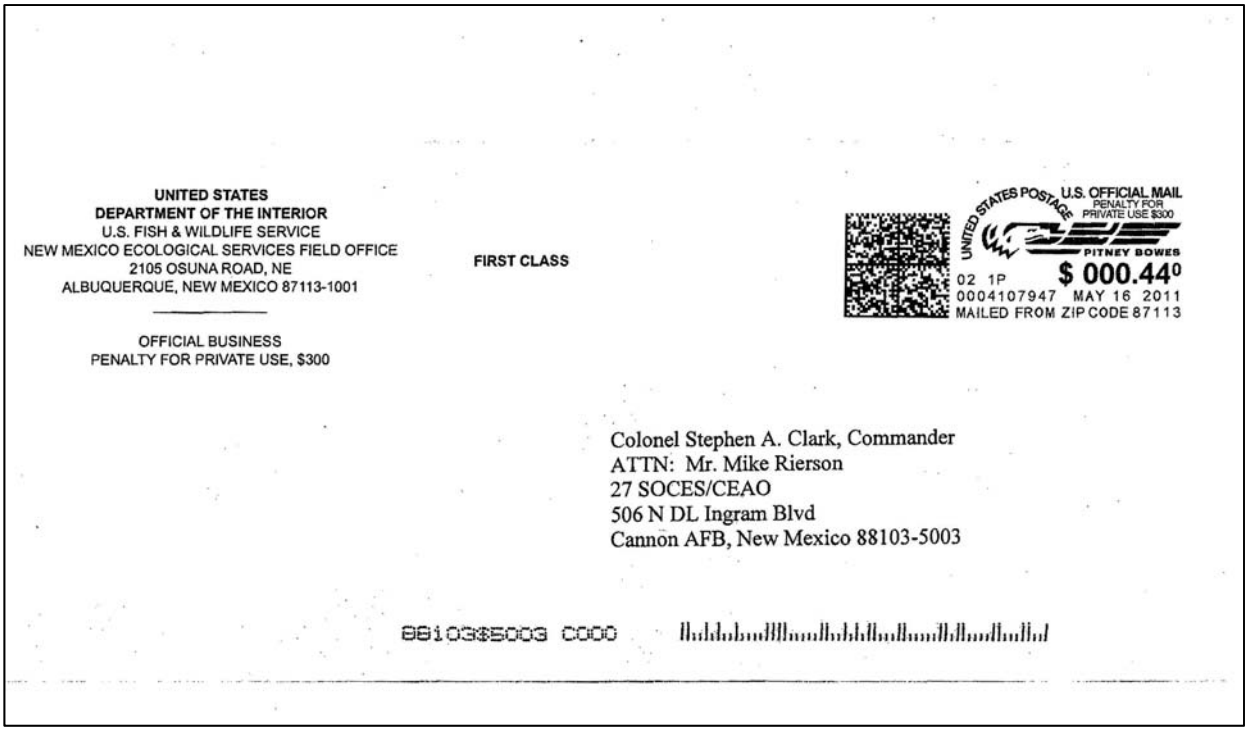
burrowing owl are species of concern for the U.S. Fish and Wildlife Service and the conservation measures contained in the INRMP will help conserve those species.

Thank you for the opportunity to comment and your concern for endangered and threatened species and wildlife habitats. In future correspondence regarding this project, please refer to consultation #22420-2011-CPA-0014. If you have any questions about the information in this letter, please contact Cyndie Abeyta at the letterhead address or at (505) 761-4738 or Cyndie_Abeyta@fws.gov.

Sincerely,

for Wally Murphy
Field Supervisor

cc:
Director, New Mexico Department of Game and Fish, Santa Fe, NM
Director, New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division, Santa Fe, NM



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Colonel Stephen A. Clark, Commander
ATTN: Mr. Mike Rierson
27 SOCES/CEAO
506 N DL Ingram Blvd
Cannon AFB, New Mexico 88103-5003

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Sample Cover Letter for the DEA Transmittal

DEPARTMENT OF THE AIR FORCE
27TH SPECIAL OPERATIONS WING (AFSOC)
CANNON AIR FORCE BASE NEW MEXICO

08 Apr 11

MEMORANDUM FOR INTERESTED INDIVIDUALS, ORGANIZATIONS, PUBLIC GROUPS, AND GOVERNMENT AGENCIES

FROM: Colonel Stephen A. Clark
Commander
100 S DL Ingram Blvd, Suite 100
Cannon AFB, NM 88103-5214

SUBJECT: Draft Environmental Assessment Implementation of the Comprehensive Range Plan, Melrose Air Force Range, New Mexico

We are pleased to provide you with a copy of the Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) assessing the potential environmental impacts associated with the implementation of the Comprehensive Range Plan (CRP) dated February 2009 for Melrose Air Force Range, New Mexico. This document is provided in accordance with the National Environmental Policy Act (BEPA) of 1969 (Public Law 91-190, 42 United States Code Sections 4321-4347) and its' implementing regulations (40 CFR Parts 1500-1508). Libraries are requested to file this document for public access and reference.

Written comments must be sent to the address provided below and postmarked on or before May 11, 2011 to be considered for incorporation into the Final Environmental Assessment.

Mr. Mike Rierson
27 SOCES/CEAO
506 N DL Ingram Blvd
Cannon AFB, NM 88103-5003

Please direct specific questions about this project to Mr. Mike Rierson at (575) 784-1114. Thank you for your participation in the Environmental Impact Analysis Process.

Sincerely

STEPHEN A. CLARK, Colonel, USAF

Distribution List for DEA Transmittal Letters

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Natural Resources Conservation Service
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Santa Fe, NM 87501

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THPO
Mescalero Apache Tribe
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Mescalero, NM 88340

Levi Pesata
President
Jicarilla Apache Nation
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Don Tofpi
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Kiowa Tribe of Oklahoma
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Deputy Cabinet Secretary
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SW Region Director
US Fish and Wildlife Service
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Mr. Matt Wunder
Division Chief
New Mexico Game and Fish
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Santa Fe, NM 87504

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Mr. Bill Walker
Regional Director
Bureau of Indian Affairs Southwest Region
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Albuquerque, NM 87104

Joy Nicholopoulos
US Fish and Wildlife Service
New Mexico Ecological Field Service Office
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Albuquerque, NM 87113

Mr. Donald Hall
Realty Specialist
US Forest Service
333 Broadway SE
Albuquerque, NM 87102

Ms.Lisa Kirkpatrick
State of New Mexico
Department of game and Fish
PO box 25122
Santa Fe, NM 87504

Portales Public Library
218 South Avenue B
Portales, NM 88130

Responses to the DEA Submittal

United States Department of Agriculture

NRCS
Natural Resources Conservation Service
6200 Jefferson NE, Room 305
Albuquerque, NM 87109
Phone: (505) 761-4400 **Fax:** (505) 761-4462
Website: www.nm.nrcs.usda.gov

April 18, 2011

Mike Rierson
Department of the Air Force
27 SOCES/CEAO
506 N DL Ingram Blvd.
Cannon AFB, New Mexico 88103-5003

Dear Mr. Rierson:

Thank you for providing the Natural Resources Conservation Service (NRCS) the opportunity to comment on the Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) associated with the Comprehensive Range Plan for Melrose Air Force Range located in Roosevelt and Curry counties. The NRCS has no comments or concerns regarding this EA/FONSI.

Thank you for the opportunity to comment.

Sincerely,

DENNIS L. ALEXANDER
State Conservationist

cc:
Chanda Pettie, State Wildlife Biologist, NRCS, Albuquerque, NM

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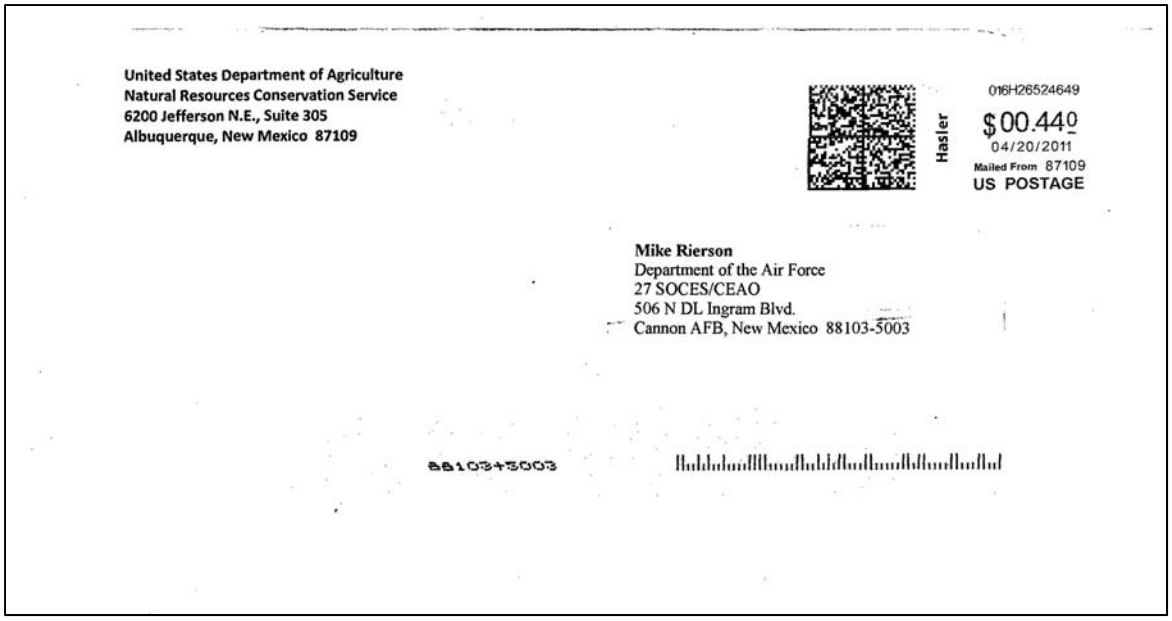

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Albuquerque, New Mexico 87109

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APPENDIX C
LIST OF PROTECTED SPECIES

Appendix C - List of Protected Species

GOVERNOR
Susana Martinez

DIRECTOR AND SECRETARY
TO THE COMMISSION
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STATE OF NEW MEXICO
DEPARTMENT OF GAME & FISH

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Albuquerque, NM

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Albuquerque, NM

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Hobbs, NM

KENT A. SALAZAR, Commission
Albuquerque, NM

M.H. "DUTCH" SALMON, Commi
Silver City, NM

THOMAS "DICK" SALOPEK, Con
Las Cruces, NM

March 8, 2011

Ms. Debra Barringer
5464 Carpinteria Ave., Suite K
Carpinteria, CA 93013

Re: Scoping for Melrose Air Force Range Comprehensive Range Plan; NMDGF Doc. No. 14150

Dear Ms. Barringer:

The Department of Game and Fish (Department) has reviewed the 23 February 2011 letter from Colonel Stephen A. Clark requesting information on federally listed threatened, endangered, candidate and proposed species that occur in Roosevelt and Curry Counties. We have attached our New Mexico Wildlife of Concern lists for both counties, which includes state and federally listed species. For the most current listing of federally listed species, contact the U.S. Fish and Wildlife Service at (505-346-2525) or http://www.fws.gov/southwest/es/NewMexico/SBC.cfm . For a list of state-listed plants in the area, contact New Mexico State Forestry Division at (505-476-3334) or http://nmrareplants.unm.edu/index.html . For information on wildlife species, access our Biota Information System of New Mexico (BISON-M) species accounts at http://www.bison-m.org . Heritage New Mexico also provides an online database of records of plant and animal occurrences in New Mexico at http://nhnm.unm.edu .

The scoping letter also requests that we provide comments for the Comprehensive Range Plan draft environmental assessment (DEA). We request that the DEA analyze the potential direct, indirect and cumulative effects of all proposed range activities on all of the species identified in the two counties lists attached, with special attention to Lesser Prairie-Chicken (*Tympanuchus pallidicintus*), Black-tailed Prairie Dog (*Cynomys ludovicianus*) and Burrowing Owl (*Athene cunicularia*) populations that are known to occur on Melrose Air Force Range.

We look forward to reviewing the DEA. Should you have any questions regarding these comments, please contact Mark Watson, Habitat Specialist, of my staff at (505) 476-8115, or <mark.watson@state.nm.us>.

Sincerely,

Matt Wunder, Ph.D.
Chief, Conservation Services Division

MW/ML W

CC: Wally Murphy (Ecological Services Field Supervisor, USFWS)
George Farmer (Southeast Area Habitat Specialist, NMDGF)
Mark Watson (Conservation Services Habitat Specialist, NMDGF)

NEW MEXICO WILDLIFE OF CONCERN
CURRY COUNTY

For complete up-dated information on federal-listed species, including plants, see the US Fish & Wildlife Service NM Ecological Services Field Office website at http://www.fws.gov/southwest/es/NewMexico/SBC.cfm. For information on state-listed plants, contact the NM Energy, Minerals and Natural Resources Department, Division of Forestry, or go to http://nmrareplants.unm.edu/. If your project is on Bureau of Land Management, contact the local BLM Field Office for information on species of particular concern. If your project is on a National Forest, contact the Forest Supervisor's office for species information. E = Endangered; T = Threatened; s = sensitive; SOC = Species of Concern; C = Candidate; Exp = Experimental non-essential population; P = Proposed

Common Name	Scientific Name	NMGF	US FWS	critical habitat
Bald Eagle	Haliaeetus leucocephalus	T		
Peregrine Falcon	Falco peregrinus	T	SOC	
Lesser Prairie-Chicken	Tympanuchus pallidicinctus	s	C	
Mountain Plover	Charadrius montanus	s	SOC	
Least Tern	Sterna antillarum	E	E	
Yellow-billed Cuckoo	Coccyzus americanus	s	SOC	
Burrowing Owl	Athene cunicularia		SOC	
Loggerhead Shrike	Lanius ludovicianus	s		
Sprague's Pipit	Anthus spragueii		C	
Black-tailed Prairie Dog	Cynomys ludovicianus ludovicianus	s	SOC	
Swift Fox	Vulpes velox velox	s	SOC	
Ringtail	Bassariscus astutus	s		
Black-footed Ferret	Mustela nigripes		E	

NEW MEXICO WILDLIFE OF CONCERN
CURRY COUNTY

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Least Tern	Sterna antillarum	E	E	
Yellow-billed Cuckoo	Coccyzus americanus	s	SOC	
Burrowing Owl	Athene cunicularia		SOC	
Loggerhead Shrike	Lanius ludovicianus	s		
Sprague's Pipit	Anthus spragueii		C	
Black-tailed Prairie Dog	Cynomys ludovicianus ludovicianus	s	SOC	
Swift Fox	Vulpes velox velox	s	SOC	
Ringtail	Bassariscus astutus	s		
Black-footed Ferret	Mustela nigripes		E	

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 Osuna NE
Albuquerque, New Mexico 87113
Phone: (505) 346-2525 Fax: (505) 346-2542

May 13, 2011

Cons. #22420-2011-CPA-0014

Colonel Stephen A. Clark, Commander
ATTN: Mr. Mike Rierson
27 SOCES/CEAO
506 N DL Ingram Blvd
Cannon AFB, New Mexico 88103-5003

Dear Commander Clark:

Thank you for your letter of April 11, 2011, requesting review of the Draft Environmental Assessment and Finding of No Significant Impact (DEA/FONSI) for the Implementation of the Comprehensive Range Plan, Melrose Air Force Range, New Mexico. The United States Air Force (Air Force), 27th Special Operations Wing (27 SOW) is proposing to implement actions associated with the Comprehensive Range Plan (CRP) dated February 2009 for Melrose Air Force Range (AFR) in New Mexico (CRP 2009).

The proposed action includes implementation and updating the CRP through a variety of range improvements designed to guide replacement of Melrose AFR infrastructure, facility, range, and airspace improvements over the next 5 to 10 years. All of the proposed projects are independent of each other and have stand-alone utility, therefore, it is possible that some projects could be implemented and others not. The DEA/FONSI attempts to address all the potential impacts (direct and indirect) individually and cumulatively to the extent feasible.

