

**ENVIRONMENTAL ASSESSMENT
FOR THE
CONSTRUCTION AND OPERATION OF
JOINT LAND ATTACK CRUISE MISSILE DEFENSE
ELEVATED NETTED SENSOR SYSTEM (JLENS)
TACTICAL TRAINING SITES
ON
FORT BLISS, MCGREGOR RANGE, NEW MEXICO**

BLM NEPA DOI-BLM-NM-L000-2011-0218-EA



Prepared for:

**32nd AAMDC, 11th ADA Brigade
FORSCOM - FORT BLISS**

and the

**Bureau of Land Management
Las Cruces District Office
Las Cruces, NM**

**Prepared by:
Directorate of Public Works
Environmental Division, Fort Bliss**

December 2011

FINDING OF NO SIGNIFICANT IMPACT

Description of the Proposed Action: The U.S. Army proposes to construct and operate two permanent Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS) Tactical Training Sites (Tac-Sites) on the south side of NM 506 on Fort Bliss's McGregor Range. The JLENS Tac-Sites will support the operational and tactical training needs of three JLENS Batteries being stationed at the installation.

JLENS is a new elevated sensor system that provides early detection and tracking capabilities to defeat incoming, low altitude cruise missile threats. The system consists of two, 74-meter long, radar equipped, aerostats (helium-filled blimps) tethered to mobile mooring stations. One aerostat is equipped with a Surveillance Radar, and the other is equipped with a Fire Control Radar. Each aerostat is located at its own tactical site with supporting infrastructure and when operational, the aerostats are elevated to an altitude above 10,000 feet mean sea level (MSL). Both systems have the ability to function independently or as a complete sensor suite, but they must be located no closer than 3.1 miles (5 km) from each other to function together properly.

Approximately 64 acres will be disturbed for the construction of the Tac-Sites and associated infrastructure which includes access roads, aerostat mooring pads, training buildings, utilities, above ground storage tanks, parking areas, stormwater retention ponds, septic systems, and fencing. Additionally, when the aerostats are elevated, McGregor Range military airspace (Special Use Airspace R5103C) will be further restricted to any and all aircraft by the reservation of airspace 4.6 miles in diameter from the surface to 15,000 feet MSL around each aerostat. The Proposed Action will also include two new water wells in the training areas, providing a source of water for firefighting purposes on northern McGregor Range where there was none previously.

Purpose and Need: The purpose of the Proposed Action is to provide permanent facilities (Tac-Sites) on Fort Bliss to train Soldiers on the operation and use of JLENS to detect, track, and target cruise missiles in a tactical setting in preparation for deployment to combat theaters and to support Joint Integrated Air and Missile (IAMD) Program testing and training at Fort Bliss.

Preferred Alternative: The Proposed Action is the Preferred Alternative. The Tac-Sites have specific requirements for construction, operation, and safety. Only one location on Fort Bliss was found that meets the siting criteria for the Tac-Sites. No other viable alternative locations for the Proposed Action were identified.

No Action Alternative: Under the No Action Alternative, the JLENS Tac-Sites would not be constructed on Fort Bliss, thus the Fort Bliss would not have the necessary facilities to provide operational and tactical training to the Soldiers of the JLENS Batteries. The No Action Alternative would result in the U.S. Army having to conduct the action at another installation and would not meet the need for on-Post operational and tactical training facilities for the JLENS units being stationed at Fort Bliss.

Summary Of Environmental Resources And Impacts: Implementation of the Proposed Action with the incorporated design, construction, operation, and safety measures will have no

significant impacts on land use, soils, biological resources, cultural resources, water resources, air quality, hazardous materials and waste, airspace, radio frequency and spectrum use, transportation and infrastructure, health and safety, and noise on Fort Bliss or the surrounding area. The cumulative impacts from the construction of training facilities and support infrastructure have been addressed in the *Fort Bliss, Texas and New Mexico Mission and Master Plan Final Supplemental Programmatic Environmental Impact Statement* for which a Record of Decision (ROD) was signed 30 April 2007 and the *Fort Bliss Army Growth and Force Structure Realignment Final Environmental Impact Statement* for which a Rod was signed 8 June 2010. This Environmental Assessment (EA) is tiered to these documents. The Proposed Action is encompassed within the scope of analysis contained in these documents. When the aerostats are elevated, reservation of airspace in the already restricted military airspace may potentially affect other training missions; however, Fort Bliss will coordinate scheduling of JLENS operations with White Sands Missile Range, Holloman Air Force Base, and the Federal Aviation Administration to alleviate airspace use conflicts.

Conclusion: Based on the analysis of the Proposed Action and the design, construction, operation, mitigation, and safety measures presented in the EA, I conclude that the impacts of the Proposed Action will not significantly affect the human or natural environment of Fort Bliss or the surrounding area. I further conclude that implementation of the Proposed Action will not constitute a major federal action requiring the preparation of an Environmental Impact Statement, pursuant to the National Environmental Policy Act of 1969 (Public Law 91-190). Therefore, a Finding of No Significant Impact (FNSI) is warranted.



Joseph A. Simonelli, Jr.
Colonel, U.S. Army
Commanding

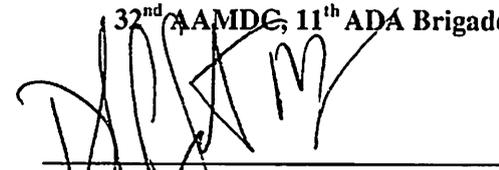
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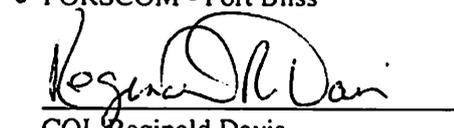
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FORT BLISS, MCGREGOR RANGE, NEW MEXICO

PREPARED FOR:

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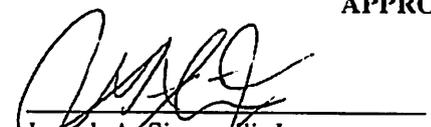

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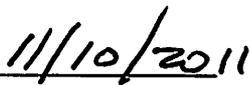
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EXECUTIVE SUMMARY

Proposed Action

The U.S. Army proposes to construct and operate two permanent Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS) Tactical Training Sites (Tac-Sites) on the south side on NM 506 on Fort Bliss's McGregor Range. The JLENS Tact-Sites would support the operational and tactical training needs of three JLENS Batteries being stationed at the installation.

JLENS is a new elevated sensor system that provides early detection and tracking capabilities to defeat incoming, low altitude cruise missile threats. It consists of two, 74-meter long, radar equipped, aerostats (helium-filled blimps) tethered to mobile mooring stations. One aerostat is equipped with a Surveillance Radar, and the other is equipped with a Fire Control Radar. Each aerostat is located at its own tactical site with supporting infrastructure and when operational, the aerostats fly at an altitude above 10,000 feet mean sea level (MSL). Both systems have the ability to function independently or as a complete sensor suite, but they must be no closer than 3.1 miles (5 km) to each other to function together properly. When the aerostats are elevated, McGregor Range military airspace (Special Use Airspace R5103C) will be further restricted to any and all aircraft by the reservation of airspace 4.6 miles in diameter from the surface to 15,000 feet MSL around each aerostat. Coordination through Range Management Operations – Airspace Scheduling with White Sands Missile Range (WSMR), Holloman Air Force Base, and the Federal Aviation Administration (FAA) would alleviate scheduling conflicts. Approximately 64 acres would be disturbed for the construction of the Tac-Sites and associated infrastructure which includes access roads, aerostat mooring pads, training buildings, utilities, above ground storage tanks, parking, stormwater retention ponds, septic systems, and fencing. Additionally, the Proposed Action would also include two new water wells, providing a source of water for firefighting purposes on northern McGregor Range where there was none previously.

Alternative Actions

Only one area on Fort Bliss was suitable for placement of the JLENS Tac-Sites due to their specific site and operational requirements; therefore no other action alternatives were identified except the Preferred Action.

No Action Alternative

Under the No Action Alternative, the Tac-Sites would not be constructed at Fort Bliss. Consequently, Fort Bliss would not have the necessary training facilities for the three scheduled JLENS Batteries to provide Soldiers with the training to develop, maintain, and enhance their operational skills. Transporting Soldiers to a different installation for operational and tactical training with the aerostats would be costly and time consuming. The No Action Alternative, therefore, does not meet the needs of the JLENS units being stationed at Fort Bliss, or the needs of the U.S. Army.

It is assumed that if the No Action Alternative is chosen at Fort Bliss, the U.S. Army would need to conduct the action elsewhere. The environmental impacts of locating the Tac-Sites elsewhere, including the impacts from the transportation of Soldiers from Fort Bliss to the receiving

**Environmental Assessment for the Construction and Operation of
JLENS Tactical Training Sites on Fort Bliss, McGregor Range, New Mexico**

installation for training, would be analyzed in a separate document once that installation is identified.