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We want to encourage you to continue your coordination and implementation of the Cannon Air Force Base/Melrose Air Force Range Integrated Natural Resource Management Plan (INRMP). In particular the INRMP includes conservation actions for the black-tailed prairie dog (*Cynomys ludovicianus*) and the burrowing owl (*Athene cunicularia*). Although the prairie dog is not abundant now as it has been in the past and we expect it to return over time. We encourage you to continue management of this species as described in the INRMP. The prairie dog and the

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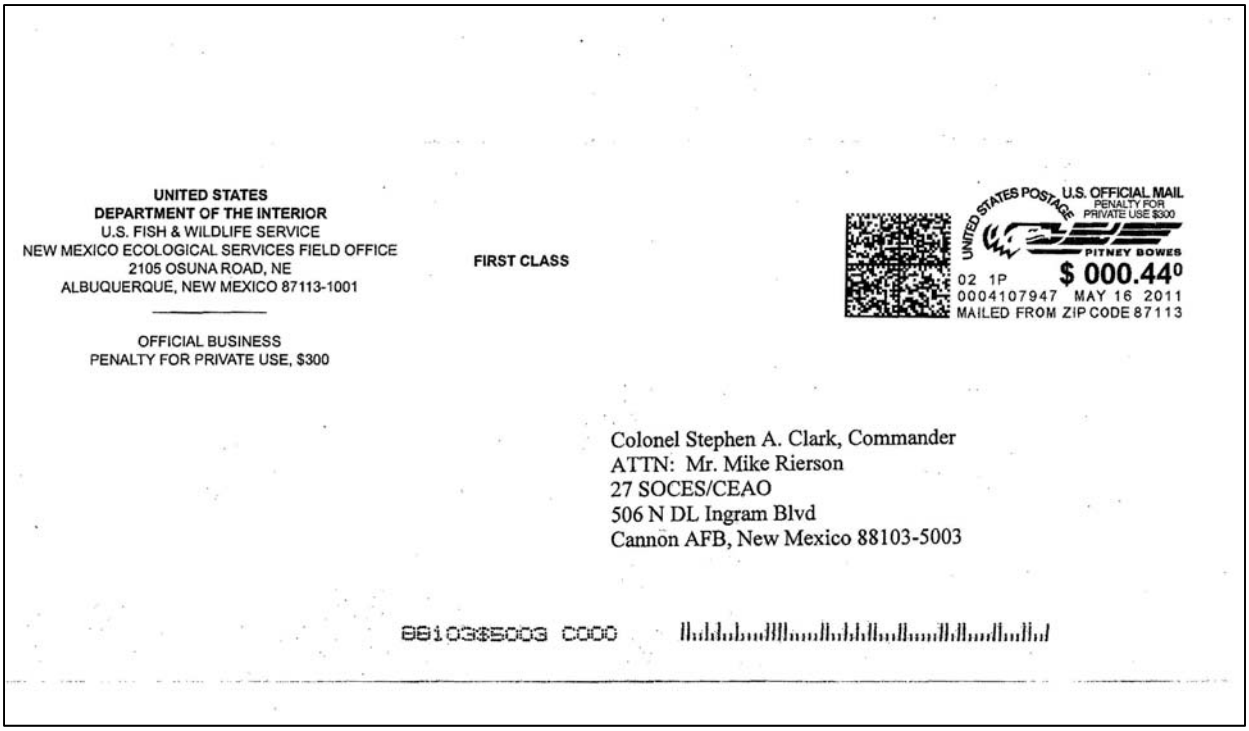
Thank you for the opportunity to comment and your concern for endangered and threatened species and wildlife habitats. In future correspondence regarding this project, please refer to consultation #22420-2011-CPA-0014. If you have any questions about the information in this letter, please contact Cyndie Abeyta at the letterhead address or at (505) 761-4738 or Cyndie_Abeyta@fws.gov.

Sincerely,

for Wally Murphy
Field Supervisor

cc:
Director, New Mexico Department of Game and Fish, Santa Fe, NM
Director, New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division, Santa Fe, NM



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Colonel Stephen A. Clark, Commander
ATTN: Mr. Mike Rierson
27 SOCES/CEAO
506 N DL Ingram Blvd
Cannon AFB, New Mexico 88103-5003

88103$5003 C000

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APPENDIX D
New Mexico SHPO CORRESPONDENCE

Appendix D - New Mexico SHPO Correspondence

STATE OF NEW MEXICO
DEPARTMENT OF CULTURAL AFFAIRS
HISTORIC PRESERVATION DIVISION

BATAAN MEMORIAL BUILDING
407 GALISTEO STREET, SUITE 236
SANTA FE, NEW MEXICO 87501
PHONE (505) 827-6320 FAX (505) 827-6338

May 11, 2011

Mike Rierson
27SOCES/CEAO
506 N DL Ingram Blvd.
Cannon AFB, NM 88103-5003

Dear Mr. Rierson,

On behalf of the New Mexico State Historic Preservation Officer (NMSHPO) I have completed a review of the Draft EA and FONSI prepared for the MAFR CRP (HPD log 91935).

During my review, I noted that cultural resources on MAFB have been inventoried and evaluated for eligibility for listing in the National Register of Historic Places (NRHP). And that the Draft EA indicates that the proposed projects will avoid known archaeological sites, or refers to the ICRMP for situations and procedures when cultural resources cannot be avoided. However, the draft EA and its reference to I-CRMP do not satisfy the consultation requirements of Section 106 of the National Historic Preservation Act (NHRP).

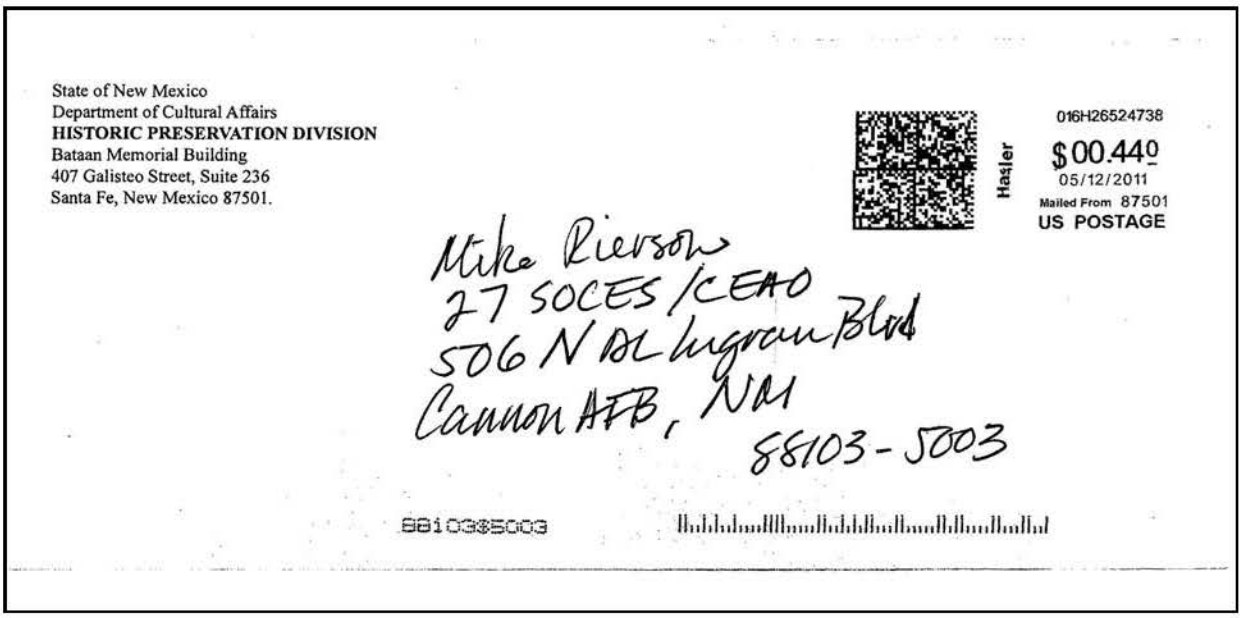
In order to satisfy the Section 106 requirements—and to implement the ICRMP under the EA— CAFB and the NMSHPO must enter into a Programmatic Agreement (PA). In order to expedite the consultation process, please submit to NMSHPO a summary of cultural resources that have been inventoried on MAFB including the current Determinations of Eligibility (DOEs), a map showing the proposed project areas and inventoried cultural properties, the Laboratory of Anthropology (LA) site forms for previously recorded archaeological sites, Historic Cultural Property Inventory (HCPI) forms for the buildings that are more that 45 years old, and copies of the inventory or testing reports from which the DOEs were made.

We are looking forward to consulting with you for this project and hope to develop a PA that allows CAFB to accomplish this mission in an efficient and timely manner. We suggest a meeting or teleconference between the NMSHPO and CAFB to initiate the PA process.

If you have any questions or comments please feel free to call or email me.

Bob Estes

Bob Estes
Archaeologist
Department of Cultural Affairs
Historic Preservation Division
Bataan Memorial Building
407 Galisteo Street
Suite 236
Santa Fe, NM 87501
(505) 827-4225
Bob.Estes@state.nm.us



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DEPARTMENT OF THE AIR FORCE
27TH SPECIAL OPERATIONS CIVIL ENGINEER SQUADRON (AFSOC)
CANNON AIR FORCE BASE NEW MEXICO

Lieutenant Colonel Daniel A. Guinan
Commander
506 North D.L. Ingram Blvd
Cannon AFB NM 88103

JUN 3 0 2011

Mr. Bob Estes
Archaeologist, Department of Cultural Affairs
Historic Preservation Division, Bataan Memorial Building
407 Galisteo Street, Suite 236
Santa Fe, NM 87501

Dear Mr. Estes

This letter formally responds to your 11 May 2011 letter on the Draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the Melrose Air Force Range (MAFR) Comprehensive Range Plan (CRP). I would like to thank Jan Biella and you for working so closely with my staff over the last six weeks so our proposed fiscal year 2011 projects are not unduly delayed while we work together to ensure that cultural resources present on the range are protected in the long term.

As my staff discussed with you, Cannon Air Force Base (CAFB) is willing to enter into a long-term Programmatic Agreement (PA) under 36 Code of Federal Regulations (CFR) § 800.14(b). In our proposed FONSI, which will be presented to the Commander of the 27th Special Operations Wing for signature, we will include language that CAFB will negotiate a PA in the next six to twelve months to establish long term consultations with your office. We will also invite the Advisory Council on Historical Preservation (ACHP) to participate if they so choose.

In the meantime, five of the undertakings analyzed in the CRP EA have fiscal year 2011 funding secured. Time is of the essence on these projects. We do not believe the PA can be approved in time without CAFB losing our funding sources. Each of these undertakings is completely independent of each other as we highlighted in the EA on pg 2-14. The five undertakings include:

- Repair Cattle Guard Fences (Pg 2-7 of EA): Fence construction which will enclose the exclusive use area of the range by removing existing fences and installing 8.5 miles of new fences and associated gates. A map and statement of work are at Attachment 1.

- Unimproved C-130 strip (Pg 2-5 of EA and Pg 2-3, Figure 2.1, Reference 9): An unimproved dirt landing zone that is 5,000 feet long by 150 feet wide with a 300 foot turnaround at each end. The construction is planned to be completed by 21 Air Force personnel from one of the USAF Rapid Engineer Deployable Heavy Operational Repair Squadron Engineer (RED HORSE) squadrons. The runway will be located in the area of

N34 19.073 W103 50.099, and N34 19.243 W103 49.587. The construction will require soil removal down to 18 inches in area to create a proper base. An additional 400 foot by 1000 foot area will be constructed 280 feet south of the unimproved landing zone to be used as a parking location. During construction, the equipment and personnel will arrive through existing roads up to the last ½ mile. A road will be built during construction from the North side of the West end of the unimproved landing zone. During construction, no personnel or equipment will be closer than 500 feet to site LA 110522, and the completed strip will be more than 700 feet from that site. Additional documentation is at Attachment 2.

- Mountain Terrorist Village and Survival, Evasion, Resistance and Escape (SERE) Training complex (Pg 2-5 of EA and Figure 2.1, References 6, 6A, and 8): These are in a single construction project and equipment and personnel will arrive to the site through existing roads and the construction area to the North. The statement of need and maps are included at Attachment 3.

    - The cave complex is four caves with a max opening of 10 foot x 10 foot facing north and extending no more than 20 feet into the earth. The caves would be located in the area of N 34 15.000 W 103 47.000. During construction, no personnel will be within 300 feet of cultural site LA 66364. Once complete, caves will be at least 400 feet from any known site.
    - The mountain village is a series of container based buildings arrayed on the northern slope of the same mesa as the cave complex. The village will be composed of 3 tiers varying in length between 500 feet and 350 feet. The northeast corner of the village is located in the vicinity of N34 15.000 and 103 48.000. The project will be outside of 300 feet from cultural sites LA 66362 and LA 66363.
    - The SERE urban area Phase I is a 60-container village arranged in a 500 foot x 700 foot area. The area under and between the containers will be covered in gravel. The Buildings will be placed in an area currently used as a Helicopter landing zone and is clear of any known cultural sites.
    - The SERE tower construction project is a three story building based on a prebuilt fire fighting training tower. The tower will be placed on a 60 foot x 90 foot cement pad within the 500 foot x 700 foot SERE urban area.

- SOF Operations Planning Facility (Pg 2-5 of EA and Pg 2-3, Figure 2.1, Reference 11): This is a temporary facility placed adjacent to an existing manned site on Melrose range, building 3160. The planned location of this facility is in the area of N34 17.000 W103 48.000. Equipment and personnel will be arriving via existing roads and marshalling of equipment will all be done on the Eastern side of building 3160, with the nearest cultural site on the other side of the existing buildings. Additional documentation is at Attachment 4.

- Convoy Escort – (Pg 2-1 of EA and Pg 2-3, Figure 2.1, Reference 5): This vehicle maneuvering area simulates a rural road with a series of obstacles such as shipping containers to enable personnel to fire weapons from vehicles. The area will start at the N34 16.85 line and continue south terminating at the existing fire break north of Spirit Impact area. During construction all equipment and personnel will enter the area via existing roads. At no time will personnel or equipment be closer than 100 feet to cultural site LA 66371. When complete, the project will be outside of 300 feet from that site. Additional documentation is at Attachment 5.

CAFB is confident that all five of these undertakings will have no effect on historical properties. We also believe the attached documentation on these undertakings is adequate to document this finding as required by 36 CFR §800.4(d) and 800.11. We would ask that you consider the attachments along with our existing Integrated Cultural Resources Management Plan (ICRMP), our 100 percent survey of known cultural resources on MAFR, and the Air Force's significant history of operations at MAFR since 1952 when you review these items. As reflected in draft EA, all projects will be sited to have no effect on cultural resources. To ensure there would be no effect on historical properties, on 27 June 2011, Mr. Rick Crow and Mr. Rick Chandler, from my squadron, visited the locations on MAFR where these projects will be sited. Both are satisfied and will answer any questions you may have as you review the attachments.

CAFB requests a return letter where you concur with the suitability of a long-term PA in accordance with the timeline suggested and an affirmative statement that you do not object to our adequately documented finding of no effect on historical properties for the above five undertakings. This will enable CAFB to make an appropriate FONSI determination and continue the process of negotiating our long-term PA. If further MAFR projects are funded prior to the effective date of the PA, CAFB intends to consult with you on a case-by-case basis with those projects. CAFB's next priorities for funding are the following projects on pg 2-7 of the EA: (1) repair/bury power lines East 500 Area and (2) Various Locations, Potable Water Wells. Considering our time constraints and the fact that each day of delay increases the chances that we will lose funding for the above projects, CAFB respectfully requests you respond in writing by 7 July 2011. A reply by this date is necessary to ensure availability of the RED HORSE team which is in high demand.

If you have any questions regarding this letter or require additional documentation, please contact Mr. Rick Crow at (575) 784-6383 or Mr. Rick Chandler at (575) 784-6035 at your soonest convenience.

Sincerely

DANIEL A. GUINAN, Lt Col, USAF

Attachments (5):
1. Fence Construction, Statement of Work and map, 5 pgs
2. C-130 Landing Strip Map, DD Form 1391, 3 pgs
3. JNTC, Spirit Impact Area, Statement of Need, 6 pgs
4. Tactical Operations Center, Statement of Need, 8 pgs, layout & map locations, 4 pgs
5. Manuevering Fire Compound Statement of Need, 10 pgs, map locations, 2 pgs

cc:
AFSOC/JA
27 SOW/JA
27 SOW/XP
AFLOA/JACE, Mr. Joe Miller
ACHP, Ms. Katry Harris

Attachment 1

STATEMENT OF WORK
FOR
FENCE CONSTRUCTION AT MAFR

PART 1 - GENERAL

1. **OVERVIEW:** This statement of work includes providing all labor, material, equipment, supplies, and services necessary for the following items at Melrose Air Force Range (MAFR): construction of 8.65 miles of 5-strand barbed wire fencing, removal of internal fencing as identified on attached map (Attch 2) by priorities, install gates at specified points as specified in attached drawings. New fencing measurement determined by GPS measurement. The fence construction area is located at Melrose Air Force Range, Melrose, NM . Location maps and construction specifications shall be provided for the construction required. A site visit should be accomplished by the bidders before submitting proposals to ensure accurate measurements and land topography. Security for MAFR must be maintained at all times. Construction may not begin before 15 Jul 2011.

2. **PRINCIPAL ITEMS OF WORK:** The work includes, but is not necessarily limited to the following items as outlined in the Narrative of Construction and Demolition of Fences (Attch 3) on Melrose Air Force Range:

3. **DESCRIPTION:** The work covered under this line item provides all material, labor, equipment, supplies, and services required for the construction of 8.65 miles of 5-strand barbed wire fence as per specifications provided. Fence shall incorporate existing fences in good condition without replacement.

4. **PRINCIPLE ITEMS OF WORK:** Construct 8.65 miles of fencing, using T-beam post with a minimum weight of 1.33 pounds per foot. Posts shall be spaced no further than 1 rod (16.5 ft.). The top four strands of wire shall be two-point barbed wire above one barbless wire. Fence stays shall be installed on the wire between each pair of posts. Incorporated into the fence structure for access will be heavy duty tube gates per drawings. The total number of gates and size is indicated below. Gate posts, corner posts, and stretch posts (if used) shall all be painted green to match existing. Provide all related materials. Project location maps are provided.

ADDITIONAL WORK

5. Remove the existing fences identified on provided drawing (Attch 4). Priority removal areas are identified on the provided map. Fences will be removed on this Task Order by priority as funding permits. Contractor is responsible for the disposal and removal from the Range of all demolition material.

6. **SUBMITTALS:** Prior to beginning work, the Contractor shall submit manufacturer's literature and certification that the following items comply with the contract specifications:

6.1 Barbed Wire

6.2 Barbless Wire

6.3 Wire Clips

6.4 Wire Stays

6.5 T-posts

6.6 Gates

6.7 Wire Splices

6.8 Work Schedule

PART 2 –PRODUCTS

7. GENERAL: Fence materials of the same manufacturer, type, or process, conforming to details shown on the plans, shall be used throughout the project, unless otherwise approved by the Contracting Officer.

8. WIRE:

8.1 Barbed Wire: ASTM A 121, Class 1 coating, consisting of 2 strands of 0.99-inch coated diameter wire with 2-point, 0.080-inch diameter –round barbs spaces approximately 4 inches apart. In lieu of Class 1 galvanizing, the wire may be coated with aluminum alloy at the rate of not less than.0.30 ounce per square foot of wire surface and the barbs at the rate of not less than 0.25 per square foot of wire surface.

8.2 Barbless or Smooth Wire: ASTM A 121 Class 1 or Class 3 coating, and shall consist of 2 strands of 12 ½ gauge wire without barbs.

8.3 Wire Fasteners (for fastening wire to steel posts): 11 gauge galvanized (minimum)

8.4 Tie Wires: Not less than 0.099-inch coated diameter galvanized. Wire fasteners or metal clamps, 0.120 inch thick (minimum), may be used in lieu of tie wires when approved by Contracting Officer.

8.5 Stays: Not less than 0.142-inch coated diameter galvanized wire conforming to ASTM A 116, and of the length spacing shown on plans.

9. Posts: Metal posts and braces fabricated from rail, billet, or commercial grade steel conforming to ASTM A 702 and painted green to match existing. Corner and gate posts for single gates will be 2 7/8" piping with an H-brace configuration as per drawings, (Attch 5). Double gate requirements will utilize a 4" gate post with 2 7/8" H-bracing. Intermediate stretch posts are required. Set corner, gate, and stretch post in concrete as specified on the plans. Line posts shall have a minimum weight of 1.33 pounds per foot exclusive of anchor plates. Line posts shall be T-beam section. All gate posts and bracing posts shall be capped. Provide line posts with corrugations, lugs, ribs, or notches spaced approximately two inches on center to engage the required fence wire in designated spaces. Posts with punched tabs intended to be crimped will not be accepted. Anchor plates shall have an area of not less than 18 square inches and shall weigh not less than 0.67 pounds each and shall be clamped, welded, swaged or riveted to the section in such a manner as to prevent displacement when the posts are driven. Use wire clips provided with posts for securing wire.

10. **GATES:** Gates shall be heavy duty tube steel and red or brown in color (Ex. HW Brand HB-659-10), 10 ft for double gates and 12 ft for single gates in pastures. Hinge connections shall be factory welded to the tubing. Gate posts shall be 4 inch diameter steel 7 feet long with welded cap imbedded in concrete 3'4" deep by 1 foot square of concrete for double gates. H-bracing is required as per attached drawings. Lengths of the required sixteen installed gates will be as follows: Ten – 12', One – 14', One – 18', and four pair (8) of double 10' HD gates.

11. **FITTINGS:** All fittings, hardware, and appurtenances for fences and gates shall be commercial quality steel, malleable iron, wrought iron and shall be galvanized in conformance to ASTM A 153.

PART 3 – EXECUTION

12. FENCE INSTALLATION

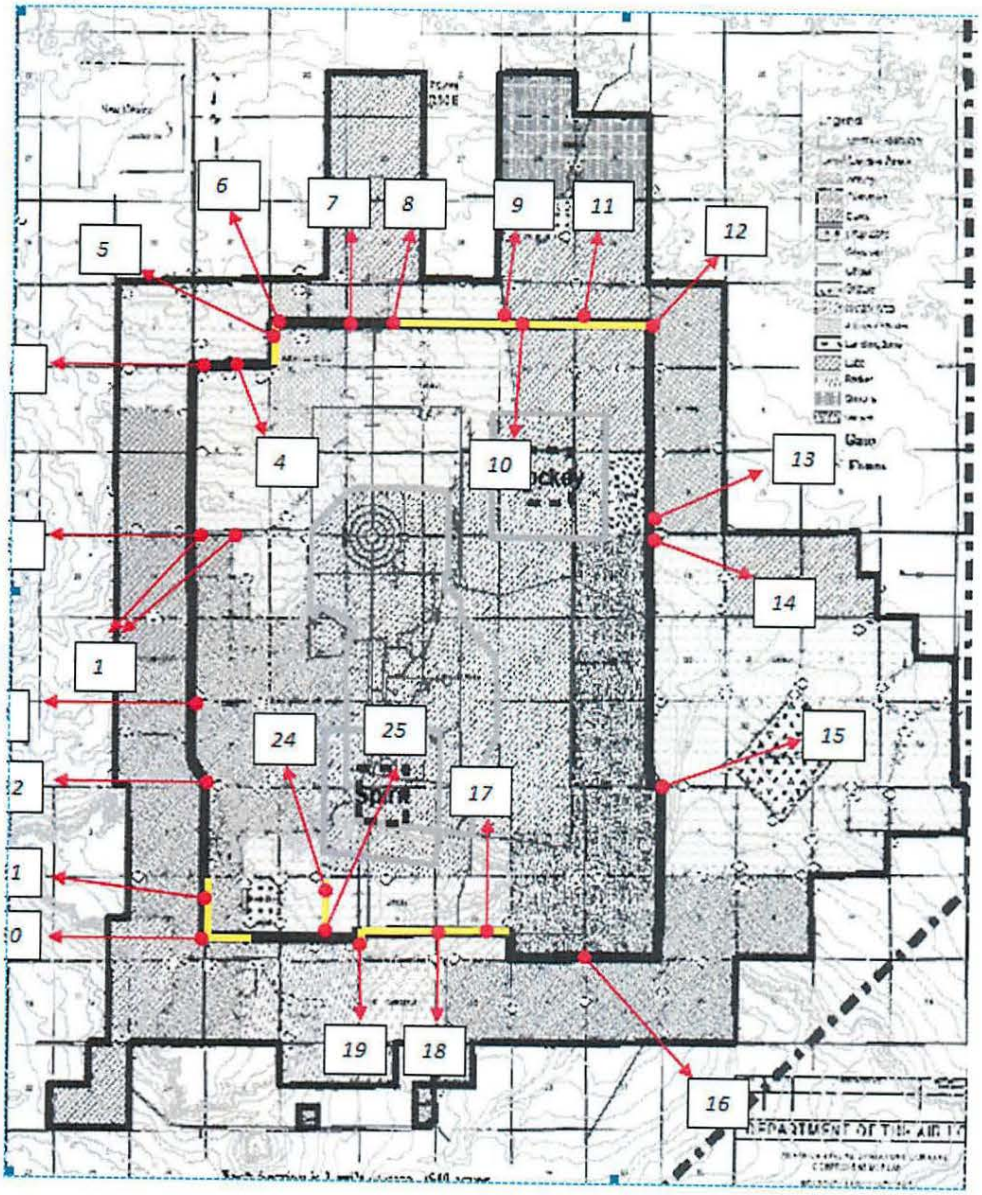
12.1 General: Minimally clear and grub as necessary for fence construction to the required grade and alignment. If no clearing is necessary, none is required. At locations where breaks in the run are required, or at intersections with existing fences, make appropriate adjustments in post spacing to conform to the requirements. All fences shall be constructed in a straight line.

12.2 Post and Anchor Blocks: Set all to the proper depth, plumb, and in alignment. As required, posts shall be set in concrete bases of dimensions indicated on drawings. Set temporary guys and braces as may be required to hold the posts in proper position until such time as the concrete has set sufficiently to secure the post. No strain shall be imposed on the posts or braces set in concrete for seven days after placing the concrete.

12.3 Wire: Each strand of wire will be stretched taut and tied securely to the posts. Wire will be stretched by a mechanical stretcher or other approved device designed for such use. Stretching the wire with a vehicle is prohibited. Splices will be approved by the Contracting Officer prior to use.

12.4 Line Posts: Line posts shall be placed at intervals not to exceed 16-1/2 feet and in alignment. Post shall be driven into the ground approximately 27 in, allowing approximately 51 inches above the ground. All posts shall be even in height.

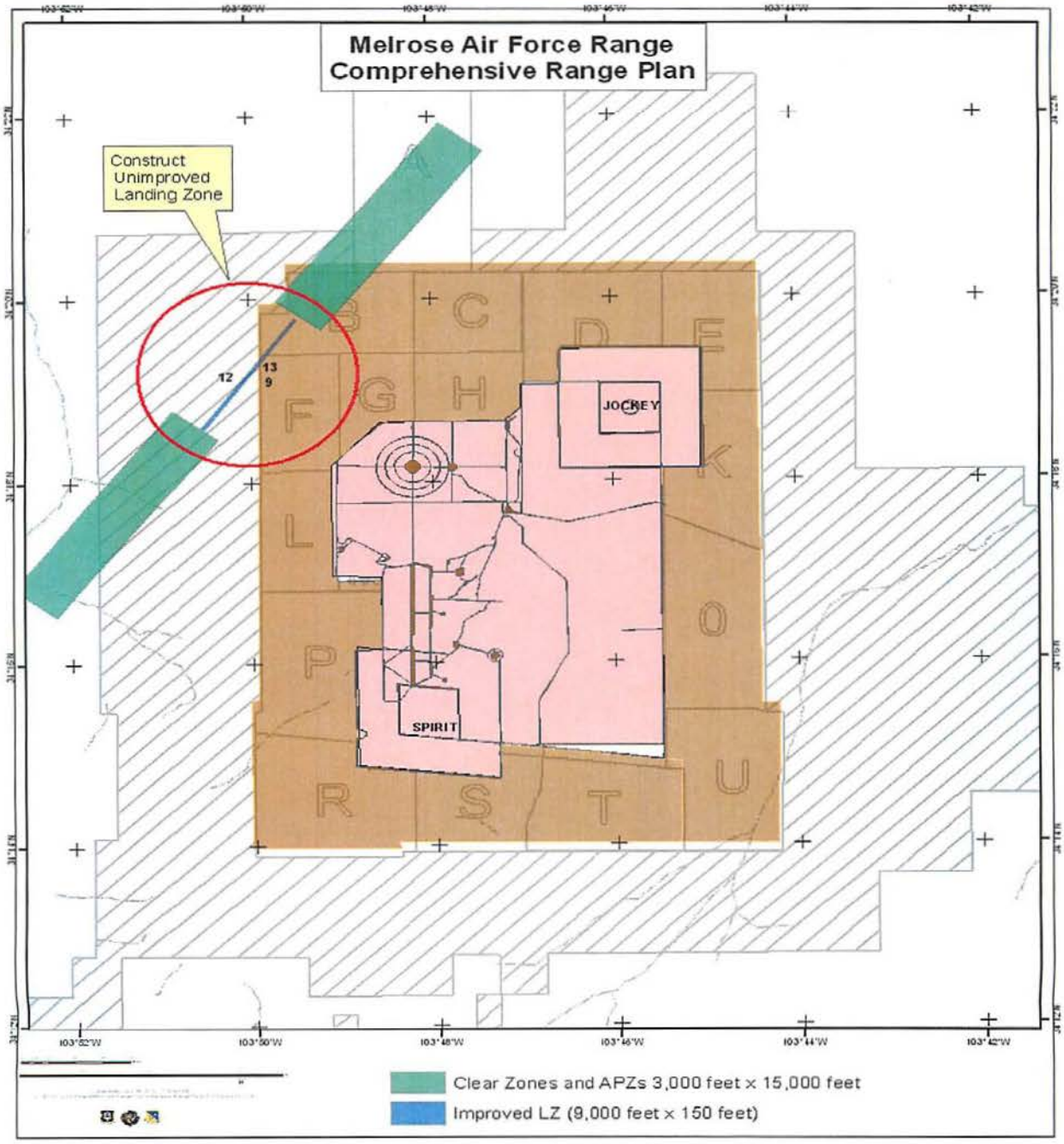
12.5 Gates: At locations where tubular gates are to be installed, one side of the gate shall be constructed to hinge one foot off the edge of the roadway as indicated on the drawings. The contractor shall perform all clearing and grubbing necessary to construct the gate to the required grade and alignment that will allow the gate to open. Some grading may be required to allow vehicles to pass through the opening.



1. Remove two cattle guards and backfill as needed
2. Remove existing gates and fence. Install 200' of new fence. Install new heavy duty double gates at Krider/Denby
3. Remove existing gates. Install new heavy duty double gates at Krider/North fire break
4. n/a
5. Remove .5 mile of fence. Inset approximately 5' and install new .5 mile fence.
6. Install new 12' gate (NW fire break)
7. Remove 100 yards of blown over fence. Install 25 new 6.5' tee posts 12' on center.
8. Install new 12' gate (W chimney)
9. Install new 12' gate (E chimney)
10. Install 3.5 mile new fence
11. Install new 12' gate (E Jockey)
12. Install new 12' gate (NE fire break)

13. Remove 2 existing gate. Install 2 new 12' gate (Grain bin)
14. Remove gate and brace. Install new brace. (Grizzle)
15. Remove 2 north/south gates and braces. Install 1 new brace and 100' of new fence for north/south fence. Install new brace for east west fence with new 12' gate.
16. Remove 2 existing gates. Set new brace.
17. Install 2.25 mile new fence
18. Install new 12' gate (S fire break)
19. Install new 12' gate (S fire break)
20. Install new heavy duty double gates at Krider/South fire break
21. Install 1.5 mile new fence
22. At School House: Install new 18' gate. Remove loading chute and leave on site. Install 50' new fence. Install new fencing over existing cattle guard.
23. Remove existing 12' gate. Install new 14' gate.
24. Install 4,000' new fence from SW corner of Spirit fence, south to perimeter fence.
25. Install new heavy duty double gates on South fire break.

1. Component	FY 2011 PROJECT DATA		2. Date
USSOCOM			
3. Installation and Location		4. Project Title	
CANNON AFB, NEW MEXICO		SOF CONSTR OF AN UNIMPROVED LANDING ZONE ON MELROSE AFR	
5. Program Element	6. Category Code	7. Project Number	8. Project Cost ($000)
19578	111-111	PXLY100024	$757



DRAFT 1

1. COMPONENT	FY 2011 PROJECT DATA	2. DATE
AIR FORCE	(computer generated)	

3. INSTALLATION, SITE AND LOCATION	4. PROJECT TITLE
CANNON AIR FORCE BASE MELROSE AIR FORCE RANGE SITE # 1 NEW MEXICO	SOF CNS UNIMPROVED LANDING ZONE

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. RPSUID/PROJECT NUMBER	8. PROJECT COST ($000)
19578	111-111	2801/PXLY100024	EEIC 52900

9. COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT COST	COST ($000)
PRIMARY FACILITIES				
MATERIAL	LS			
TDY	LS			
CONTRACTED SERVICES	LS			
LINE HAUL	LS			
EQUIPTMENT	LS			
RECONSTITUTION	LS			
SUBTOTAL				
PROFIT AND OVERHEAD (.0%)				
TOTAL FUNDED COST				
UNFUNDED COST (53.0%)				
TOTAL REQUEST				

10. Description of Proposed Work: Construct one austere unpaved and umimproved landing zone (LZ), 150' x 5,000' with two 500' overruns, to allow C-130, CV-22s, and associated Non-Standard Aviation Aircraft (NSAV) crews to train on a short and narrow landing strip. Work to include full depth stabilization, grading to proper profiles for operational requirements and surface drainage, and modify site drainage to improve drainage flow away from landing zone (LZ).

11. Requirement: As Required.

PROJECT: Construct unimproved landing zone (LZ) at Melrose Air Force Range (MAFR).

REQUIREMENT: Construct an unimproved LZ, 150' feet x 5,000' with two 500' overruns, to train aircrews in short take off and landing scenarios. This LZ will be sited on Melrose Range in an approved and exclusive Department of Defense (DoD) utilized area. In order to meet combat mission deployment training, the 27 SOW requires a fully reliable austere unimproved landing zone to allow NSAV crews to train on short and narrow landing runways. The LZ construction shall be IAW a California Bearing Ratio (CBR) of five. The landing zone will be located out of the exclusive use training area to allow for simultaneous training on Melrose Air Force Range. Appropriate NEPA actions are currently being worked.