Environmental Consequences

The Proposed Action with specified design, construction, operation, and safety measures would have no long term, negative impacts to the environment. Cumulative impacts of recent U.S. Army initiatives mandated expansion and construction activities at Fort Bliss are discussed in the *Fort Bliss, Texas and New Mexico Mission and Master Plan Final Supplemental Programmatic Environmental Impact Statement* (SEIS) for which a Record of Decision (ROD) was signed 30 April 2007 and the *Fort Bliss Army Growth and Force Structure Realignment Final Environmental Impact Statement* (GFS EIS) for which a ROD was signed 8 June 2010. This Environmental Assessment is tiered to those documents.

Table ES-1. Potential Effects of the Proposed Action

Resource	Proposed Action
Land Use and Aesthetics	The Fort Bliss land use category (Category A) would not change; however, 64 acres of 420,000 acres on McGregor Range would be fenced and removed from the recreational designation, and 32 acres of 270,000 acres would be removed from grazing in Training Area 11 (Bureau of Land Management, Grazing Unit 2). The loss of recreational and grazing area is considered very small; less than one percent of the area is designated as such. The access road to Tac-Site 1 would require a cattle guard at the boundary of the grazing unit to exclude and protect livestock. Recreational use areas are closed when used by Fort Bliss for training. Additionally, the Proposed Action would not adversely impact the visual resources of the area.
Soils	Approximately 64 acres would be disturbed. Best Management Practices (BMPs) per Fort Bliss Storm Water Pollution Protection Plan (SWPPP) guidance would be utilized to control fugitive dust and erosion during construction.
Vegetation	Approximately 32 acres would be cleared of regionally common shrubland vegetation and 32 acres of sagebrush vegetation would be lost. This represents less than one percent of these communities on Fort Bliss. BMPs per Fort Bliss SWPPP guidance would be utilized during clearing activities. A noxious weed monitoring and treatment plan would be established to prevent or control the establishment of noxious weeds.
Wildlife	No effect to species listed under the Endangered Species Act due to lack of habitat. Some sensitive species and migratory birds may be minimally affected from loss of potential habitat (64 acres). To minimize potential impacts, site preparation would be done in fall or winter (non-breeding season) or a preconstruction survey for birds would be undertaken. Overhead electric lines would be constructed per avian protection guidelines. Some adverse impact to bats and migratory birds may occur from strikes to the tether or aerostat, but the area is not in a major bird or bat migration corridor. Outdoor lighting would be down-shielded and would be turned off when not in use. Night-time lighting on the aerostat would be white or red strobe lighting.
Cultural	Existing surveys indicate that no surface cultural resources exist at these locations. The Proposed Action will not be within the viewshed of a historic district. If sub-surface cultural resources are encountered during the construction, work will stop at that location, and the sites would be avoided or properly mitigated. Any discovery of possible human remains would be treated in accordance with the Native American Graves Protection Act and established procedures of Fort Bliss.

**Environmental Assessment for the Construction and Operation of
JLENS Tactical Training Sites on Fort Bliss, McGregor Range, New Mexico**

Resource	Proposed Action
Surface Water	An arroyo east of Tac-Site 1 would be minimally impacted by access road, as the road would be designed with culverts or a low water crossing to allow continued water flow. Drilling muds would be contained in a closed container or bermed and lined enclosure, which would be removed when drilling is completed. BMPs per Fort Bliss Construction SWPPP guidance would be utilized to control temporary fugitive dust and erosion during clearing and construction. Design of storm water drainage would comply with Section 438 of the Energy Independence and Security Act.
Groundwater	There would be negligible impact to a nearby well. Well permits would be obtained from New Mexico (NM) State Engineers Office prior to construction of permanent wells for quantity that would not result in drawdown of the well. On-site septic system would comply with NM codes.
Air Quality	There would be temporary increase in fugitive dust and emissions release from equipment during construction. Nearby concrete batch plant would reduce haul time; hence, emissions release. Road paving would reduce fugitive dust levels in area from vehicle travel. Batch plant contractor would require a SWPPP and a NM General Construction Permit. Negligible increase in vehicle emissions during use of facilities. Use of backup generators would be monitored to ensure compliance with the NM Air Quality Bureau.
Hazardous Materials and Waste	A limited amount of hazardous materials and waste would be used or generated at the Tac Sites from maintenance and operational activities including petroleum, oils, lubricants and deicing chemicals. Any such waste would be managed under the Installation Hazardous Waste Material Management Program. Solid waste would be separated into recyclable and non-recyclable materials collected on site and disposed of at an approved disposal facility for the type of waste. Leachate from the reverse osmosis and desalination system would be stored in an on-site tank and periodically removed for proper disposal. All drilling mud would be removed by the well drilling contractor as part of the contract. A temporary concrete batch plant is required with all equipment and materials to be removed by the contractor when site construction is completed. Fuel for generators and helium for aerostats transported and stored on-site in designated trucks. Secondary containment for fuel tankers would be utilized.
Airspace	Restriction of airspace could affect scheduling. Tac-Sites located to minimize conflicts with airspace usage. Elevation of aerostat would be done through Range Operations-Flight Control in coordination with WSMR, Holloman Air Force Base, and the FAA. When elevated, a 4.6 mile diameter airspace restriction around each aerostat from the surface to 15,000 feet MSL would be in effect. Lighting of aerostats would be in accordance with FAA and Army regulations.
Radio Frequency and Spectrum Use	There could be a small potential to create frequency interference. The radars will meet MIL-STD 461F for allowable electromagnetic emissions. A permit would be required for radar usage from Fort Bliss Network Enterprise Center. Standard operating procedures would be followed for radar usage. Coordination of operations with the Area Frequency Coordinator, FAA, and the FCC would reduce the incidences of interference.
Transportation and Infrastructure	Temporary disruptions to traffic and the railroad would be expected during construction and road renovation. Renovations to the railroad crossing would be coordinated with railroad. Increased traffic load in area during operations and training. NM 506 renovation would be within existing road alignments. Paving results in reduction of fugitive dust in area from traffic, reduces need for road maintenance, and increases road safety. Fort Bliss would obtain an easement for the renovation and maintenance of NM 506 from the BLM.

**Environmental Assessment for the Construction and Operation of
JLENS Tactical Training Sites on Fort Bliss, McGregor Range, New Mexico**

Resource	Proposed Action
Health and Safety	UXO survey prior to ground disturbance would be completed. Paving of NM 506 would increase vehicle safety by reducing fugitive dust levels, thereby increasing visibility in area. Lightning protection of aerostats and facilities would be incorporated in design. Lighting of aerostats would adhere to FAA regulations. Perimeter security lighting provided. On-site above ground storage tanks would provide water for fire protection; previously not available in that area. Potable water would be treated by a reverse osmosis and desalination system. To protect personnel and wildlife, radars equipped with a safety feature that would not allow emissions until the aerostat reaches a minimum altitude of 1000 feet above ground level.
Noise	Temporary increase during construction from heavy equipment and generators. Noise increase during JLENS training from mobile generators. Critical noise receptors too far from Tac-Sites to be affected. No change in noise contours as analyzed in the GFS EIS is anticipated.

* Per USAEC 2007

TABLE OF CONTENTS

EXECUTIVE SUMMARY	ES-1
1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION.....	1
1.1 Introduction.....	1
1.2 Purpose and Need for the Proposed Action	1
1.3 Scope and Content of the Analysis	4
1.4 Decision(s) To Be Made	4
1.5 Public Participation.....	4
2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES	5
2.1 Proposed Action Alternative.....	5
2.2 No Action Alternative.....	11
3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES....	13
3.1 Land Use and Aesthetics.....	15
3.1.1 Affected Environment.....	15
3.1.2 Environmental Consequences of Proposed Action.....	16
3.1.3 Environmental Consequences of No Action Alternative.....	16
3.2 Soils.....	17
3.2.1 Affected Environment.....	17
3.2.2 Environmental Consequences of Proposed Action.....	17
3.2.3 Environmental Consequences of No Action Alternative.....	16
3.3 Biological Resources	17
3.3.1 Affected Environment.....	17
3.3.2 Threatened and Endangered Species, Species of Concern, and LINRs....	18
3.3.3 Environmental Consequences of Proposed Action.....	18
3.3.4 Environmental Consequences of No Action Alternative.....	16
3.4 Cultural Resources	19
3.4.1 Affected Environment.....	19
3.4.2 Environmental Consequences of Proposed Action.....	20
3.4.3 Environmental Consequences of No Action Alternative.....	20
3.5 Surface Water.....	20
3.5.1 Affected Environment.....	20
3.5.2 Environmental Consequences of Proposed Action.....	20
3.5.3 Environmental Consequences of No Action Alternative.....	21
3.6 Groundwater	21
3.6.1 Affected Environment.....	21
3.6.2 Environmental Consequences of Proposed Action.....	21
3.6.3 Environmental Consequences of No Action Alternative.....	22
3.7 Air Quality	24
3.7.1 Affected Environment.....	24
3.7.2 Environmental Consequences of Proposed Action.....	24
3.7.3 Environmental Consequences of No Action Alternative.....	24
3.8 Transportation, Construction, and Supporting Infrastructure	25