CURRENT SITUATION: Currently SOF has only one exclusive use LZ for training its aircrews.

IMPACT IF NOT PROVIDED: Competing training requirements, preparation issues, and unfavorable wind conditions frequently limit access to the existing landing strip, which forces units to use alternate landing sites well out of the local area. This requirement will alleviate congestion, reduce the need for schedule deconfliction, and mitigate the negative impact of crosswinds. The impact if not funded is operational training for the NSAV units will be severly degraded, thereby hampering deployment training timelines.

ADDITIONAL: The New Mexico Gross Receipts Tax (NMGRT) is unique to New Mexico and, unlike a sales tax, it is an excise tax imposed on the seller of certain goods and services in exchange for the privilege of doing business in New Mexico. This project includes the New Mexico Gross Receipts Tax.

DD FORM 1391, DEC 99 Previous editions are obsolete. Page

DRAFT 1

1. COMPONENT	FY 2011 PROJECT DATA	2. DATE
AIR FORCE	(computer generated)	

3. INSTALLATION, SITE AND LOCATION	4. PROJECT TITLE
CANNON AIR FORCE BASE MELROSE AIR FORCE RANGE SITE # 1 NEW MEXICO	SOF CNS UNIMPROVED LANDING ZONE

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. RPSUID/PROJECT NUMBER	8. PROJECT COST ($000)
19578	111-111	2801/PXLY100024	EEIC 52900

DANIEL A. GUINAN, Lt Col, USAF
Base Civil Engineer, 27 SOCES

DATE:

I certify the project described above complies with 10 USC § 2805 and/or 10 USC § 2811 and Department of Defense regulations as implemented by Air Force Instructions. Further, this project is essential and represents the minimum military requirement. I have taken every reasonable action to verify the accuracy of these statements which have been approved by the Installation Commander.

CLAUDE V. FULLER, Jr., Colonel, USAF
Director, Installations and Mission Support

DATE:

Attachment 1 FA4855-11-R-0004

STATEMENT OF NEED

Joint National Training Center (JNTC)

Spirit Impact Area (Site E): Construct Mountain Village and Caves (HubZone)

Survival Evasion Resistance and Escape (SERE) area (Site G)

MELROSE AIR FORCE RANGE, NM

25 May 2011

1 DESCRIPTION OF WORK:

1.1 GENERAL TASK DESCRIPTION: The following is a description of the work required for; Spirit Expansion, and Search, Escape, Recovery, and Evasion (SERE) Site construction on Melrose Air Force Range, New Mexico. The Request for Proposal (RFP) requires all procurement, installation and construction relating to 3 components of the project: four caves, a mountain village, and SERE urban village. The project shall include, but not be limited to the following tasks:

1.1.1 Furnish all plant, labor, equipment, materials, services and incidentals to provide a complete and usable end product for the Government.

1.1.2 All work shall contain non-asbestos materials throughout the installation.

1.1.3 Brace and shore facility as required to maintain structural integrity.

1.1.4 Clean up construction sites and haul off-range all construction debris from the site upon completion. Excavated dirt will remain on site, but be either leveled around installed containers/caves, or removed from the immediate area to a nearby site.

1.1.5 Provide site work for site build-up to include, but not be limited to: clearing; grubbing; hook-up to current utilities for construction where available, and providing your own means of electricity for construction.

1.2 SPECIFIC REQUIREMENTS. Contractor must follow all specifications requested by the Government below.

1.2.1 Four Caves (S1-S4).

1.2.1.1 The caves shall be constructed at the following locations, each with its own opening size and orientation (Attachment 2): Each cave should contain a standard shipping container inside. (10' x 10' caves will use a 20' long container, other smaller caves will use a 10' long container).

- S1, located at N 34° 14.983', W 103° 47.551' must have a 10' X 10' opening facing 360°
- S2, located at N 34° 15.145', W 103° 47.807' must have an 8' X 8' opening facing 360°.
- S3, located at N 34° 15.~~044~~133', W 103° 47.~~756~~ 888', must have a 5' X 5' opening facing 070°.
- S4, located at N 34° 15.~~094~~ 040', W 103° 47.~~781~~ 857' (roughly between caves S1 and S3), must have a 10' X 10' opening facing 050°.

1.2.1.2 The cave entrances must be composed of 36" thick 6000 psi reinforced concrete or similar material in order to withstand repeated impacts from 105mm TP (target

practice) rounds and 40mm AP (armor piercing) rounds. The front face of the cave openings at a slight (5° to 15°) slant from the vertical, with a depth (distance into the cave) of at least 10' (20' for 10' x 10' cave openings). Cave openings must be constructed so that the internal dimensions of the entrance conform to the dimensions of the shipping container for the 10' x 10' cave openings, i.e., the cave opening will reduce from 10' x 10' to 8' x 8'.

1.2.2 Mountain Village. The Mountain Village, also known as Area 8A, shall be located between four corner points whose coordinates are listed below (Attachment 3):

- North east corner: N 34° 15.129' W 103° 47.925'
- South east corner: N 34° 15.108' W 103° 47.974'
- North west corner: N 34° 15.086' W 103° 48.241'
- South west corner: N 34° 15.027' W 103° 48.214'

1.2.2.1 There is a 50ft change in elevation running roughly north east to south west leading up to a mesa.

1.2.2.2 This elevation change shall be used to construct a village of three "tiers", at least 50' clearance in between tiers.

1.2.2.3 Using a total of at least 85 shipping containers (Attachment 4). The first two tiers shall be 500 meters long, and the third (upper) tier shall be 350 meters long. Eight foot gaps in between containers on tier 2 and 3 at specific locations. Need estimate for contractor-provided containers for the construction. Color of each container to be tan. Access clearance in between tiers required but no formal roads. Need estimate for contractor to paint/cut windows and doors ~~on AF-provided containers~~.

1.2.2.4 The Shipping containers shall be aligned to represent structures in a small mountain-side village. 50 % of the shipping containers shall be constructed with one door and two window openings per unit (Standard size openings, facing down the slope). Second story units will require two window openings only. Only 2 units will be double stacked for this village. The Shipping containers shall also be placed/constructed to facilitate the draining of water that may enter from rain or snow. No utilities required for this village.

1.2.2.5 The area between the three tiers should be sufficient to place full-sized vehicles (at least 50') to be used as targets. These vehicles are not part of the construction.

1.2.2.6 Detailed configuration will be supplied to the contractor prior to initiation of construction (attachment 2).

1.2.3 SERE Village Urban (Attachment 5)

1.2.3.1 The area shall consist of at least 53 Shipping containers placed to simulate a small urban environment (Color of each container to be brown, tan or as specified by XPR personnel). (Attachment 6)

The area shall consists of; 26 unimproved but painted containers, 25 type improved containers with 2 windows and door openings and 1 double stacked container.

1.2.3.2 The containers shall be placed in accordance with attachment 6. Containers shall be placed with a drain and on a slight slope to facilitate drainage of any water that enters the container.

1.2.3.3 The contractor shall place containers ensuring access is between 8ft and 12ft wide. The area between containers will represent roads, but no formal construction of gravel roads is required.

1.2.3.4 The graphic in Attachment 6 represents an existing SERE site. The items called out in the left margin are for future use. For purposes of this SON, the gravel roads, tower, sewer, downed aircraft, and railroad are for illustration only and are not included as requirements.

2 REQUIREMENTS

2.1 USE OF PREMISES: Contractor use is outlined in General Requirements, Building(s) shall not be occupied during performance of work under this contract. Occupancy notifications shall be posted in a prominent location in the work area. Before work is started, the Contractor shall arrange with the Contracting Officer a sequence of procedure, means of access, space for storage of materials and equipment, and use of approaches, corridors and stairways.

2.2 UTILITIES: Water shall be made available to the Contractor by the Government from a well. The Contractor shall make the well available to the fire department when required. The water provided is not fit for human consumption. Electrical power is not available on site. The contractor shall need to provide own rest facilities for workers.

2.3 CONSTRUCTION PERMITS: A properly approved and coordinated construction permit (AF Form 103, Civil Engineer Construction Permit) shall be required by the Base Civil Engineer prior to any excavation activities. Open excavations shall be marked with barricades.

2.4 EXISTING FACILITIES: The existing dimensions and locations shown on the applicable drawings are for approximation purposes only. Contractor shall verify all dimensions and locations.

2.5 ENVIRONMENTAL IMPACT: All waste materials generated by any work under the contract performed on a Government installation shall be handled, transported, stored and disposed of by the Contractor at any time in accordance with all applicable Federal, state and local laws, ordinances, regulations, court orders, or other types of rules or rulings having the effect of the law, including, but not limited to Executive Order 12 088, 13 October 1978; the Federal Water Pollution Control Act, as amended (33 USC Sec 1251 ET SEQ); the Clean Air Act as amended (42 USC Sec1857 ET SEQ); the Endangered Species Act, as amended (16 USC Sec 1531, ET SEQ); the Toxic Substances Control Act, as amended (15 USC Sec 2601, ET SEQ); the Solid Waste Disposal Act, as amended (42 USC 6901, ET SEQ); incorporating Sustainable Design and Development (SDD, ETL 08-13) including: Sustainment, Restoration and Modernization (S/R&M), DOD Facility Metering Installation Initiative dated 27 April 2006, and Water Conservation including Xeriscape Landscaping, and Landscape Irrigation Systems.

2.6 LEAD AND ASBESTOS: Not applicable

2.7 RANGE PRECAUTIONS: All construction personnel shall be required to view range safety briefing prior to beginning work. Laser protective eye wear must be available for each worker. Site supervisor must be in contact with Range Control Tower, and each vehicle operating under supervisor's supervision. Range Operations shall coordinate for one radio at each work site.

3 **PROTECTION OF GOVERNMENT PROPERTY**: The Contractor shall use reasonable care to avoid damaging existing buildings, equipment, and vegetation on the Government installation. If the Contractor fails to use reasonable care and causes damage to any of this property, the Contractor shall replace or repair the damage at no expense to the Government, as the Contracting Officer directs. If the Contractor fails or refuses to make such repair or replacement, the Contractor shall be liable for the cost, which may be deducted from the contract price.

3.1 CONCRETE TRUCKS: Cleaning out of concrete trucks on Cannon AFB or Melrose Range is prohibited. Concrete truck chutes, only, may be rinsed at the construction site. Wastewater and concrete from this rinse shall be collected in a high-density polyethylene (HDPE) plastic-lined box or pit provided by the Contractor at the site. At the end of pouring operations, the Contractor shall excavate all the waste and liner and properly dispose of same. The Contractor shall dispose of all concrete debris to an authorized off base site and shall remove any and all concrete debris and residue at the end of the project at no additional cost to the Government. The pit shall be completely backfilled and the site restored to original conditions.

CAFB STANDARDS
CAFBI 32-201 Cannon AFB Base Fire Protection Program

NATIONAL FIRE CODE
National Fire Protection Association (NFPA)

OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION (OSHA)
OSHA STD 29 CFR 1910 and 1926
OSHA STD 29 CFR 1910.252 Welding, Cutting and Brazing (General Requirements)

AIR FORCE OCCUPATIONAL SAFETY AND HEALTH STANDARD
AFOSH 91-501 Air Force Consolidated Occupational Safety Standard
AFOSH Std 91-5, Welding, Cutting, and Brazing
AFOSH Std 91-5 CAFBSUP1, Welding, Cutting, and Brazing
AFOSH Std 91-501 CAFBSUP1, Consolidated Occupational Safety Standard

3.2 SUBMITTALS: The Contractor shall provide submittals in the form of manufacturer's data, certificates of compliance and samples for all items provided and installed per the attached Schedule of Material Submittals. The Contractor will not be permitted to perform any work on site without approved submittals. The submittals listed on the attached Schedule of Material Submittals shall be required and shall be submitted for Government Approved (GA) or For Information Only (FIO). Use AF Form 3000 to process submittals. Submit four copies of submittals to Contracting Officer.

3.3 MANUFACTURER'S CATALOG DATA: Data composed of catalog cuts, brochures, circulars, specifications and product data, and printed information in sufficient detail and scope to verify compliance with requirements of the contract documents.

3.4 SAMPLES: The Contractor shall submit actual samples indicated on the Schedule of Material Submittals for approval. The Contractor shall submit a sample in each color of the product.

3.5 MANUFACTURERS WARRANTY: The contractor shall identify all items being installed that are covered by a manufacturer's guarantee or warranty and provide validated copies of such. The identification shall list the name of the company and the expiration date of the guarantee or warranty.

3.6 PRODUCT DATA: Manufacturer's installation and maintenance instructions for items on the Schedule of Material Submittals.

3.7 DELIVERY AND STORAGE: All equipment and materials delivered and placed in storage shall be stored with protection from the weather, humidity and temperature variation, dirt and dust, and any other contaminants. Store all materials is a secure, clean and dry location.

3.8 SAFETY: The Contractor is required to comply with UFGS 01 35 26 Governmental Safety Requirements and the Air Force Occupational Safety and Health (OSHA).

3.9 Contracts are subject to inspections of job sites on base by the Department of Labor. These requirements are additional to and do not replace the standards promulgated by the Department of Labor under OSHA. In the event of a conflict between the OSHA standards and these requirements, the most stringent shall apply.

3.9.1 Resolution of Department of Labor citations for violations of Occupational Safety and Health Standards is a Contractor responsibility and shall provide for no basis of a claim against the Government.

3.10 TEMPORARY FENCE: Prior to the start of any work for this project, the Contractor shall provide temporary screened fencing around the site perimeter unless otherwise approved by the Contracting Officer.

3.11 WELDING, CUTTING AND BRAZING: Fire Protection shall complete inspection of all welding, cutting and brazing equipment prior to any operations. The Contractor shall provide the appropriate operable fire extinguisher. Contractor shall comply be with OSHA STD29 CFR 1910.252 Welding, Cutting and Brazing (General Requirements) and AFOSH 91-5 Welding, Cutting and Brazing. Air Force Form 592 USAF Welding, Cutting and Brazing permit will be issued prior to any operation and shall be kept on site till completion of operation or permit expires. Contact the Construction Manager or Fire Protection at (575) 784-2578 for issuance of permit.

3.12 CLOSE OUT DOCUMENTS: As a minimum, unless otherwise specified by the Contracting Officer, the Contractor shall provide and submit the information listed below for project close-out and DO completion purposes. Final payment shall not be made until receipt of these documents:

3.12.1 O&M Manuals
3.12.2 Warranty Certificates

4 PRODUCTS:

4.1 REFERENCES TO MATERIALS, MANUFACTURERS AND PRODUCTS: Materials shall be the standard product of manufacturer's regularly engaged in the manufacture of such products. The products furnished shall meet the quality and specifications indicated herein.

4.2 VERIFICATION OF DIMENSIONS AND CONDITIONS: The Contractor may visit the premises to become thoroughly familiar with details of the work and working conditions, verify dimensions in the field, and shall advise the Contracting Officer of any discrepancies before starting the work.

4.3 FUNCTIONAL SYSTEM SPECIFICATIONS: Contractor must comply with the current Cannon AFB Design and Construction Standards.

5 EXECUTION:

5.1 GENERAL: All work shall be performed as shown and in accordance with the manufacturer's diagrams and instructions, unless otherwise specified. The Contractor shall field verify all dimensions and site conditions. Price increase adjustments to the original contract price will not be issued because the Contractor was not aware of existing conditions. The Contractor shall provide all labor, materials, tools and equipment required to perform all dismantling, repairs and installation as listed in this Statement of Need.

5.2 INSTALLATION: It is the responsibility of the Contractor to ensure that the project/site conditions are acceptable and in accordance with Cannon AFB Design and Construction Standards. All work shall be done with the work area unoccupied. The Contractor shall coordinate with the Contract Inspector prior to start of work.

5.3 CONTRACT ORGANIZATION: The contractor's organizational approach shall integrate with this staff to provide project management, project Design/engineering, on-site superintendence, quality control, safety, and administration.

5.3.1 Personnel shall meet the training, medical surveillance, safety and health program requirements specified in OSHA Standard 29 CFR 1910.120, including **Hazardous Waste Operations and Emergency Response** (HAZWOPER) training when required. Contractor shall not allow uncertified personnel on site.

5.3.2 As a minimum, Contractor construction personnel such as the project manager, project superintendent, project quality control, health, and safety inspector(s), and project foremen shall be able to read, write, speak and understand English. Contractors and subcontractors who operate a vehicle to perform a task shall have a valid and appropriate US state driver's license for the vehicle(s) operated. All employees shall have valid photo identification even if they are not driving on the installation.

5.3.3 Contractor shall not employ any person who is an employee of the United States Government if the employment of that person would create a conflict of interest, nor shall Contractor employ any person who is an employee of the Department of the Air Force, either military or civilian, unless such person seeks and receives approval IAW DoD Directive (DODD) 5000-7. Contractor shall not employ a Department of the Air Force employee if such employment would be contrary to the policies contained in AFI 64-106, *Industrial Labor Relations Activities*.