**Environmental Assessment for the Construction and Operation of
JLENS Tactical Training Sites on Fort Bliss, McGregor Range, New Mexico**

3.8.1	Affected Environment.....	25
3.8.2	Environmental Consequences of Proposed Action.....	25
3.8.3	Environmental Consequences of No Action Alternative.....	26
3.9	Health and Safety.....	26
3.9.1	Affected Environment.....	26
3.9.2	Environmental Consequences of Proposed Action.....	26
3.9.3	Environmental Consequences of No Action Alternative.....	26
3.10	Noise.....	27
3.10.1	Affected Environment.....	27
3.10.2	Environmental Consequences of Proposed Action.....	27
3.10.3	Environmental Consequences of No Action Alternative.....	28
3.11	Hazardous Materials and Waste.....	28
3.11.1	Affected Environment.....	28
3.11.2	Environmental Consequences of Proposed Action.....	28
3.11.3	Environmental Consequences of No Action Alternative.....	28
3.12	Air Space Operations.....	28
3.12.1	Affected Environment.....	28
3.12.2	Environmental Consequences of Proposed Action.....	29
3.12.3	Environmental Consequences of No Action Alternative.....	29
3.13	Radio Frequency and Spectrum Use.....	31
3.13.1	Affected Environment.....	31
3.13.2	Environmental Consequences of Proposed Action.....	31
3.13.3	Environmental Consequences of No Action Alternative.....	316
4.0	CUMULATIVE IMPACTS.....	33
5.0	SUMMARY OF MITIGATION MEASURES.....	35
6.0	ACRONYMS AND ABBREVIATIONS.....	37
7.0	REFERENCES.....	39

LIST OF FIGURES

Figure 1.	Fort Bliss Tac-Site Location.....	2
Figure 2.	JLENS Operational Requirements.....	3
Figure 3.	Proposed Action.....	6
Figure 4.	Land Use and Aesthetics.....	7
Figure 5.	Typical Platoon Tactical Training Sites.....	9
Figure 6.	Ground Water Aquifers on McGregor Range.....	23
Figure 7.	McGregor Range Restricted Airspace.....	30

LIST OF TABLES

Table ES-1.	Potential Effects of the Proposed Action.....	ES-2
Table 1.	Proposed Action Project Locations.....	8
Table 2.	Summary of Valued Environmental Components Analysis.....	13

LIST OF APPENDICES

- Appendix A. Interagency and Public Coordination
- Appendix B. ROW and Utility Maps
- Appendix C. Air Emissions Calculations

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1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 Introduction

The U.S. Army proposes to construct and operate two permanent Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS) Tactical Training Sites (Tac-Sites) on Fort Bliss's McGregor Range in New Mexico (Figure 1) to support the operational and tactical training needs of three JLENS Batteries being stationed at the installation. These Tac-Sites would be the only such facilities in existence in the United States (Neely 2010).

JLENS is a new radar system that would better protect United States (U.S.) and allied military assets from low altitude cruise missile threats in combat situations. JLENS is an elevated sensor system that provides early detection and tracking capabilities to defeat incoming, low altitude cruise missile threats. The system consists of two, 74-meter long, radar equipped, aerostats (helium-filled blimps) tethered to mooring stations (Figure 2). One aerostat is equipped with a Surveillance Radar (SuR), and the other is equipped with a Fire Control Radar (FCR). Each aerostat is located at its own tactical site with supporting infrastructure and when operational, the aerostats are elevated to an altitude of 10,000 feet above mean sea level (MSL) or about 6,000 feet above ground level (AGL). Both systems have the ability to function independently or as a complete sensor suite, but they must be no closer than 3.1 miles (5 km) apart to function together properly (Figure 3). When the aerostats are elevated, McGregor Range military airspace (Special Use Airspace [SUA] R5103C) will be further restricted to any and all aircraft by the reservation of airspace 4.6 miles in diameter from the surface to 15,000 feet MSL around each aerostat (Neely 2010; U.S. Army 2007; U.S. Army 1998) (Figures 2 and 7).

1.2 Purpose and Need for the Proposed Action

The purpose of the Proposed Action is to provide permanent facilities (Tac-Sites) on Fort Bliss to train Soldiers on the operation and use of JLENS to detect, track, and target cruise missiles in a tactical setting in preparation for deployment to combat theaters and to support Joint Integrated Air and Missile Defense (IAMD) Program testing and training at Fort Bliss.

Fort Bliss has recently been expanding its mission due to Base Realignment and Closure (BRAC) mandates and Army Transformation and Army Growth Initiatives. The potential and cumulative impacts of the mission expansion have been discussed in the *Fort Bliss, Texas and New Mexico Mission and Master Plan Final Supplemental Programmatic Environmental Impact Statement* (SEIS) for which a Record of Decision (ROD) was signed 30 April 2007 and the *Fort Bliss Army Growth and Force Structure Realignment Final Environmental Impact Statement* (GFS EIS) for which a ROD was signed 8 June 2010. This expansion stationed one JLENS Battery with associated barracks, classrooms, and motor pool within the Fort Bliss Cantonment area, which was programmatically covered by these documents, but the Tac-Sites for operational and tactical training (with aerostats) for this Battery were initially planned for White Sands Missile Range (WSMR) (Neely 2010, U.S. Army 2008b). Therefore, this action was not covered in the afore-mentioned EISs. In late 2009, because of mission differences between the two installations, the U.S. Army changed the plan and proposed the Tac-Sites for Fort Bliss (Neely 2010). This created a need to find suitable locations on Fort Bliss for the Tac-Sites.

**Environmental Assessment for the Construction and Operation of
JLENS Tactical Training Sites on Fort Bliss, McGregor Range, New Mexico**

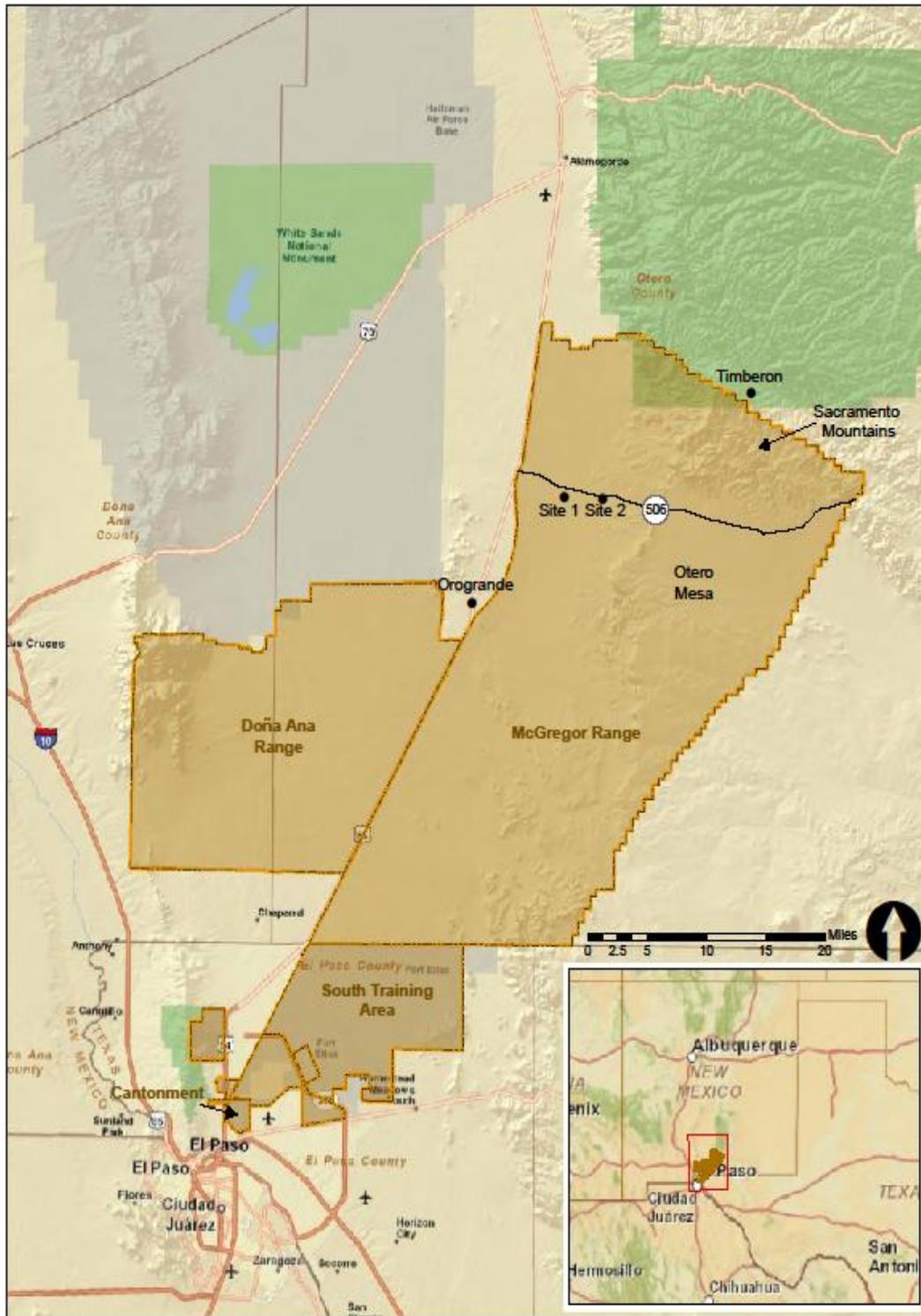


Figure 1: Fort Bliss Tac-Site Location

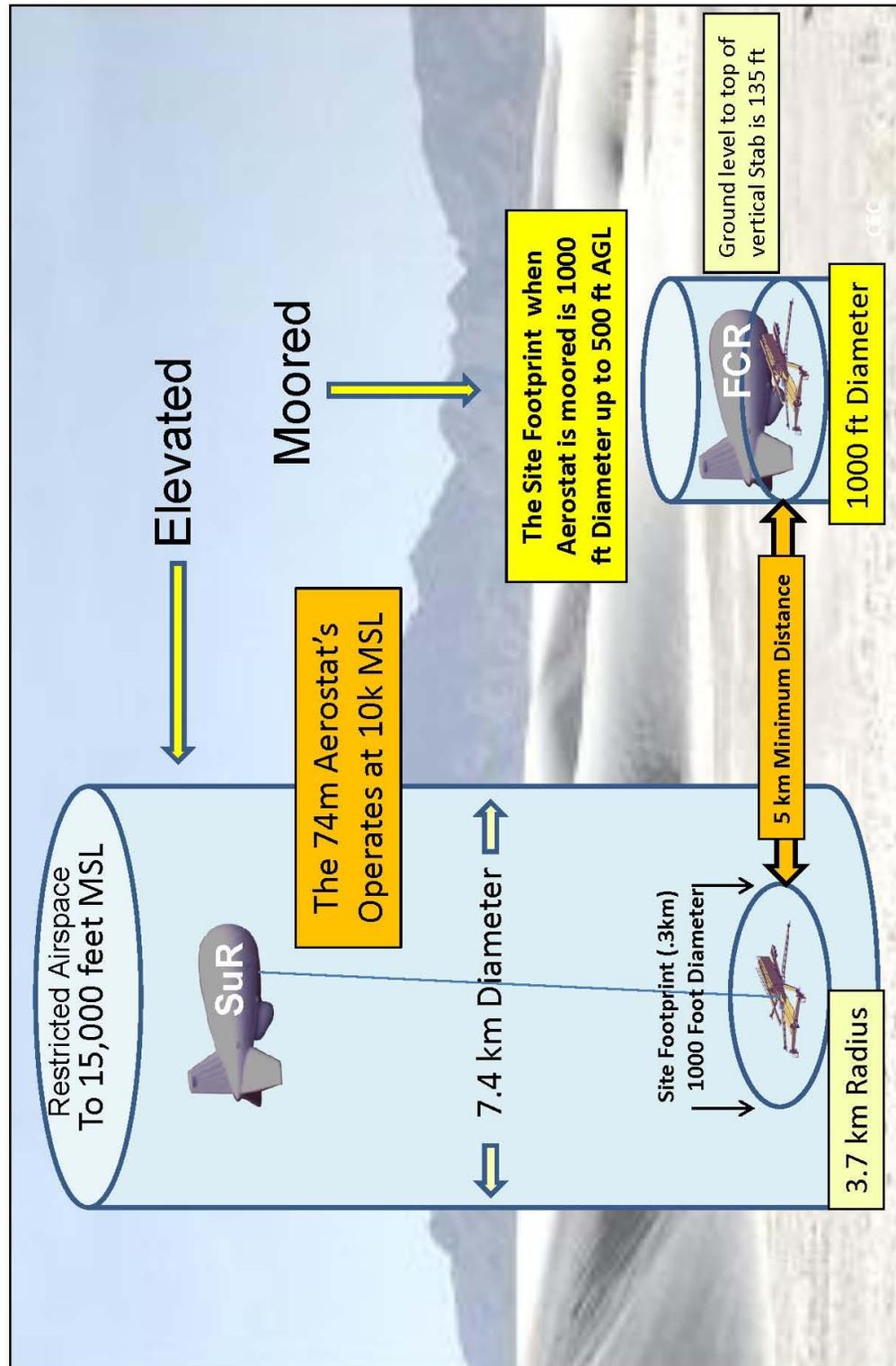


Figure 2: JLENS Operational Requirements

In January 2010, two other JLENS Batteries were relocated to the Installation as a cost saving measure by the Vice Chief of Staff, Army (VCSA) *DP 128 Stationing Decision* (17 Jan 10) (DP 128). Stationing of like units together is expected to reduce overall operating costs and increase efficiency. DP 128 further strengthened the rationale for locating the Tac-Sites on Fort Bliss.

1.3 Scope and Content of the Analysis

This Environmental Assessment (EA) identifies, documents, and evaluates potential environmental effects of the construction and operation of JLENS Tac-Sites on Fort Bliss. It has been prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) of 1969 (Public Law [PL] 91-190), with regulations published at 40 Code of Federal Regulations (CFR) 1500, and at 32 CFR Part 651 – Environmental Analysis of Army Actions. NEPA establishes procedural requirements for all Federal agency actions and directs the Army to disclose the environmental effects of its proposed activities at Fort Bliss to the public and officials who must make decisions concerning the proposal.

1.4 Decision(s) To Be Made

The U.S. Army, through the Garrison Commander (GC) and FORSCOM 32nd AAMDC - Fort Bliss, is the lead agency responsible for the completion of the EA. If no significant environmental impacts are determined, based on the evaluation of impacts in the EA, a Finding of No Significant Impact (FNSI) will be signed by the GC. If it is determined that the Proposed Action will have significant environmental impacts, the action will either be relocated to another Installation, or a Notice of Intent (NOI) will be published leading to the preparation of an Environmental Impact Statement (EIS).

The Bureau of Land Management (BLM) will utilize this EA as a basis for a decision of granting: 1) a road improvement right-of-way (ROW) over withdrawn public land for that portion of NM 506 that provides access to the JLENS Tac-Sites; 2) and a utility ROW over BLM non-withdrawn lands located between US 54 and the Union Pacific railroad. The BLM is responsible under the Federal Land Policy and Management Act (FLPMA) to respond to requests for ROW grants for legal access across public lands. The BLM Las Cruces District Office Manager is the Deciding Official. Based on the information provided in this EA, the BLM Manager will decide whether to grant the ROW applications with appropriation mitigation measures, or whether to reject it.

The proposed action is compatible with the Military Lands Withdrawal Act (MLWA) of 1999 (PL 106-65) and the McGregor Range Resource Management Plan (RMP) Amendment to the White Sands Resource Area RMP (BLM 2006).

1.5 Public Participation

Environmental agencies and the public would be involved to the extent practical in the preparation of the EA. The EA and draft FNSI was made available to the public for comments at least 30 days prior to signing of the FNSI and initiation of the Proposed Action. The distribution of the EA included local libraries and agencies, organizations, and individuals who expressed interest in the project, including the BLM, Holloman Air Force Base, and WSMR. A distribution list can be found in Appendix A, Interagency and Public Coordination. No comments from the public were received during the comment period.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

Areas suitable for placement of the JLENS Tac-Sites on Fort Bliss are constrained due to specific site, safety, and operational requirements (Barnes pers. comm.; JLENS 2009; White Sands Test Center Operations Office 2010; Neely, pers. comm. 2010). These requirements are summarized as follows:

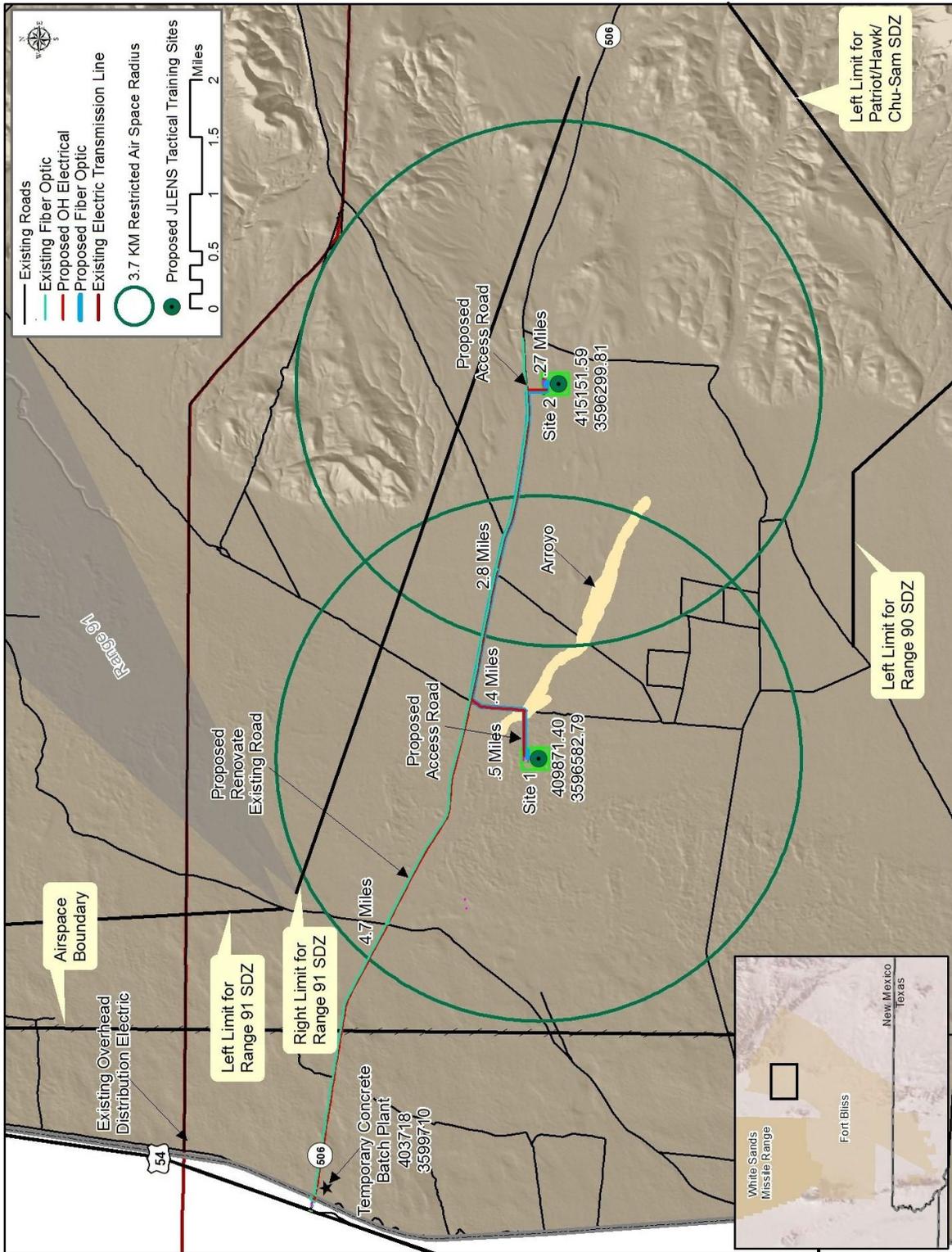
- The Tac-Sites should be located in close proximity to areas that would supply targets of opportunity (i.e., missiles fired during training, target drones, unmanned aerial vehicles, etc.) to provide realistic system training in identifying, tracking, and targeting missiles.
- To minimize costs, the Tac-Site locations must be readily accessible to roads and electric and communication infrastructure and be as level as possible to reduce site preparation efforts.
- For the radars to operate properly, the Tac-Sites must be located no closer than 3.1 miles (5 km) apart and sited in areas away from tall buildings, hills, bluffs, or mountainous terrain (Figure 2).
- The airspace restriction area of 4.6 miles (7.4 km) in diameter around each Tac-Site must remain completely inside Fort Bliss restricted airspace boundaries, and must maintain a distance of 2.5 miles (4 km) from US 54 to avoid restricted airspace encroachment of the existing Federal Aviation Administration (FAA) Visual Flight Rules (VFR) Flight Corridor along US 54 (see Figures 2 and 3).
- The airspace restriction area must not encroach upon the flight paths or restricted airspace for Biggs Army Airfield, El Paso International Airport, or Holloman Air Force Base.
- The Tac-Site locations must not be located within the Surface Danger Zone (SDZ) limits of any firing range (Figure 3).
- The Tac-Site locations and their restricted airspace areas must not conflict with other range or mission requirements.
- The Tac-Site locations and access routes must not be located in areas with previously identified cultural and natural resource issues.

In accordance with Council on Environmental Quality regulations (40 CFR 1502.14) and 32 CFR Part 651, the EA must identify and describe all reasonable alternatives to the proposed action, including the No Action Alternative. After extensive siting exercises, it was found that Doña Ana Range, Otero Mesa, the Cantonment Area, and the South Training Areas (Figure 1) do not meet the specific construction, operational, and safety requirements for siting the Tac-Sites as summarized above. Only one location on Fort Bliss was found to meet the siting criteria and is the Preferred Alternative. Therefore, there are no other alternatives for the Proposed Action carried forward for analysis in this EA.

2.1 Proposed Action Alternative

The proposed action would locate the Tac-Sites south of NM 506 (east of US 54) on Fort Bliss, McGregor Range in New Mexico (Table 1, Figures 1 and 3). Tac Site 1 is located in Fort Bliss designated Training Area (TA) 11 and BLM Grazing Unit (GU) 2, while Tac-Site 2 is located in TA-29. Both sites are also located within Fort Bliss designated Land Use Category A which includes both military and recreational use. Both are within a BLM Visual Resource Management (VRM) area (U.S. Army 2010) (Figure 4).

**Environmental Assessment for the Construction and Operation of
JLENS Tactical Training Sites on Fort Bliss, McGregor Range, New Mexico**



**Environmental Assessment for the Construction and Operation of
JLENS Tactical Training Sites on Fort Bliss, McGregor Range, New Mexico**

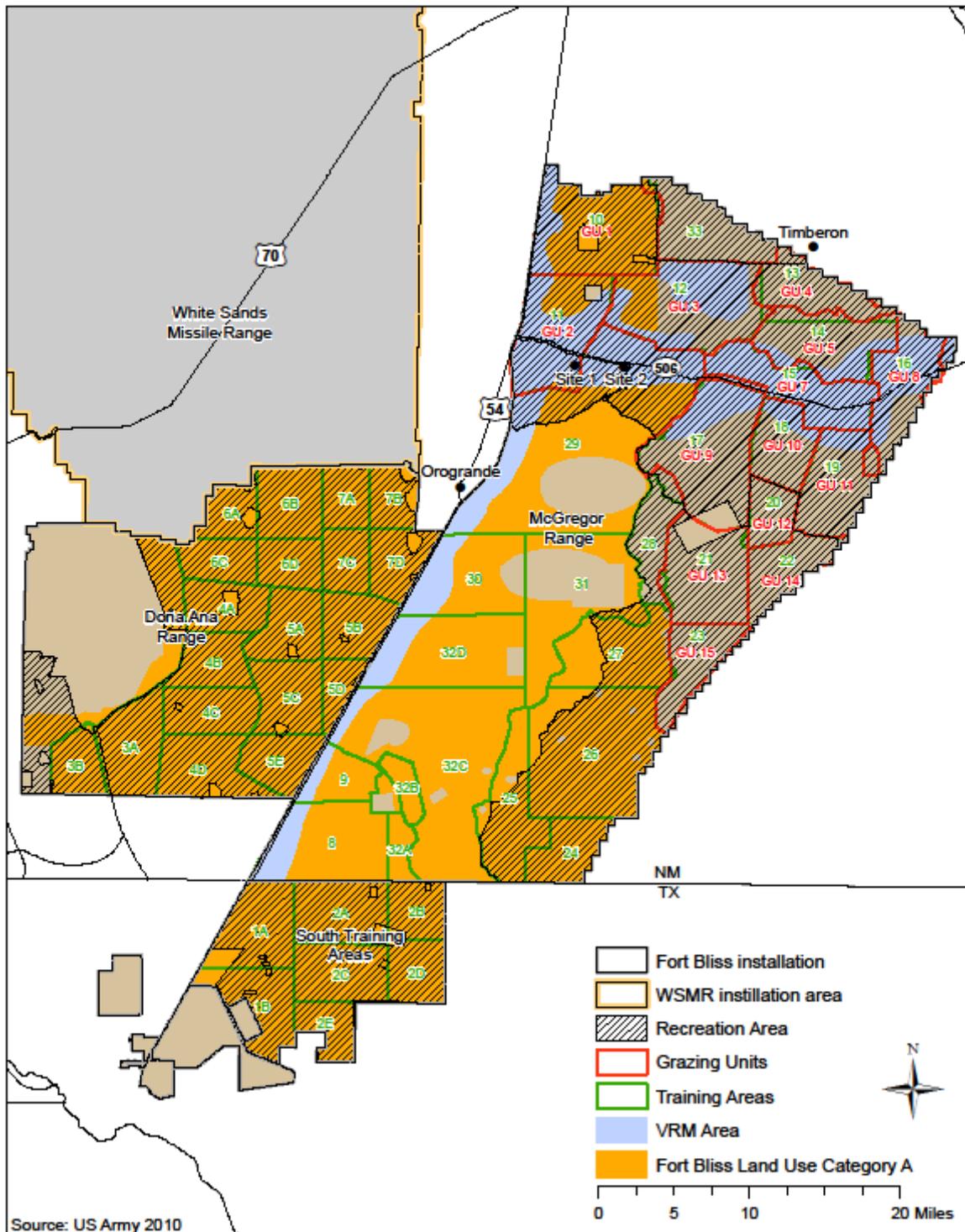


Figure 4: Land Use and Aesthetics

**Environmental Assessment for the Construction and Operation of
JLENS Tactical Training Sites on Fort Bliss, McGregor Range, New Mexico**