6 UTILITY OUTAGES AND SPECIAL CONDITIONS:

6.1 BASE CIVIL ENGINEER WORK REQUEST (DIGGING PERMIT): The Contractor shall obtain and process AF Form 103 for approval prior to commencement of work for this project. The Contractor shall have this approved form on the job site at all times.

6.1.1 Due to the requirement for multiple agencies to coordinate on digging permit requests, it may take 2 weeks for paperwork processing. Contractor requests should be submitted at the earliest possible date to preclude delays.

6.2 BASE FIRE REGULATIONS: The Contractor shall comply with Base Fire Regulations as set forth in the latest edition of Cannon AFB Instruction 32-201, titled "Base Fire Protection Program" and the Cannon AFB Design and Construction Standards. The Contractor shall use no explosives or fire in performing the work. All work shall be in strict compliance with all National Fire Codes.

6.3 CONSTRUCTION MATERIALS AND SYSTEM TESTING: The Contractor shall ensure that all materials to be used meet the most current design and construction standards. All field and lab testing shall be performed IAW applicable industry and American Society for Testing and Materials (ASTM) standards, certified by a Government-approved laboratory testing facilities.

7 COMPLETION OF WORK:

7.1 OPERATIONAL SYSTEMS: The Contractor shall insure that work for this project is performed in accordance with the criteria herein and that all equipments and systems shall be fully operational at the completion of work for this project.

END OF STATEMENT OF NEED

Attachment 1 FA4855-11-R-0007

STATEMENT OF NEED
Tactical Operations Center (TOC)
MELROSE AIR FORCE RANGE, NM
1 February 2011

1 DESCRIPTION OF WORK:

1.1 GENERAL TASK DESCRIPTION: The following is a description of the work required for Spirit Expansion, on Melrose Air Force Range, New Mexico. The Request for Proposal (RFP) requires all procurement, installation and construction relating to the tactical operations center. The project shall include, but not be limited to the following tasks:

1.1.1 Furnish all plant, labor, equipment, materials, services and incidentals to provide a complete and usable end product for the Government.

1.1.2 All work shall contain non-asbestos materials throughout the installation.

1.1.3 Brace and shore facility as required to maintain structural integrity.

1.1.4 Clean up construction sites and haul off-range all construction debris from the site upon completion.

1.1.5 Provide site work for site build-up to include, but not be limited to: clearing; grubbing; hook-up to current utilities for construction where available, and providing your own means of electricity for construction.

1.1.6 Include trenching for utilities as necessary for electrical, and comm. Installation.

1.2 SPECIFIC REQUIREMENTS. Contractor must follow all specifications requested by the Government below.

1.2.1 Tactical Operations Center (See attachment 1)

1.2.1.1 Proposed facility should be of modular construction (new or used) and should meet the following minimum requirements.

1.2.1.2 The facility should be able to withstand seismic vibration caused by activity on the nearby bombing range.

1.2.1.3 Facility should have a 3ft wide sidewalk around perimeter of entire facility.

1.2.1.4 Facility shall be comprised of minimum 6 rooms: one 8 ft by 10 ft Comm/Mech room, one 8ft by 10ft After Actions equipment room (AAR), one 8ft by 9ft Storage Room One, one 8ft by 9ft Storage Room Two, one 35 ft by 35ft Team Room One, and one 35ft by 35ft Team Room Two (All room sizes are minimums).

1.2.1.5 Interior finishes shall have basic insulation with the HVAC system and sound suppressing walls. One wall in each team room shall be finished with drywall and painted with coating designed to serve as a screen for projector. Each team room shall have a projector installed in the ceiling with appropriate power and A/V connections accessible via ceiling-mounted panel. The exterior shall be of a consistent color as desired by project manager and metal. All doors shall be 36 inch doors. Team room 2 shall require one set of double doors with a min opening width of 7ft, a removable center door jamb is acceptable. Two primary doors shall require

key by-passable cipher locks on the handles and additional deadbolt key locks. The rest of the doors must be securable from the inside. (total of 6 exterior 36 inch, one exterior 7ft, 8 interior 36 inch doors).

1.2.1.6 All electrical power shall be routed through the mechanical room, with the ability to turn the power off to the entire facility at one central location for periods of limited use. The facility shall be wired with two phones connected to the base network through the Gecco site co-located. Contractor shall be required to run the phone line to the site and connect on both ends. VGA cable shall be run from the AAR to each projector, one cable per projector.

1.2.1.7 The facility shall be wired for 15 Non-secure Internet Protocol Routing (NIPR), 15 Secure Internet Protocol Routing (SIPR) terminals with all lines originating from the Comm room and terminating as follows; 1 in each in comm./mech room, 1 each in storage one, 1 each in storage 2, 5 each in team room one, 5 each in team room two, 1 each in ceiling by projector in team room one, and 1 each in ceiling by projector in team room 2. Minimum of 37 four electrical outlet boxes shall be installed as follows: 3 in comm. Mech room, 3 in AAR equip room, 2 in storage one, 2 in storage two, 13 in team room one, 14 in team room 2. All outlets should between 36 inch and 48 inch above the floor, with exception to the projectors being located on the ceiling. 10 phone lines shall be wired as follows; 1 in comm. room, 1 in AAR area, 1 in storage one, 1 in storage 2, 3 in team room 1 and 3 in team room 2. The comms in this section are designed to be connected to a tactical comm. network and the contractor is required to provide; standard terminal ends in the comm. room, standard color of cables and label cables. Locations for all comm. and electrical outlets are indicated on attachment 1.

1.2.1.8 Contractor will be responsible to hook up to existing power located about 500 ft from the desire site location and provide all electrical equipment to make facility functional (transformers etc.). All electrical utilities shall be in conduit, encased in concrete and shall have metallic strip caution tape installed per NEC. Concrete over primary ducts shall also have red markings. The minimum utility line burial depths shall be as follows:

- Gas mains/service lines: 24 inches
- Electrical: 30 inches
- Water lines: 36 inches
- Communications: 36 inches (in conduit)
- Cable TV/ Telephone 24 inches and 30 inches for areas requiring vehicle loading (in conduit)

1.2.1.9 SIPR and NIPR can be either hard wired or microwaved from other facility on Mesa. Proposal should designate which option to be used.

1.2.1.10 Sewer and water: currently there is no sewer or water at the site so no restroom facilities are required in the building; however if an existing building is proposed that has these facilities, the government may consider it as a value added in the selection since sewer and water may become available if moved to a different site in the future.

1.2.1.11 This operations facility shall be located on the top of the Melrose Air Force Range mesa.

2 REQUIREMENTS

2.1 Contractor must comply with the current UFC 1-200-01 latest version, conforming with the latest version of International Building Code, ref: UFC 1-200-01, Chapter 1, Section 2.

2.1.1 All construction must be in compliance with all Public Laws, Executive Orders, Code of Federal Regulations, Department of Defense Instructions and Department of Defense Directives or other higher authority documents as applicable as listed in MIL-STD-3007F Appendix B, referenced under the UFC 1-200-01 Chapter 1.

2.1.2 All construction must be in compliance with Antiterrorism Force Protection requirements referenced under UFC 4-010-01, UFC 4-010-02 and Combatant Commander Antiterrorism construction standards.

2.1.3 Contractor must make the sites usable with a finish level of top soil appropriate for drainage and site work and must incorporate Earthwork.

2.1.4 Deliver a usable facility meeting plans and specifications.

2.2 USE OF PREMISES: Contractor use is outlined in General Requirements, Building(s) shall not be occupied during performance of work under this contract. Occupancy notifications shall be posted in a prominent location in the work area. Before work is started, the Contractor shall arrange with the Contracting Officer a sequence of procedure, means of access, space for storage of materials and equipment, and use of approaches, corridors and stairways.

2.3 UTILITIES: Water shall be made available to the Contractor by the Government from a well. The Contractor shall make the well available to the fire department when required. The water provided is not fit for human consumption. Electrical power is not available on site. The contractor shall need to provide own rest facilities for workers.

2.4 CONSTRUCTION PERMITS: A properly approved and coordinated construction permit (AF Form 103, Civil Engineer Construction Permit) shall be required by the Base Civil Engineer prior to any excavation activities. Open excavations shall be marked with barricades.

2.5 EXISTING FACILITIES: The existing dimensions and locations shown on the applicable drawings are for approximation purposes only. Contractor shall verify all dimensions and locations.

2.6 LEAD AND ASBESTOS: Not applicable

2.7 RANGE PRECAUTIONS: All construction personnel shall be required to view range safety briefing prior to beginning work. Laser protective eye wear must be available for each worker. Site supervisor must be in contact with Range Control Tower, and each vehicle operating under supervisor's supervision. Range Operations shall coordinate for one radio at each work site.

2.8 AS-BUILT DRAWINGS: Contractor shall be required to provide As-Built, CAD drawings upon completion of construction.

3 PROTECTION OF GOVERNMENT PROPERTY: The Contractor shall use reasonable care to avoid damaging existing buildings, equipment, and vegetation on the Government installation. If the Contractor fails to use reasonable care and causes damage to any of this property, the Contractor shall replace or repair the damage at no expense to the Government, as the Contracting Officer directs. If the Contractor fails or refuses to make such repair or replacement, the Contractor shall be liable for the cost, which may be deducted from the contract price.

3.1 CONCRETE TRUCKS: Cleaning out of concrete trucks on Cannon AFB is prohibited. Concrete truck chutes, only, may be rinsed at the construction site. Wastewater and concrete from this rinse shall be collected in a high-density polyethylene (HDPE) plastic-lined box or pit provided by the Contractor at the site. At the end of pouring operations, the Contractor shall excavate all the waste and liner and properly dispose of same. The Contractor shall dispose of all concrete debris to an authorized off base site and shall remove any and all concrete debris and residue at the end of the project at no additional cost to the Government. The pit shall be completely backfilled and the site restored to original conditions.

3.2 REFERENCES: All publications listed herein shall be the most current editions in effect at the time of solicitation and form a part of this Statement of Need. Contractor must comply with the current UFC 1-200-01 dated 27 November 2007, conforming with the 2006 International Building Code (IBC-2006), ref: UFC 1-200-01, Chapter 1, Section 2 and all code compliances referenced under the IBC-2006. All construction must be in compliance with all Public Laws, Executive Orders, Code of Federal Regulations, Department of Defense Instructions and Department of Defense Directives or other higher authority documents as applicable as listed in MIL-STD-3007F Appendix B, referenced under the UFC 1-200-01 Chapter 1. The publications are referred to in the text by basic designation only and include the following:

CAFB STANDARDS
CAFBI 32-201 Cannon AFB Base Fire Protection Program

NATIONAL FIRE CODE
National Fire Protection Association (NFPA)

INTERNATIONAL BUILDING CODE (2009 IBC)

INTERNATIONAL PLUMBING CODE (IPC)

UNDERWRITER'S LABORATORY (UL)

UNIFIED FACILITIES GUIDE SPECIFICATIONS
UFGS 01 35 26 Governmental Safety Requirements

OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION (OSHA)
OSHA STD 29 CFR 1910 and 1926
OSHA STD 29 CFR 1910.252 Welding, Cutting and Brazing (General Requirements)

AIR FORCE OCCUPATIONAL SAFETY AND HEALTH STANDARD
AFOSH 91-501 Air Force Consolidated Occupational Safety Standard
AFOSH Std 91-5, Welding, Cutting, and Brazing
AFOSH Std 91-5 CAFBSUP1, Welding, Cutting, and Brazing
AFOSH Std 91-501 CAFBSUP1, Consolidated Occupational Safety Standard

UNITED FACILITIES CRITERIA (UFC)
UFC 1-300-08 Criteria for Transfer and Acceptance of DoD Real Property, dated 16 April 2009
UFC 4-010-01/02 DoD Minimum Antiterrorism Standards for Buildings

3.3 SUBMITTALS: The Contractor shall provide submittals in the form of manufacturer's data, certificates of compliance and samples for all items provided and installed per the attached Schedule of Material Submittals. The Contractor will not be permitted to perform any work on site without approved submittals. The submittals listed on the attached Schedule of Material Submittals shall be required and shall be submitted for Government Approved (GA) or For Information Only (FIO). Use AF Form 3000 to process submittals. Submit four copies of submittals to Contracting Officer.

3.4 MANUFACTURER'S CATALOG DATA: Data composed of catalog cuts, brochures, circulars, specifications and product data, and printed information in sufficient detail and scope to verify compliance with requirements of the contract documents.

3.5 SAMPLES: The Contractor shall submit actual samples indicated on the Schedule of Material Submittals for approval. The Contractor shall submit a sample in each color of the product.

3.6 MANUFACTURERS WARRANTY: The contractor shall identify all items being installed that are covered by a manufacturer's guarantee or warranty and provide validated copies of such. The identification shall list the name of the company and the expiration date of the guarantee or warranty.

3.7 PRODUCT DATA: Manufacturer's installation and maintenance instructions for items on the Schedule of Material Submittals.

3.8 AS BUILT DRAWINGS: Following the project completion or turnover, within 14 days the Contractor shall furnish 2 redline sets of mark up as built drawings to the Contracting Officer. As built drawings are to comply with the latest version of the Cannon AFB CAD Standards provided by 27 SOCES/CEPT.

3.9 CAD FILES: Provide drawing database utilizing 'AutoCAD', Version 2007 or most current version used by the Base. A copy of the AMC standard border and title sheet is available in AutoCAD format from the Engineering Technical Support Section.

3.9.1.1 Map all new utility and facility features in a GeoBase database. Specifics on Geobase format are located in the Cannon AFB Design Guide. Provide the installation with GIS with wall locations in a polygon layer that contains a unique room ID in the format of "building number, floor number, room number" within 30 days of project or repair completion. Create or collect and provide access to "As-Built" files for all construction and repair projects for "outside plant" assets. The following is the specification requirements for GIS product deliveries and will be submitted on CD:

3.9.1.2 DATUM – WGS84

3.9.1.3 Coordinate System – UTM

3.9.1.4 Units – Meters

3.9.1.5 Data in attribute Table will be SDSFIE version 2.6 Compliant

3.9.1.6 Shapefile Deodatabase format

3.10 DELIVERY AND STORAGE: All equipment and materials delivered and placed in storage shall be stored with protection from the weather, humidity and temperature variation, dirt and dust, and any other contaminants. Store all materials is a secure, clean and dry location.

3.11 TEMPORARY FENCE: Prior to the start of any work for this project, the Contractor shall provide temporary screened fencing around the site perimeter unless otherwise approved by the Contracting Officer.

3.12 WELDING, CUTTING AND BRAZING: Fire Protection shall complete inspection of all welding, cutting and brazing operations prior to any operation. The Contractor shall provide the appropriate operable fire extinguisher. Contractor shall comply be with OSHA STD29 CFR 1910.252 Welding, Cutting and Brazing (General Requirements) and AFOSH 91-5 Welding, Cutting and Brazing. Air Force Form 592 USAF Welding, Cutting and Brazing permit will be issued prior to any operation and shall be kept on site till completion of operation or permit expires. Contact the Construction Manager or Fire Protection at (575) 784-2578 for issuance of permit.

3.13 CLOSE OUT DOCUMENTS: As a minimum, unless otherwise specified by the Contracting Officer, the Contractor shall provide and submit the information listed below for project close-out and DO completion purposes. Final payment shall not be made until receipt of these documents:

3.13.1 Construction (Redline) Drawings

3.13.2 O&M Manuals
3.13.3 AutoCAD – Readable CD of Record Drawings (As-Builts)
3.13.4 Warranty Certificates

4 PRODUCTS:

4.1 REFERENCES TO MATERIALS, MANUFACTURERS AND PRODUCTS: Materials shall be the standard product of manufacturer's regularly engaged in the manufacture of such products. The products furnished shall meet the quality and specifications indicated herein.

4.2 VERIFICATION OF DIMENSIONS AND CONDITIONS: The Contractor may visit the premises to become thoroughly familiar with details of the work and working conditions, verify dimensions in the field, and shall advise the Contracting Officer of any discrepancies before starting the work.

4.3 FUNCTIONAL SYSTEM SPECIFICATIONS: Contractor must comply with the current Cannon AFB Design and Construction Standards.

5 EXECUTION:

5.1 GENERAL: All work shall be performed as shown and in accordance with the manufacturer's diagrams and instructions, unless otherwise specified. The Contractor shall field verify all dimensions and site conditions. Price increase adjustments to the original contract price will not be issued because the Contractor was not aware of existing conditions. The Contractor shall provide all labor, materials, tools and equipment required to perform all dismantling, repairs and installation as listed in this Statement of Need.

5.2 INSTALLATION: It is the responsibility of the Contractor to ensure that the project/site conditions are acceptable and in accordance with Cannon AFB Design and Construction Standards. All work shall be done with the work area unoccupied. The Contractor shall coordinate with the Contract Inspector prior to start of work.