Table 1. Proposed Action Project Locations

NAME	LOCATION	UTM COORDINATES ¹
Tac-Site 1	Approximately 4.7 miles east of US 54 and 0.5 miles south of NM 506, Otero County NM in TA-11 and BLM GU- 2.	409,871 E; 3,596,582 N
Tac-Site 2	Approximately 7.5 miles east of US 54, and 0.27 miles south of NM 506, Otero County, NM in TA-29.	415,151 E; 3,596,299 N
Alternate Concrete Batch Plant Site	South side of NM 506, east of the railroad tracks along US 54, Otero County, NM.	403,718 E; 3,599,710 N

¹ Approximate center point, as approved by Installation Management Command (IMCOM), NAD83, Zone 13

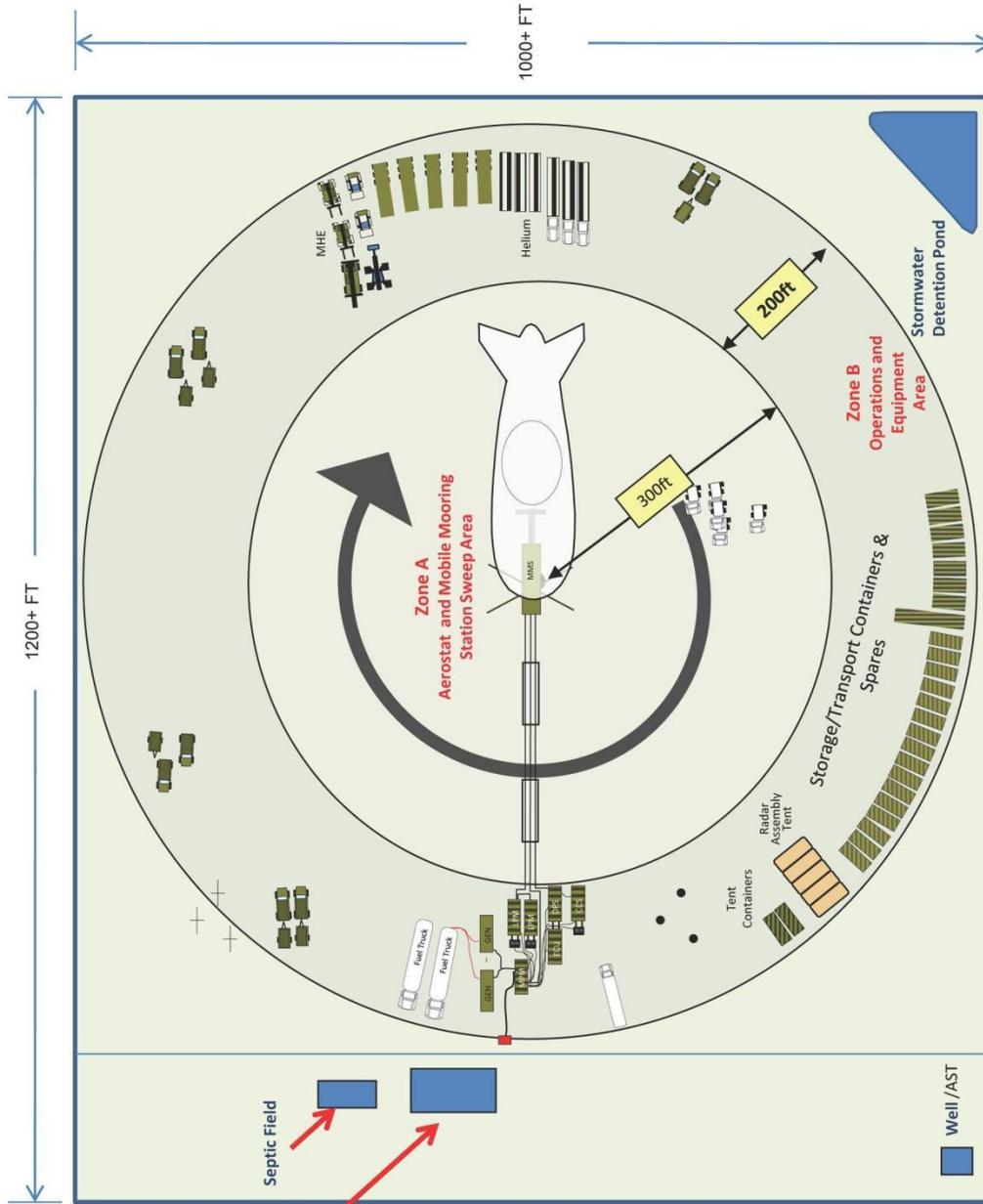
Each Tac-Site (Figure 5) would be approximately 29 acres in size and would include a 1000 foot diameter aerostat mooring site with a 600 foot diameter concrete pad in the center, a mooring station, a training building, utilities, portable backup generator, lightning and electrical grounding system, a water well and storage tank for fire protection and potable water, storm drainage, septic system, vehicle parking lot, and a chain link perimeter fence with security lighting (Neely pers. comm.; USACE 2010a). Elevation of the aerostats would be scheduled through the Directorate of Plans, Training, Mobilization and Security (DPTMS), McGregor Base Camp - Range Operations (Airspace Scheduling Office). JLENS would not interfere or subvert previously scheduled training or use of the airspace. When the aerostats are elevated, McGregor Range military airspace (SUA R5103C) will be further restricted to any and all aircraft by the reservation of airspace 4.6 miles in diameter from the surface to 15,000 feet MSL around each aerostat (Figures 2 and 7).

Approximately 64 acres would be cleared of vegetation and leveled for the construction of both of the proposed Tac-Sites and infrastructure: approximately 29 acres for each Tac-Site, 4.6 acres for access roads, and 1.2 acres for fiber optic line installation. If necessary, additional soil for leveling the sites would be obtained from approved borrow pits within Fort Bliss. All site preparation activities would follow Best Management Practices (BMPs) per Fort Bliss Construction Stormwater Pollution Prevention Plan (SWPPP) guidance (U.S. Army 2011).

Access to the proposed Tac-Sites is from NM 506. Approximately 7.6 miles of NM 506, extending east from US 54, would be renovated and paved within its existing alignment to support the weight of the JLENS components to be transported to the Tac-Sites, and the increased traffic load resulting from the JLENS construction and training activities. The renovation to NM 506 also includes improvements to the Union Pacific Railroad crossing located east of US 54. NM 506, located on McGregor Range, existed before passing of the MLWA. As such, Fort Bliss would obtain a ROW from the BLM to establish its interest to improve and maintain the section of NM 506 that would provide access to the Tac-Sites. A map of the ROW is included in Appendix B.

Access to the proposed Tac-Site 1 from NM 506 would require the construction of approximately one mile of new road resulting in 3.6 acres (estimated at 30-foot wide) being cleared and grubbed. A cattle guard would be placed on the access road where it enters GU- 2 to keep cattle from escaping the grazing area. Access to Tac-Site 2 requires the construction of 0.27 miles of a new road for an additional acre of disturbance (Figure 3). Both access roads would be surfaced with a combination of asphalt and concrete.

**Environmental Assessment for the Construction and Operation of
JLENS Tactical Training Sites on Fort Bliss, McGregor Range, New Mexico**



- Facilities Requirements:**
- Prepared Site 500 ft radius
 - Chain Link fenced Area of 1000ft X 1200ft as shown with 40ft Gates and perimeter lighting
 - Admin/Training Building Site
 - Security/ Classrooms/ Latrines/Break area/ Vault/IDS/Potable Water
 - Commercial electrical power for JLENS system, the Site Administration and Training Building and perimeter lighting
 - Parking for Battery Personnel and visitor POVs
 - Lightning and electrical grounding system
 - Internet Service/Telephone Service/Communications
 - Security Services
- Note: Cleared Area Approximately 1030 FT X 1230 FT = 29 Acres

Sources: Neely, T.J. TCM-LT/JLENS; USACE 2010 NOT TO SCALE

Figure 5: Typical Platoon Tactical Training Sites

To supply power to the Tac-Sites, approximately 9 miles of overhead electric distribution line would need to be constructed. Approximately 7.5 miles would be constructed along the south side of NM 506 in accordance with State and Federal guidelines. The line would run eastward from an existing three phase distribution line located adjacent to US 54 (Figure 3). An additional 1.5 miles of line would be constructed adjacent to the proposed Tac-Site access roads from this feeder line. The lines would be approximately 40 feet in height, 14.4 kv, three phase, horizontal construction. All overhead electric lines would be constructed in accordance with avian protection guidelines as described in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*, which includes insulated jumper wires (APLIC 2006). The majority of the proposed electrical line would be constructed through BLM land that has been withdrawn for military use through the MLWA, thus a utility ROW would not be needed. However, a section of the line on the west end between US 54 and the Union Pacific railroad would be constructed on BLM public domain land (non-withdrawn land). As such a utility ROW would be obtained by Fort Bliss from the BLM for the line between US 54 and the Union Pacific railroad (Appendix B).