5.3 CONTRACT ORGANIZATION: The contractor's organizational approach shall integrate with this staff to provide project management, project Design/engineering, on-site superintendence, quality control, safety, and administration.

6 UTILITY OUTAGES AND SPECIAL CONDITIONS:

6.1 BASE CIVIL ENGINEER WORK REQUEST (DIGGING PERMIT): The Contractor shall obtain and process AF Form 103 for approval prior to commencement of work for this project. The Contractor shall have this approved form on the job site at all times.

6.1.1 Due to the requirement for multiple agencies to coordinate on digging permit requests, it may take 2 weeks for paperwork processing. Contractor requests should be submitted at the earliest possible date to preclude delays.

6.1.2 UTILITY OUTAGES: When a utility outage is necessary to perform the contract work in a occupied facility, regardless of whether the work area is occupied, the outage shall be performed by the Contractor at no additional cost to the Government. The Contractor shall notify the Contract Inspector of outage requirements to include buildings affected; length of outage; and reasons for outage. The Contractor must allow affected occupants a minimum of four – (4) weeks notice prior to outage. The Contractor is also required to provide the Contracting Office a written notification of the requested outage.

6.2 BASE FIRE REGULATIONS: The Contractor shall comply with Base Fire Regulations as set forth in the latest edition of Cannon AFB Instruction 32-201, titled "Base Fire Protection Program" and the

Cannon AFB Design and Construction Standards. The Contractor shall use no explosives or fire in performing the work. All work shall be in strict compliance with all National Fire Codes.

6.3 CONSTRUCTION MATERIALS & SYSTEM TESTING: The Contractor shall ensure that all materials to be used meet the most current design and construction standards. All field and lab testing shall be performed IAW applicable industry and American Society for Testing and Materials (ASTM) standards, certified by a Government-approved laboratory testing facilities.

7 ENVIRONMENTAL REQUIREMENTS:

7.1 CONTRACTOR ENCOUNTERED HAZARDOUS WASTE: The Contractor shall notify the Contracting Officer and then CEAN upon encountering any material not identified in this Statement of Need thought to be hazardous that could jeopardize the safety of workers or personnel in the area. The Government will be responsible for characterization, transportation, storage and disposal of the waste, if necessary.

7.2 HAZARDOUS MATERIALS: The Contractor shall provide to the Contracting Officer an AF Form 3000, *Material and Approval Submittal*, listing all materials to be utilized during the contract. If any of the material is classified as hazardous in accordance with AFI 32-7086, the Contractor will submit an AF Form 3952, (Chemical/Hazardous Material Request Authorization) for each material item with all supporting information as required for approval. The Contractor must obtain authorization from the Contracting Officer prior to bringing or using hazardous materials on the installation. The Contractor must supply a current MSDS for each requested AF Form 3952 item listed as a hazardous material, as defined to be delivered under this contract. The hazardous material shall be properly identified and include any applicable identification number, such as National Stock Number or Special Item Number. This information shall also be included on the MSDS submitted under this contract. The Contractor must maintain a file of all MSDS. The Contractor shall submit (via AF Form 3000) to the Contracting Officer on a monthly basis, or at the end of the contract, as determined by the Contracting Officer, a report (2 copies) of usage of hazardous materials within that period on Cannon AFB Contractors Environmental Reporting Entry (provided upon request). No hazardous materials, lubricants, oils, liquids or related materials shall be deposited in the refuse containers on base. The Contractor shall contact 27 SOCES/CEAN for disposal guidelines of any spent hazardous materials.

7.3 ACCIDENTAL SPILLS/RELEASES OF HAZARDOUS MATERIALS: The contractor shall be responsible for reporting, containment, and cleanup of any release of petroleum or other hazardous substances. Reports are to be made to the Cannon Fire and Emergency Services by calling "911" from a Cannon telephone. Calls to "911" from a cell phone will first go to the Clovis Dispatcher and the caller must report the location of the release as being Cannon AFB.

8 SITE MAINTENANCE AND CLEANUP:

8.1 SITE MAINTENANCE: The Contractor shall protect adjacent property, buildings and their contents from dust, dirt or other materials. Work areas shall be maintained in a neat, clean, safe condition and shall, at a minimum, be cleaned at the end of each shift. All streets and roadways in/or adjacent to the site shall remain free of project generated trash, dirt, and debris at all times.

8.2 CLEANUP: The Contractor shall collect any and all trash, debris, refuse, garbage, etc., that is generated and place it in appropriate containers with lids or approved covers on a periodic basis or as directed by the Contracting Officer's Representative. The aforementioned materials shall be hauled from the site by appropriate means on a daily basis, unless otherwise approved by the Contracting Officer's Representative. Disposal shall be outside the limits of Government property. Disposal shall be by sanitary landfill or other approved methods and shall conform to all local, state, and federal guidelines, criteria, and regulations. Upon completion of the work, the Contractor shall leave the work site and storage area(s) in a clean, neat and workmanlike condition satisfactory to the Contracting Officer. It is required that the site be restored to its original and natural condition

permitting the growth of vegetation thereon. Restoration to original contours is required unless otherwise directed by the Contracting Officer.

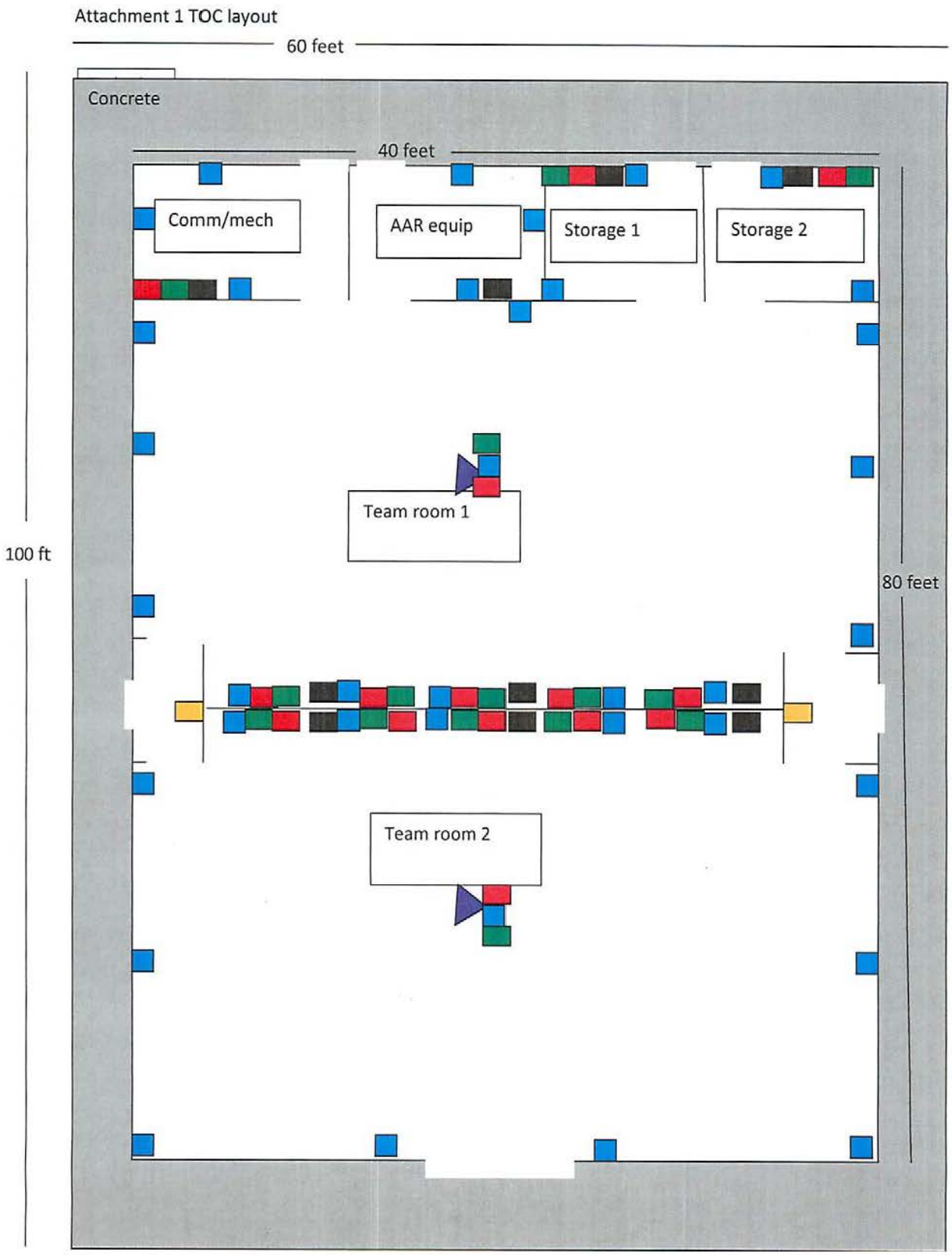
9 ENERGY CONSERVATION:

9.1 UTILITIES CONSERVATION: The Contractor shall instruct employees in utilities conservation practices. The Contractor shall be responsible for operating under conditions that preclude the waste of utilities, which shall include: using lights only in areas where and when work is actually being performed. The Contractor shall not adjust mechanical equipment controls for heating, ventilation and air conditioning systems. Water faucets or valves shall be turned off after the required usage has been accomplished. The Contractor shall use good judgment in the conservation of Government utilities. Prevailing energy conservation practices shall be adhered to and enforced by the Contractor.

10 COMPLETION OF WORK:

10.1 OPERATIONAL SYSTEMS: The Contractor shall insure that work for this project is performed in accordance with the criteria herein and that all equipments and systems shall be fully operational at the completion of work for this project.

END OF STATEMENT OF NEED


Attachment 1 TOC layout
60 feet
Concrete
40 feet
Comm/mech
AAR equip
Storage 1
Storage 2
Team room 1
100 ft
80 feet
Team room 2

Attachment 1 TOC layout

Concrete pad- 60x100 with building centered on

Comm mech room- 8x10 connection area for tac comms =

15 nipr,

15 sipr,

10 phone lines

And all mechanical support equipment (electric/HVAC) plus 2 hard lines

Quad elec outlet

AAR equipment room- 8x10 connected to 2 projectors in team rooms

Planned two server racks and AV counsel to be installed at a later date

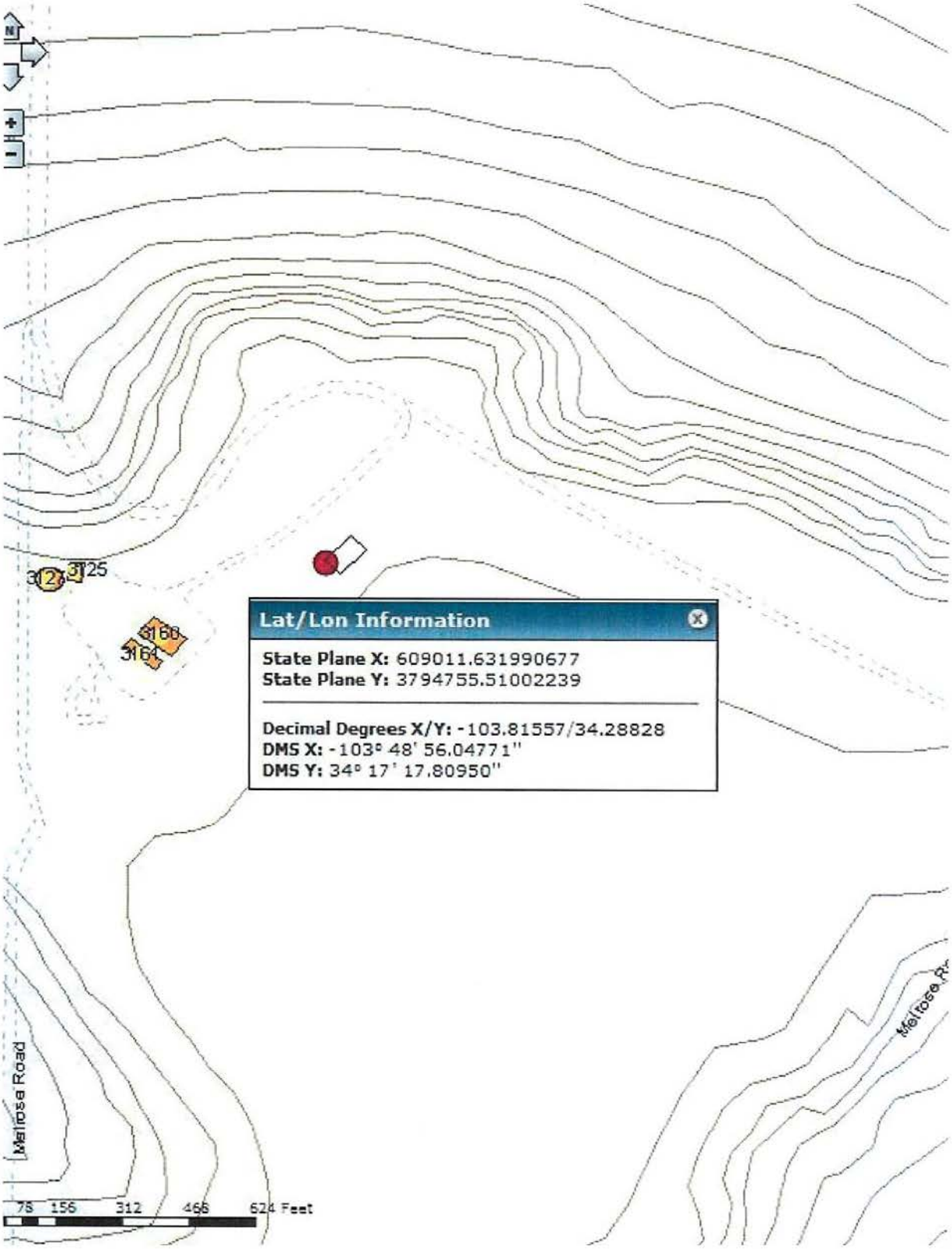
Researching exact requirements

Team rooms 1 35x35

Team room 2 35 x35 with 8ft wide door on long end

Furniture is not in the contract

AAR equipment not in the contract


Lat/Lon Information
State Plane X: 609011.631990677
State Plane Y: 3794755.51002239
Decimal Degrees X/Y: -103.81557/34.28828
DMS X: -103° 48' 56.04771"
DMS Y: 34° 17' 17.80950"
3125
3160
3164
Melrose Road
78 156 312 468 624 Feet

- Location of TOC and cement pad
- 90x100ft
- Support future equipment
- Expect construction Mar 2011

DRAFT STATEMENT OF WORK

Joint National Training Center (JNTC)

Maneuvering Fire Compound (Site F)

Project # XXXXXX-XXXX

MELROSE AIR FORCE RANGE, NM

XXXXXX 2011

1 DESCRIPTION OF WORK:

1.2 GENERAL TASK DESCRIPTION: The following is a description of the work required for Project No. xxxxxx-xxxx; Spirit Expansion, on Melrose Air Force Range, New Mexico. The Request for Proposal (RFP) requires all procurement, installation and construction relating to maneuvering fire compound. The project shall include, but not be limited to the following tasks:

1.2.1 Furnish all plant, labor, equipment, materials, services and incidentals to provide a complete and usable end product for the Government.

1.2.2 All work shall contain non-asbestos materials throughout the installation.

1.2.3 Brace and shore facility as required to maintain structural integrity.

1.2.4 Clean up construction sites and haul off-range all construction debris from the site upon completion.

1.2.5 Provide site work for site build-up to include, but not be limited to: clearing; grubbing; hook-up to current utilities for construction where available, and providing your own means of electricity for construction.

1.3 SPECIFIC REQUIREMENTS. Contractor must follow all specifications requested by the Government below.

1.3.1 Maneuvering Fire Compound (See attachment 2 and 3)

1.3.1.2 The moving convoy compound shall be located immediately south of target 11 on the range, which is a T-shaped building at coordinates N 34° 15.9006', W 103° 47.5451'. The compound to be constructed shall be located South East of this target shown in attachment 2.

1.3.1.3 The compound shall be constructed with; 7 "B" type improved containers, 1 'C" type container with minaret façade and 2 "G" type containers with railings on the second level.

1.3.1.4 The most Northern type "G" container and the type "C" container shall be instrumented for low light video and sound recording. The recording should be stored in the facility on portable media device for transport back to the after action viewing facility.

1.3.1.5 The recording device should have a minimum of two hours of recording capability and the contractor shall provide at least a total of 3 storage devices per container.

1.3.1.6 The containers shall be aligned in accordance with attachment 3.

1.3.1.7 The containers shall be constructed on a substrate that facilitates water drainage. Containers shall be placed with a drain and on a slight slope to facilitate drainage of any water that enters the container.

1.3.1.8 The containers shall be painted an earth tone color.

2 REQUIREMENTS

Contractor must comply with the current UFC 1-200-01 latest version, conforming with the latest version of International Building Code, ref: UFC 1-200-01, Chapter 1, Section 2.

a. All construction must be in compliance with all Public Laws, Executive Orders, Code of Federal Regulations, Department of Defense Instructions and Department of Defense Directives or other higher authority documents as applicable as listed in MIL-STD-3007F Appendix B, referenced under the UFC 1-200-01 Chapter 1.
b. All construction must be in compliance with Antiterrorism Force Protection requirements referenced under UFC 4-010-01, UFC 4-010-02 and Combatant Commander Antiterrorism construction standards.
c. Sustainability concepts must be incorporated into the design and construction of all facilities, meeting the minimum LEED Silver rating in compliance, in accordance with the "memorandum of Understanding for High Performance & Sustainable Buildings" dated 24 January 2006 and in accordance with the latest instruction or policy statement issued by the applicable military service.
d. All work performed by the Contractor under the terms of this contract shall be in accordance with applicable GSA Federal Supply schedules and terms and conditions for modular buildings. (http://www.gsa.gov)
e. Contractor must make the sites usable with a finish level of top soil appropriate for drainage and site work and must incorporate Earthwork.
f. Deliver a usable facility meeting plans and specifications.

2.1 USE OF PREMISES: Contractor use is outlined in General Requirements, Building(s) shall not be occupied during performance of work under this contract. Occupancy notifications shall be posted in a prominent location in the work area. Before work is started, the Contractor shall arrange with the Contracting Officer a sequence of procedure, means of access, space for storage of materials and equipment, and use of approaches, corridors and stairways.

2.2 UTILITIES: Water shall be made available to the Contractor by the Government from a well. The Contractor shall make the well available to the fire department when required. The water provided is not fit for human consumption. Electrical power is not available on site. The contractor shall need to provide own rest facilities for workers.

2.3 CONSTRUCTION PERMITS: A properly approved and coordinated construction permit (AF Form 103, Civil Engineer Construction Permit) shall be required by the Base Civil Engineer prior to any excavation activities. Open excavations shall be marked with barricades.

2.4 EXISTING FACILITIES: The existing dimensions and locations shown on the applicable drawings are for approximation purposes only. Contractor shall verify all dimensions and locations.

2.5 ENVIRONMENTAL IMPACT: All waste materials generated by any work under the contract performed on a Government installation shall be handled, transported, stored and disposed of by the Contractor at any time in accordance with all applicable Federal, state and local laws, ordinances, regulations, court orders, or other types of rules or rulings having the effect of the law, including, but not limited to Executive Order 12 088, 13 October 1978; the Federal Water Pollution Control Act, as amended (33 USC Sec 1251 ET SEQ); the Clean Air Act as amended (42 USC Sec1857 ET SEQ); the Endangered Species Act, as amended (16 USC Sec 1531, ET SEQ); the Toxic Substances Control Act, as amended (15 USC Sec 2601, ET SEQ); the Solid Waste Disposal Act, as amended (42 USC 6901, ET SEQ); incorporating Sustainable Design and Development (SDD, ETL 08-13) including: Sustainment, Restoration and Modernization (S/R&M), DOD Facility Metering Installation Initiative

dated 27 April 2006, and Water Conservation including Xeriscape Landscaping, and Landscape Irrigation Systems .

2.6 LEAD AND ASBESTOS: Not applicable

2.7 RANGE PRECAUTIONS: All construction personnel shall be required to view range safety briefing prior to beginning work. Laser protective eye wear must be available for each worker. Site supervisor must be in contact with Range Control Tower, and each vehicle operating under supervisor's supervision. Range Operations shall coordinate for one radio at each work site.

2.8 AS-BUILT DRAWINGS: Contractor shall be required to provide As-Built, CAD drawings upon completion of construction.

3 PROTECTION OF GOVERNMENT PROPERTY: The Contractor shall use reasonable care to avoid damaging existing buildings, equipment, and vegetation on the Government installation. If the Contractor fails to use reasonable care and causes damage to any of this property, the Contractor shall replace or repair the damage at no expense to the Government, as the Contracting Officer directs. If the Contractor fails or refuses to make such repair or replacement, the Contractor shall be liable for the cost, which may be deducted from the contract price.

3.2 CONCRETE TRUCKS: Cleaning out of concrete trucks on Cannon AFB is prohibited. Concrete truck chutes, only, may be rinsed at the construction site. Wastewater and concrete from this rinse shall be collected in a high-density polyethylene (HDPE) plastic-lined box or pit provided by the Contractor at the site. At the end of pouring operations, the Contractor shall excavate all the waste and liner and properly dispose of same. The Contractor shall dispose of all concrete debris to an authorized off base site and shall remove any and all concrete debris and residue at the end of the project at no additional cost to the Government. The pit shall be completely backfilled and the site restored to original conditions.

3.3 REFERENCES: All publications listed herein shall be the most current editions in effect at the time of solicitation and form a part of this Statement of Need. Contractor must comply with the current UFC 1-200-01 dated 27 November 2007, conforming with the 2006 International Building Code (IBC-2006), ref: UFC 1-200-01, Chapter 1, Section 2 and all code compliances referenced under the IBC-2006. All construction must be in compliance with all Public Laws, Executive Orders, Code of Federal Regulations, Department of Defense Instructions and Department of Defense Directives or other higher authority documents as applicable as listed in MIL-STD-3007F Appendix B, referenced under the UFC 1-200-01 Chapter 1. Sustainability concepts must be incorporated into the design and construction of all facilities, meeting the minimum LEED Silver rating in compliance, in accordance with the "Memorandum of Understanding for High Performance & Sustainable Buildings" dated 24 January 2006 and in accordance with the latest instruction or policy statement issued by the applicable military service. The publications are referred to in the text by basic designation only and include the following: (ONLY INCLUDE THE STANDARDS/CODES/ETC THAT APPLY WITH YOUR PROJECT AND DELETE THE OTHERS THAT DO NOT.)

3.3.1 CAFB STANDARDS
3.3.2 CAFBI 32-201 Cannon AFB Base Fire Protection Program

3.3.3 NATIONAL FIRE CODE
3.3.4 National Fire Protection Association (NFPA)

3.3.5 INTERNATIONAL BUILDING CODE (2009 IBC)

3.3.6 INTERNATIONAL PLUMBING CODE (IPC)

3.3.7 UNDERWRITER'S LABORATORY (UL)

3.3.8 UNIFIED FACILITIES GUIDE SPECIFICATIONS

3.3.9 UFGS 01 35 26 Governmental Safety Requirements

3.3.10 OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION (OSHA)
3.3.11 OSHA STD 29 CFR 1910 and 1926
3.3.12 OSHA STD 29 CFR 1910.252 Welding, Cutting and Brazing (General Requirements)

3.3.13 AIR FORCE OCCUPATIONAL SAFETY AND HEALTH STANDARD
3.3.14 AFOSH 91-501 Air Force Consolidated Occupational Safety Standard
3.3.15 AFOSH Std 91-5, Welding, Cutting, and Brazing
3.3.16 AFOSH Std 91-5 CAFBSUP1, Welding, Cutting, and Brazing
3.3.17 AFOSH Std 91-501 CAFBSUP1, Consolidated Occupational Safety Standard

3.3.18 UNITED FACILITIES CRITERIA (UFC)
3.3.19 UFC 1-300-08 Criteria for Transfer and Acceptance of DoD Real Property, dated 16 April 2009
3.3.20 UFC 4-010-01/02 DoD Minimum Antiterrorism Standards for Buildings

3.4 SUBMITTALS: The Contractor shall provide submittals in the form of manufacturer's data, certificates of compliance and samples for all items provided and installed per the attached Schedule of Material Submittals. The Contractor will not be permitted to perform any work on site without approved submittals. The submittals listed on the attached Schedule of Material Submittals shall be required and shall be submitted for Government Approved (GA) or For Information Only (FIO). Use AF Form 3000 to process submittals. Submit four copies of submittals to Contracting Officer.

3.5 MANUFACTURER'S CATALOG DATA: Data composed of catalog cuts, brochures, circulars, specifications and product data, and printed information in sufficient detail and scope to verify compliance with requirements of the contract documents.

3.6 SAMPLES: The Contractor shall submit actual samples indicated on the Schedule of Material Submittals for approval. The Contractor shall submit a sample in each color of the product.

3.7 MANUFACTURERS WARRANTY: The contractor shall identify all items being installed that are covered by a manufacturer's guarantee or warranty and provide validated copies of such. The identification shall list the name of the company and the expiration date of the guarantee or warranty.

3.8 PRODUCT DATA: Manufacturer's installation and maintenance instructions for items on the Schedule of Material Submittals.

3.9 AS BUILT DRAWINGS: Following the project completion or turnover, within 14 days the Contractor shall furnish 2 redline sets of mark up as built drawings to the Contracting Officer. As built drawings are to comply with the latest version of the Cannon AFB CAD Standards provided by 27 SOCES/CEPT.

3.10 CAD FILES: Provide drawing database utilizing 'AutoCAD', Version 2007 or most current version used by the Base. A copy of the AMC standard border and title sheet is available in AutoCAD format from the Engineering Technical Support Section.

3.10.1.2 Map all new utility and facility features in a GeoBase database. Specifics on Geobase format are located in the Cannon AFB Design Guide. Provide the installation with GIS with wall locations in a polygon layer that contains a unique room ID in the format of "building number, floor number, room number" within 30 days of project or repair completion. Create or collect and provide access to "As-Built" files for all construction and repair projects for

"outside plant" assets. The following is the specification requirements for GIS product deliveries and will be submitted on CD:

3.10.1.3 DATUM – WGS84
3.10.1.4 Coordinate System – UTM
3.10.1.5 Units – Meters
3.10.1.6 Data in attribute Table will be SDSFIE version 2.6 Compliant
3.10.1.7 Shapefile Deodatabase format

3.11 DELIVERY AND STORAGE: All equipment and materials delivered and placed in storage shall be stored with protection from the weather, humidity and temperature variation, dirt and dust, and any other contaminants. Store all materials is a secure, clean and dry location.

3.12 SAFETY: The Contractor is required to comply with UFGS 01 35 26 Governmental Safety Requirements and the Air Force Occupational Safety and Health (OSHA).

3.13 Contracts are subject to inspections of job sites on base by the Department of Labor. These requirements are additional to and do not replace the standards promulgated by the Department of Labor under OSHA. In the event of a conflict between the OSHA standards and these requirements, the most stringent shall apply.

3.13.1 Resolution of Department of Labor citations for violations of Occupational Safety and Health Standards is a Contractor responsibility and shall provide for no basis of a claim against the Government.

3.14 TEMPORARY FENCE: Prior to the start of any work for this project, the Contractor shall provide temporary screened fencing around the site perimeter unless otherwise approved by the Contracting Officer. (Delete this para and renumber if as builts are not required.)

3.15 WELDING, CUTTING AND BRAZING: Fire Protection shall complete inspection of all welding, cutting and brazing operations prior to any operation. The Contractor shall provide the appropriate operable fire extinguisher. Contractor shall comply be with OSHA STD29 CFR 1910.252 Welding, Cutting and Brazing (General Requirements) and AFOSH 91-5 Welding, Cutting and Brazing. Air Force Form 592 USAF Welding, Cutting and Brazing permit will be issued prior to any operation and shall be kept on site till completion of operation or permit expires. Contact the Construction Manager or Fire Protection at (575) 784-2578 for issuance of permit.

3.16 CLOSE OUT DOCUMENTS: As a minimum, unless otherwise specified by the Contracting Officer, the Contractor shall provide and submit the information listed below for project close-out and DO completion purposes. Final payment shall not be made until receipt of these documents:

3.16.1 Construction (Redline) Drawings
3.16.2 O&M Manuals
3.16.3 AutoCAD – Readable CD of Record Drawings (As-Builts)
3.16.4 Warranty Certificates

4 PRODUCTS:

4.2 REFERENCES TO MATERIALS, MANUFACTURERS AND PRODUCTS: Materials shall be the standard product of manufacturer's regularly engaged in the manufacture of such products. The products furnished shall meet the quality and specifications indicated herein.

4.3 VERIFICATION OF DIMENSIONS AND CONDITIONS: The Contractor may visit the premises to become thoroughly familiar with details of the work and working conditions, verify dimensions in the field, and shall advise the Contracting Officer of any discrepancies before starting the work.

4.4 FUNCTIONAL SYSTEM SPECIFICATIONS: Contractor must comply with the current Cannon AFB Design and Construction Standards.

5 EXECUTION:

5.2 GENERAL: All work shall be performed as shown and in accordance with the manufacturer's diagrams and instructions, unless otherwise specified. The Contractor shall field verify all dimensions and site conditions. Price increase adjustments to the original contract price will not be issued because the Contractor was not aware of existing conditions. The Contractor shall provide all labor, materials, tools and equipment required to perform all dismantling, repairs and installation as listed in this Statement of Need.

5.3 INSTALLATION: It is the responsibility of the Contractor to ensure that the project/site conditions are acceptable and in accordance with Cannon AFB Design and Construction Standards. All work shall be done with the work area unoccupied. The Contractor shall coordinate with the Contract Inspector prior to start of work.

5.4 CONTRACT ORGANIZATION: The contractor's organizational approach shall integrate with this staff to provide project management, project Design/engineering, on-site superintendence, quality control, safety, and administration.

5.4.1 Personnel shall meet the training, medical surveillance, safety and health program requirements specified in OSHA Standard 29 CFR 1910.120, including **Hazardous Waste Operations and Emergency Response** (HAZWOPER) training when required. Contractor shall not allow uncertified personnel on site.

5.4.2 As a minimum, Contractor construction personnel such as the project manager, project superintendent, project quality control, health, and safety inspector(s), and project foremen shall be able to read, write, speak and understand English. Contractors and subcontractors who operate a vehicle to perform a task shall have a valid and appropriate US state driver's license for the vehicle(s) operated. All employees shall have valid photo identification even if they are not driving on the installation.

5.4.3 Contractor shall not employ any person who is an employee of the United States Government if the employment of that person would create a conflict of interest, nor shall Contractor employ any person who is an employee of the Department of the Air Force, either military or civilian, unless such person seeks and receives approval IAW DoD Directive (DODD) 5000-7. Contractor shall not employ a Department of the Air Force employee if such employment would be contrary to the policies contained in AFI 64-106, *Industrial Labor Relations Activities*.

6 UTILITY OUTAGES AND SPECIAL CONDITIONS:

6.2 BASE CIVIL ENGINEER WORK REQUEST (DIGGING PERMIT): The Contractor shall obtain and process AF Form 103 for approval prior to commencement of work for this project. The Contractor shall have this approved form on the job site at all times.

6.2.1 Due to the requirement for multiple agencies to coordinate on digging permit requests, it may take 2 weeks for paperwork processing. Contractor requests should be submitted at the earliest possible date to preclude delays.

6.2.2 UTILITY OUTAGES: When a utility outage is necessary to perform the contract work in a occupied facility, regardless of whether the work area is occupied, the outage shall be performed by the Contractor at no additional cost to the Government. The Contractor shall notify the Contract Inspector of outage requirements to include buildings affected; length of outage; and reasons for outage. The Contractor must allow affected occupants a minimum of

four – (4) weeks notice prior to outage. The Contractor is also required to provide the Contracting Office a written notification of the requested outage.

6.3 BASE FIRE REGULATIONS: The Contractor shall comply with Base Fire Regulations as set forth in the latest edition of Cannon AFB Instruction 32-201, titled "Base Fire Protection Program" and the Cannon AFB Design and Construction Standards. The Contractor shall use no explosives or fire in performing the work. All work shall be in strict compliance with all National Fire Codes.

6.4 CONSTRUCTION MATERIALS & SYSTEM TESTING: The Contractor shall ensure that all materials to be used meet the most current design and construction standards. All field and lab testing shall be performed IAW applicable industry and American Society for Testing and Materials (ASTM) standards, certified by a Government-approved laboratory testing facilities.

7 ENVIRONMENTAL REQUIREMENTS:

7.2 COMPLIANCE WITH LAWS: Construction activities are NOT exempt from air emission, storm water, hazardous waste, and other environmental compliance laws and regulations. The Contractor shall comply and ensure that all subcontractors comply with all applicable federal, state, and local laws, regulations, ordinances and standards related to environmental matters. The Contractor shall also comply and ensure that all Subcontractors comply with all specific instructions or directions given to the Contractor by Cannon AFB regarding environmental matters.

7.3 PROTECTION OF HISTORICAL AND ARCHAEOLOGICAL RESOURCES: All known Historical, Archaeological, and Cultural Resources, if any, within the Contractors work area will be designated on the contract Technical Exhibits. The Contractor shall take precautions during the contract to preserve all resources, as they existed at the time of contract award and comply with the Archaeological and Historic Preservation Act (AHPA) and the Archaeological Resources Protection Act (ARPA). The Contractor shall provide all protective devices such as off limit markings, fencing, barricades or other devices as designated on the contract Technical Exhibits and shall be responsible for preservation of the sites during this contract.