Communications to the proposed Tac-Sites would be provided by the installation of approximately four miles of new underground fiber optic cable connected to an existing fiber optic cable located on along NM 506 (Figure 3). Approximately three miles of the new fiber optic cable would be installed along the south side of NM 506 and one mile of new fiber optic cable would be installed adjacent to the proposed access roads to the Tac-Sites, resulting in approximately 1.2 acres (at 10-ft wide) of new disturbance. The cable would be installed by trenching and backfilling the trench with native soil. The proposed fiber optic line would be constructed entirely on land that has been withdrawn for military use through the MLWA (Appendix B).

Each proposed Tac-Site would have a well and an above ground storage tank (AST) and fire hydrant (Figure 5). Water for potable use would be generated through an on-site reverse osmosis and desalination system, and the AST would supply water for firefighting purposes. Currently there is no source of water for firefighting in this area of McGregor Range. Leachate from the reverse osmosis and desalination system would be stored in an on-site tank and periodically removed for proper disposal.

Each proposed Tac-Site would have an on-site septic system to treat sanitary wastewater (Figure 5). The proposed septic system would be designed and constructed in accordance with Title 20, Chapter 7, Part 3, of the NM Administrative Code (USACE 2010b). Directorate of Public Works-Environmental (DPW-E) Waste Water Compliance staff will review final plans prior to construction to ensure compliance with the NM Administrative Code.

Each proposed Tac-Site would have a storm water detention pond (Figure 5) and the site would be appropriately graded and constructed to allow stormwater runoff from the concrete pad and other finished areas to drain into the detention pond (USACE 2010b). The storm water drainage system would comply with Section 438 of the Energy Independence and Security Act (EISA) of 2007.

Each proposed Tac-Site would have a chainlink perimeter fence with gates and security lighting (Figure 5). Outdoor lighting would be down-shielded and would be turned off when not in use. Night-time lighting on the aerostat would be white or red strobe lighting and comply with FAA regulations.

Additionally, a temporary concrete batch plant would be located at one of the proposed Tac-Sites or at a previously disturbed gravel area approximately two acres in size on the south side of NM 506 east of the railroad tracks along US 54 (Table 1 and Figure 3) to supply the necessary concrete for construction of the roads, mooring pad, and foundations (Covington per. comm. 2010). Electricity would be supplied to the batch plants from the existing electric grid or a mobile generator. Water would be supplied from the on-site well or trucked in via tankers or trailers. The concrete batch operator or owner would be required to prepare a SWPPP and obtain a New Mexico General Construction Permit (GCP).

2.2 No Action Alternative

Under the No Action Alternative, the Tac-Sites would not be constructed at Fort Bliss. Consequently, Fort Bliss would not have the necessary training facilities for the three scheduled JLENS Batteries to provide their Soldiers the training to develop, maintain, and enhance their operational skills.

It is assumed that if the No Action Alternative is chosen at Fort Bliss, the U.S. Army would need to conduct the action elsewhere. The environmental impacts of locating the Tac-Sites elsewhere, including the impacts from the transportation of Soldiers from Fort Bliss to the receiving installation for training, would be analyzed in a separate document once that installation is identified. The No Action Alternative does not meet the needs of the JLENS units being stationed at Fort Bliss or the needs of the U.S. Army.

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3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Under NEPA, the analysis of environmental conditions only addresses those areas and environmental resources with the potential to be affected by the Proposed Action. This includes all areas and lands that might be affected and may change depending on how the natural, cultural, and socioeconomic resources they contain or support are affected. Locations and resources with no potential to be affected need not be analyzed.

The Proposed Action is located on northern McGregor Range, Fort Bliss. McGregor Range has been withdrawn from the public domain for military use through the MLWA and is co-managed by the BLM and Fort Bliss. Doña Ana Range, Otero Mesa, the Cantonment Area, and the South Training Areas (Figure 1) do not meet the specific construction, operational, and safety requirements for siting the Tac-Sites (Section 2.0), and therefore, the purpose and need of the action. As such, these areas would not be affected by the Proposed Action.

Effects on McGregor Range from the Proposed Action include impacts from the construction and operation of the Tac-Sites, concrete batch plant, roads, electric and communications lines, and restrictions on Fort Bliss airspace. A Table of Valued Environmental Components (VEC) (Table 2) (USAEC 2007) was used to determine what resources could potentially be affected by the Proposed Action. These include land use and aesthetics, soils, natural resources, cultural resources, surface water, ground water, air quality, hazardous materials, air space, noise, radio frequency and spectrum use, traffic and infrastructure, and construction and safety.

Potential impacts on regional geology, minerals, socioeconomics, environmental justice from the construction of training ranges and facilities on McGregor Range were programmatically evaluated in the SEIS and the GFS EIS, which are herein incorporated by reference. These documents can be found at <https://www.bliss.army.mil>. Impacts of the Proposed Action on these resources will not significantly vary from that analysis, so these resources were excluded from further analysis.

Table 2. Summary of Valued Environmental Components Analysis*

Resource	Proposed Action
Land Use and Aesthetics	The Fort Bliss land use category (Category A) would not change; however 64 acres of 420,000 acres on McGregor Range would be fenced and removed from the recreational designation, and 32 acres of 13,820 acres would be removed from grazing in TA-11 (GU- 2). The loss of recreational and grazing area is considered very small; less than one percent of the area is designated as such. The access road to Tac-Site 1 would require a cattle guard at the boundary of the GU to exclude and protect livestock. Recreational use areas are closed when used by Fort Bliss for training. Additionally, the Proposed Action would not adversely impact the visual resources of the area.
Soils	Approximately 64 acres would be disturbed. BMPs per Fort Bliss SWPPP guidance would be utilized to control fugitive dust and erosion during construction.
Vegetation	Approximately 32 acres would be cleared of regionally common shrubland vegetation and 32 acres of sagebrush vegetation would be lost. This represents less than one percent of these communities on Fort Bliss. BMPs per Fort Bliss SWPPP guidance would be utilized during clearing activities. A noxious weed monitoring and treatment plan would be established to prevent or control the establishment of noxious weeds.

**Environmental Assessment for the Construction and Operation of
JLENS Tactical Training Sites on Fort Bliss, McGregor Range, New Mexico**

Resource	Proposed Action
Wildlife	No effect to species listed under the Endangered Species Act due to lack of habitat. Some sensitive species and migratory birds may be minimally affected from loss of potential habitat (64 acres). To minimize potential impacts, site preparation would be done in fall or winter (non-breeding season) or a preconstruction survey for birds would be undertaken. Overhead electric lines would be constructed per avian protection guidelines. Some adverse impact to bats and migratory birds may occur from strikes to the tether or aerostat, but the area is not in a major bird or bat migration corridor. Outdoor lighting would be down-shielded and would be turned off when not in use. Night-time lighting on the aerostat would be white or red strobe lighting.
Cultural	Existing surveys indicate that no surface cultural resources exist at these locations. The Proposed Action will not be within the viewshed of a historic district. If sub-surface cultural resources are encountered during the construction, work will stop at that location, and the sites would be avoided or properly mitigated. Any discovery of possible human remains would be treated in accordance with the Native American Graves Protection Act and established procedures of Fort Bliss.
Surface Water	An arroyo east of Tac-Site 1 would be minimally impacted by access road, as the road would be designed with culverts or a low water crossing to allow continued water flow. Drilling muds would be contained in a closed container or bermed and lined enclosure, which would be removed when drilling is completed. BMPs per Fort Bliss Construction SWPPP guidance would be utilized to control temporary fugitive dust and erosion during clearing and construction. Design of storm water drainage would comply with Section 438 of the EISA.
Groundwater	There would be negligible impact to a nearby well. Well permits would be obtained from NM State Engineers Office prior to construction of permanent wells for quantity that would not result in drawdown of the well. On-site septic system would comply with NM codes.
Air Quality	There would be temporary increase in fugitive dust and emissions release from equipment during construction. Road paving would reduce fugitive dust levels in area from vehicle travel. Nearby concrete batch plant would reduce haul time; hence, emissions release. Batch plant contractor would require a SWPPP and a NM GCP. Negligible increase in vehicle emissions during use of facilities. Use of backup generators would be monitored to ensure compliance with the NMAQB.
Hazardous Materials and Waste	A limited amount of hazardous materials and waste would be used or generated at the Tac Sites from maintenance and operational activities including petroleum, oils, lubricants, and deicing chemicals. Any such waste would be managed under the Installation Hazardous Waste Material Management Program. Solid waste would be separated into recyclable and non-recyclable materials collected on site and disposed of at an approved disposal facility for the type of waste. Leachate from the reverse osmosis and desalination system would be stored in an on-site tank and periodically removed for proper disposal. All drilling mud would be removed by the well drilling contractor as part of the contract. A temporary concrete batch plant is required with all equipment and materials to be removed by the contractor when site construction is completed. Fuel for generators and helium for aerostats transported and stored on-site in designated trucks. Secondary containment for fuel tankers would be utilized.
Airspace	Restriction of airspace could affect scheduling. Tac-Sites are located to minimize conflicts with airspace usage. Elevation of aerostat would be done through Range Operations-Flight Control in coordination with WSMR, Holloman Air Force Base, and the FAA. When elevated, a 4.6 mile diameter airspace restriction around each aerostat from the surface to 15,000 ft MSL would be in effect. Lighting of aerostats would be in accordance with FAA and Army regulations.
Radio Frequency and Spectrum Use	There could be a small potential to create frequency interference. The radars will meet MIL-STD 461F for allowable electromagnetic emissions. A permit would be required for radar usage from Fort Bliss NEC. Standard operating procedures would be followed for radar usage. Coordination of operations with the Area Frequency Coordinator, FAA, and the FCC would reduce the incidences of interference.