7.3.1 All items having any apparent historical or archaeological interest outside of designated areas that are discovered in the course of any construction activities shall be carefully preserved. The Contractor shall protect the find in-place by leaving the archaeological find undisturbed and by using flags to mark a 50-foot radius area around the find. The find shall be immediately reported to the Contracting Officer and 27 SOCES/CEAN so that the proper authorities may be notified. All work shall be stopped in the immediate area of the discovery until directed by the Contracting Officer, in coordination with CEAN, to resume work. Any work required to preserve or protect these finds shall be accomplished before work resumes.

7.4 HAZARDOUS AND SPECIAL WASTES GENERATED BY THE CONTRACTOR: Contractor must comply with all local, Air Force, State, and Federal environmental regulations. Toxic Substance Control Act regulates asbestos and asbestos containing materials in accordance with TSCA (15 U.S.C. § 2601 et seq.) 40 Code of Federal Regulations Part 763, and the State of New Mexico Solid Waste Bureau as a Special Waste, reference Title 20 Environmental Chapter 9, Solid Waste Part 8, Special Waste Requirements. New Mexico requires use of the Uniform Hazardous Waste Manifest (EPA Form 8700-22) shall be used by the Contractor to document all parties and locations involved in the transportation, storage and disposal of special wastes. These forms shall be provided to the Government by the Contractor at the time of physical inspection of the load and then signed by an authorized representative within the Environmental Element (27 SOCES/CEAN) before the waste is transported from the limits of Government property. A copy of the manifest shall be signed by the authorized receiver of the waste and submitted to the Contracting Officer no later than thirty-five (35) days after disposal action. If the manifest is not signed and returned by the forty-fifth day, an exception report must be filed with the State of New Mexico Solid Waste Bureau. Landfill disposal shall be located within in the state of New Mexico in an approved facility

as outline on their website and approved by CEAN Special Program Manger or Hazardous Waste Program Manager as appropriate.

7.5 CONTRACTOR ENCOUNTERED HAZARDOUS WASTE: The Contractor shall notify the Contracting Officer and then CEAN upon encountering any material not identified in this Statement of Need thought to be hazardous that could jeopardize the safety of workers or personnel in the area. The Government will be responsible for characterization, transportation, storage and disposal of the waste, if necessary.

7.6 HAZARDOUS MATERIALS: The Contractor shall provide to the Contracting Officer an AF Form 3000, *Material and Approval Submittal*, listing all materials to be utilized during the contract. If any of the material is classified as hazardous in accordance with AFI 32-7086, the Contractor will submit an AF Form 3952, (Chemical/Hazardous Material Request Authorization) for each material item with all supporting information as required for approval. The Contractor must obtain authorization from the Contracting Officer prior to bringing or using hazardous materials on the installation. The Contractor must supply a current MSDS for each requested AF Form 3952 item listed as a hazardous material, as defined to be delivered under this contract. The hazardous material shall be properly identified and include any applicable identification number, such as National Stock Number or Special Item Number. This information shall also be included on the MSDS submitted under this contract. The Contractor must maintain a file of all MSDS. The Contractor shall submit (via AF Form 3000) to the Contracting Officer on a monthly basis, or at the end of the contract, as determined by the Contracting Officer, a report (2 copies) of usage of hazardous materials within that period on Cannon AFB Contractors Environmental Reporting Entry (provided upon request). No hazardous materials, lubricants, oils, liquids or related materials shall be deposited in the refuse containers on base. The Contractor shall contact 27 SOCES/CEAN for disposal guidelines of any spent hazardous materials.

7.7 NUISANCE AND POLLUTING ACTIVITY PROHIBITED: Polluting, dumping, or discharging of any harmful, nuisance, or regulated materials (such as but not limited to concrete truck washout, vehicle maintenance fluids, residue from saw cutting operations, solid waste and hazardous substances) into building drains, site drains, streams, waterways, holding ponds or to the ground surface shall not be permitted and the Contractor shall be held responsible for any and all damages which may result. Further, the Contractor shall conduct work activities in such a fashion as to avoid creating any legal nuisance, including but not limited to, suppression of noise and dust, control of erosion, and implementation of other measures as necessary to minimize offsite impacts of work activities.

7.8 RELEASE OF FLUIDS TO THE SANITARY SEWER SYSTEM: Cannon AFB operates and maintains an on-site wastewater treatment plant (WWTP). The WWTP is a Federally Owned Treatment Works regulated by an Environmental Protection Agency National Pollutant Discharge Elimination System (NPDES) permit. Releases of hazardous wastes into the sanitary sewer collection system are strictly prohibited. Cannon AFB developed a Slug Operational Control Plan that identifies other discharges that must be controlled in order to ensure NPDES permit limits are not violated. The Contractor shall abide by this plan.

7.9 PESTICIDES (INSECTICIDES, FUNGICIDES, HERBICIDES, ETC.): Application of all pesticides shall be accomplished by certified pest control personnel or under the supervision of a State of New Mexico certified pest control operator. Delivery and storage of pesticides shall be monitored by certified personnel to insure the adequacy of containers and the safe storage of toxic materials. Disposal of containers and chemicals will be monitored to prevent pollution of natural drainage systems or the unintentional release of pesticide particulates into the air. The Contractor shall comply with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and submit an AF Form 3000, *Material and Approval Submittal*, with copies of certifications for operator using to the Contracting Officer for approval prior to application of Insecticide, Fungicides, and/or Herbicides. Additionally, the Base Entomology Shop at Cannon AFB shall be notified at (784-2439) at least five calendar days in advance by the Contractor of proposed application of any pesticides,

insecticides, fungicides, herbicides, etc. and copies of all application records shall be submitted to the Base Entomology Shop. The Contractor shall use the Cannon AFB pesticide Application Form, available at Base Civil Engineer Environmental Flight.

7.10 AIR EMISSIONS: Media blasting may require registering the construction activity under state regulation. The Contractor shall prepare the state form for signature approval by the base prior to start of construction. The Contractor shall meet all provisions of the Permit-By-Rule.

7.11 ACCIDENTAL SPILLS/RELEASES OF HAZARDOUS MATERIALS: The contractor shall be responsible for reporting, containment, and cleanup of any release of petroleum or other hazardous substances. Reports are to be made to the Cannon Fire and Emergency Services by calling "911" from a Cannon telephone. Calls to "911" from a cell phone will first go to the Clovis Dispatcher and the caller must report the location of the release as being Cannon AFB.

8 SITE MAINTENANCE AND CLEANUP:

8.2 SITE MAINTENANCE: The Contractor shall protect adjacent property, buildings and their contents from dust, dirt or other materials. Work areas shall be maintained in a neat, clean, safe condition and shall, at a minimum, be cleaned at the end of each shift. All streets and roadways in/or adjacent to the site shall remain free of project generated trash, dirt, and debris at all times.

8.3 CLEANUP: The Contractor shall collect any and all trash, debris, refuse, garbage, etc., that is generated and place it in appropriate containers with lids or approved covers on a periodic basis or as directed by the Contracting Officer's Representative. The aforementioned materials shall be hauled from the site by appropriate means on a daily basis, unless otherwise approved by the Contracting Officer's Representative. Disposal shall be outside the limits of Government property. Disposal shall be by sanitary landfill or other approved methods and shall conform to all local, state, and federal guidelines, criteria, and regulations. Upon completion of the work, the Contractor shall leave the work site and storage area(s) in a clean, neat and workmanlike condition satisfactory to the Contracting Officer. It is required that the site be restored to its original and natural condition permitting the growth of vegetation thereon. Restoration to original contours is required unless otherwise directed by the Contracting Officer.

9 ENERGY CONSERVATION:

9.2 UTILITIES CONSERVATION: The Contractor shall instruct employees in utilities conservation practices. The Contractor shall be responsible for operating under conditions that preclude the waste of utilities, which shall include: using lights only in areas where and when work is actually being performed. The Contractor shall not adjust mechanical equipment controls for heating, ventilation and air conditioning systems. Water faucets or valves shall be turned off after the required usage has been accomplished. The Contractor shall use good judgment in the conservation of Government utilities. Prevailing energy conservation practices shall be adhered to and enforced by the Contractor.

10 RESPONSIBILITY:

10.2 The above 1 through 7 summaries do not in any way limit the responsibility of the Contractor to perform all work and furnish all plant, labor, and materials required by this Statement of Need.

11 STORAGE AND PARKING:

11.2 CONTRACTOR STORAGE: 27 SOCES shall designate Contractor storage and parking area. All project storage areas shall be kept free of debris, leaks, stains, or splashes and kept in a neat, clean, and safe condition. Any contamination of the storage area by a hazardous substance shall be immediately remediated by the Contractor, in accordance with PART 5.0 above at no additional expense to the Government. All hazardous materials shall be secured when not in use.

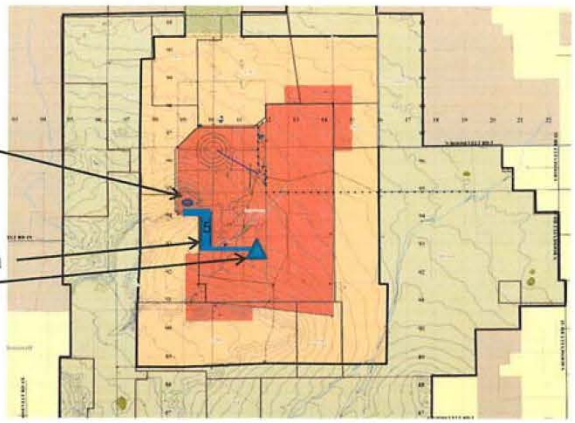
12 COMPLETION OF WORK:

12.2 OPERATIONAL SYSTEMS: The Contractor shall insure that work for this project is performed in accordance with the criteria herein and that all equipments and systems shall be fully operational at the completion of work for this project.

END OF STATEMENT OF NEED

U.S. AIR FORCE

EA Vehicle Maneuver and TOC



Locations are approximate to facilitate siting adjustments if required

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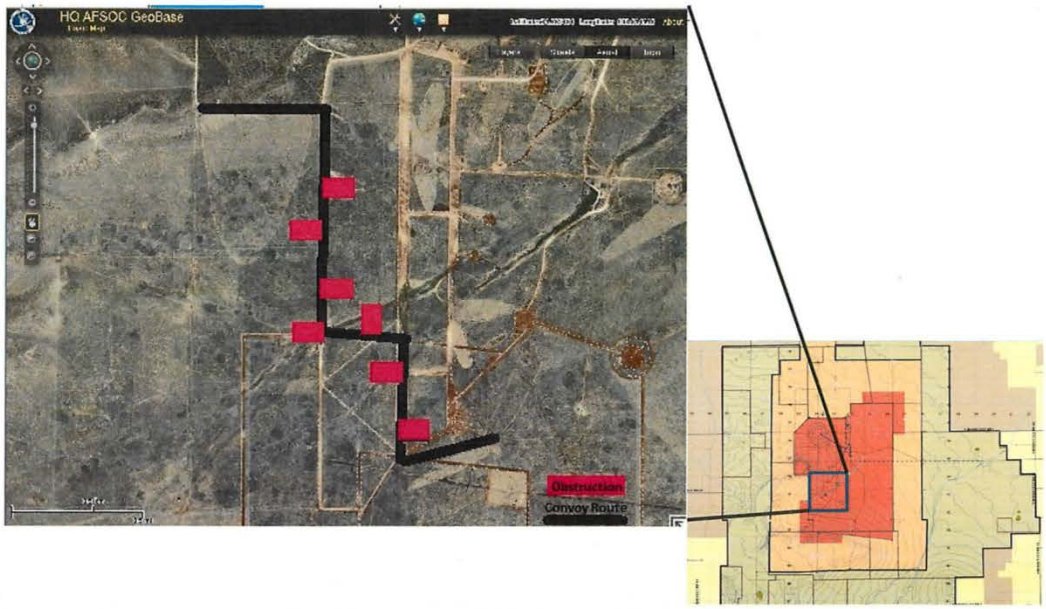
U.S. AIR FORCE

EA Vehicle Maneuver and TOC



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2

STATE OF NEW MEXICO
DEPARTMENT OF CULTURAL AFFAIRS
HISTORIC PRESERVATION DIVISION

BATAAN MEMORIAL BUILDING
407 GALISTEO STREET, SUITE 236
SANTA FE, NEW MEXICO 87501
PHONE (505) 827-6320 FAX (505) 827-6338

July 14, 2011

Lieutenant Colonel Daniel A. Guinan
Commander,
506 North D.L. Ingram Blvd.
Cannon AFB, NM 88103

Subj.: Section 106 review for five undertakings under the Comprehensive Range Plan for Melrose Air Force Range, Cannon AFB

Dear Colonel Guinan,

On behalf of the New Mexico Historic Preservation Officer (SHPO) I have completed the review of five undertakings planned for Melrose Air Force Range (MAFR) of Cannon Air Force Base (CAFB), received by our office on July 6, 2011 (HPD log 92452). As discussed during our July 11, 2011 teleconference, these undertakings will be reviewed individually under the standard Section 106 review process of the National Historic Preservation Act as defined in 36 CFR 800. These undertakings are actions consistent with the Comprehensive Range Plan for Melrose Air Force Range as described in the Environmental Assessment and the pending Finding of No Significant Impact (FONSI).

On July 13, 2011 Richard Chandler provided a summary of the results of tribal consultation for these projects by email (HPD log 92513). The SHPO understands that CAFB has consulted with the Apache Tribe of Oklahoma, the Comanche Indian Tribe, the Jicarilla Apache Nation, the Kiowa Tribe of Oklahoma, and the Mescalero Apache Tribe, and none of these tribes have comments or concerns on the undertakings.

The following sections describe SHPO's comments for all the five undertakings.

Undertaking 1: Perimeter Fence Replacement and Upgrade
The SHPO concurs that this project will not affect historic properties (LA 110527, LA 110530, and LA 110539), which are adjacent to the project APE, subject to conditions. Our records indicate that while the sites do not extend into the project APE, it is necessary for CAFB to construct a temporary fence to protect the sites during project construction. Details on the exact placement and design of the fence should be coordinated with our office. Contingent on CAFB meeting this condition, the SHPO concurs in a No Historic Properties Affected determination.

Lieutenant Colonel Daniel A. Guinan
Section 106 review, Melrose Air Force Range
page 2

Undertaking 2: Construct an "Unimproved" Airstrip
Two previously recorded archaeological sites are located, respectively, at the northeast end (LA 113764) and southwest (LA 110522) end of the proposed runway. In addition, a marked grave (LA 133071) is north of the west end of the proposed airstrip. The SHPO concurs that the undertaking as described will not affect these sites, subject to conditions. It is necessary for CAFB to construct temporary fences to protect these properties to ensure they are not inadvertently damaged during construction. Contingent on CAFB meeting this condition, the SHPO concurs in a No Historic Properties Affected determination.

Undertaking 3: Construct Terrorist Mountain Village, Three Caves, and a SERE Urban Area
After review of this undertaking, the SHPO concurs that the project will not have an adverse effect to previously recorded archaeological sites in or near the project APE, subject to conditions. The CAFB must avoid the archaeological sites by moving caves S-2 and S-3 a minimum distance of 150 meters (495 ft) away from the exterior boundaries of LA 66362, LA 66363, and LA 66324 and no closer than 200 meters (660 ft) from other previously recorded archaeological sites in the area.

If the caves sites cannot be relocated, then CAFB must notify the SHPO and the Advisory Council on Historic Preservation (ACHP) of this fact and CAFB will need to continue consultation with SHPO. That consultation may necessitate preparation of a Memorandum of Agreement (MOA) to mitigate this undertaking's adverse effects following the procedures set forth in Section 4.4.2.1 of the CAFB Integrated Cultural Resources Management Plan (ICRMP 2009:4-13).

If it necessary for CAFB and SHPO to enter into an MOA for this project, CAFB may proceed with phased construction at the Mountain Village and the SERE Urban Area, because no historic properties are present at their respective locations. But the use of the cave sites is prohibited until the provisions of the MOA are completed.

Undertaking 4: Construction of Tactical Operations Center.
There are no historic properties in or near the project APE. The SHPO concurs the Tactical Operations Center, as proposed, will not affect historic properties.

Undertaking 5: Convoy Escort and Maneuver Fire Compound.
There are no historic properties in or near the project APE. The SHPO concurs that the undertaking, as proposed, will not affect historic properties.

Previously Recorded Archaeological Sites.
During the review, we also noticed that many previously recorded archaeological sites and historic structures on MAFR either lack consensus determinations of National Register eligibility or have not been evaluated for National Register eligibility. We understand that CAFB is initiating a study of historic properties on MAFR to correct this problem.

We appreciate CAFB's efforts to protect the historic properties under its care and willingness to work with our office on matters affecting historic properties. We also want to thank the CAFB's Environmental staff for their prompt responses to our requests for more information on these undertakings

If you have any comments or questions about this consultation feel free to call or email me. My direct line is call (505) 827-4225 and my email: bob.estes@state.nm.us.

Sincerely,

Bob Estes

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