**Environmental Assessment for the Construction and Operation of
JLENS Tactical Training Sites on Fort Bliss, McGregor Range, New Mexico**

Resource	Proposed Action
Transportation and Infrastructure	Temporary disruptions to traffic and the railroad would be expected during construction and road renovation. Renovations to the railroad crossing would be coordinated with the railroad. Increased traffic load in area during operations and training. NM 506 renovation would be within existing road alignments. Paving results in reduction of fugitive dust in area from traffic, reduces the need for road maintenance, and increases road safety. Fort Bliss would obtain an easement for the renovation and maintenance of NM 506 from the BLM.
Health and Safety	UXO survey prior to ground disturbance would be completed. Paving of NM 506 would increase vehicle safety by reducing fugitive dust levels and increasing visibility in area. Lightning protection of aerostats and facilities would be incorporated in design. Lighting of aerostats would adhere to FAA regulations. Perimeter security lighting provided. On-site ASTs would provide water for fire protection; previously not available in that area. Potable water would be treated by a reverse osmosis and desalination system. To protect personnel and wildlife, radars equipped with a safety feature that would not allow emissions until the aerostat reaches a minimum altitude of 1000 ft AGL.
Noise	Temporary increase during construction from heavy equipment and generators. Noise increase during JLENS training from mobile generators. Critical noise receptors too far from Tac-Sites to be affected. No change in noise contours as analyzed in the GFS EIS is anticipated.

* Per USAEC 2007

3.1 Land Use and Aesthetics

3.1.1 Affected Environment

The proposed Tac-Sites are located on McGregor Range, Fort Bliss. McGregor Range has been withdrawn from the public domain for military use through MLWA. As such, McGregor Range is co-managed by the BLM and Fort Bliss for military, recreation, and other uses.

Both Tac-Sites are located in areas of relatively undisturbed land south of NM 506 which is classified by Fort Bliss as Land Use Category A (Figure 4) (U.S. Army 2010). Category A allows off-road and on-road vehicle maneuvering for all types of vehicles and equipment, including both tracked and wheeled vehicles; dismounted (foot traffic) maneuvering and training; aircraft operations; mission support facilities; and other activities and uses. Category A also allows non-military, public use in designated areas, provided such use does not conflict with military uses or pose safety risks to the public. Non-military use includes public recreation such as hunting, hiking, picnicking, and bird watching. Non-military use is controlled by Fort Bliss Range Operations to ensure safety and compatibility with military activities. Both Tac-Sites are located in a designated recreational use area.

The BLM manages livestock grazing on approximately 270,000 acres on McGregor Range in 14 grazing units. Tac-Site 1 is located within GU- 2 (U.S. Army 2010) which is approximately 13,820 acres in size (Figure 4).

McGregor Range is a composite of three visually different landscapes: the Tularosa Basin, which is visually typical of the Chihuahuan Desert landscape; the Otero Mesa, which is predominantly grassland; and the foothills of the Sacramento Mountains. The BLM utilizes four categories for rating visual aesthetics of landscape. The four class categories are Class I and II, the most aesthetically valued; Class III moderate value; and Class IV the least aesthetically valued. A corridor along US 54 and NM 506 on McGregor Range has been designated as Class III (Figure

4). The objective of the Class III designation is to partially retain the existing character of the landscape (U.S. Army 2010).

3.1.2 Environmental Consequences of Proposed Action

The construction of the proposed Tac-Sites would not change the existing land use category for the area from Land Use Category A. Approximately 64 acres would be converted from maneuver area to mission support facilities however. The proposed Tac-Sites would be located approximately 3 miles apart which would allow for vehicle and dismounted maneuvering and training between the sites.

Both proposed Tac-Sites are located in a designated recreational use area. Approximately 64 acres from the 420,000 acres designated for recreational use on McGregor Range would be removed from such use. This would be considered minimal, as it is less than one percent (%) of the available acreage (U.S. Army 2010). The proposed access roads could also improve hunting and recreational access into the area; however, public recreation use is strictly controlled by Fort Bliss Range Operations, and recreational use areas are closed when in use for military training.

Proposed Tac-Site 1 is located within GU- 2, so a cattle guard would be installed on the access road where it crosses the GU boundary to exclude and protect livestock. Construction of the Tac-Site and access roads would remove approximately 32 acres from GU- 2. This loss of area would be considered minimal (less than 1.0 %) when compared to the 13,820 acres of GU- 2.

Both proposed Tac-Sites and the proposed overhead electrical line would be visible from NM 506. Given the distance from US 54 and NM 506, the west to southwesterly sloping terrain, and the large coppice dunes located between US 54 and NM 506 and the facilities, the Tac-Sites would not dominate the view corridor and would comply with the VRM Class III designation. Additionally, NM 506 is primarily utilized by Fort Bliss and other personnel, ranchers, and local residents accustomed to seeing military activities and equipment in the area. The proposed Tac-Sites would not have a greater visual impact beyond what is normal for the area even when the aerostats have been reeled in. They also conform to military use intended by the MLWA.

The Tac-Sites are small compared to the visible landscape and only occupy a small portion of the landscape. When the aerostats are elevated, they would be visible for miles from all directions, especially to travelers on US 54, NM 506, residents of Orogrande, and commuters from Timberon. However, the aerostats are white, non-motorized and quiet, and when elevated to their maximum altitude, would appear small on the horizon. Though the aerostats would be obvious on the landscape, the proposed action would not materially alter the landscape or visual aesthetics of the area.

3.1.3 Environmental Consequences of No Action Alternative

The Tac-Sites would not be constructed; as such there would be no loss of maneuver, grazing or recreational acreage. The visual aesthetics of the area would not be impacted.

3.2 Soils

3.2.1 Affected Environment

The soils found at the Tac Site 1 are mapped as Pendero-Copia-Piquin Association on 2-15 % slopes with very deep, excessively drained, loamy fine sand to very gravelly sandy loam surface texture. Tac Site 2 soils are mapped as Reyab-Infantry-Crossen Association. These soils are well drained, very shallow to very deep, with silt loam, very gravelly loam, and gravelly loam textures (Natural Resources Conservation Service [NRCS] 2010).

The soils found at the proposed alternate location for the concrete batch plant are mapped as Copia-Mcnew-Elizario Association. These soils are found on 2-5% slopes, are well drained to excessively drained, and have a high proportion of sand on the surface (NRCS 2010).

These soil associations are highly susceptible to wind erosion, but are not highly susceptible to water erosion unless disturbed.

3.2.2 Environmental Consequences of Proposed Action

Approximately 64 acres would be disturbed for the construction of the Tac-Sites and associated infrastructure. Because these soils are prone to wind erosion, fugitive dust would be generated during construction, and some soil erosion with off-site deposition would occur. Paving of NM 506 and the proposed access roads would also reduce soil movement in the form of fugitive dust. Soil disturbance activities from electrical line construction and fiber optic installation would be minimal, limited to the placement of utility poles and trenching adjacent to existing and newly constructed roads. BMPs following Fort Bliss SWPPP guidance would be utilized to control temporary fugitive dust and erosion during clearing and construction (U.S. Army 2011).

The alternate location for the concrete batch plant is highly disturbed, compacted, and partially surfaced with gravel. Little or no additional ground disturbance would be required for the batch plant. The plant operator would be required to submit and follow a SWPPP as part of their contract. The batch plant would be removed following construction.

3.2.3 Environmental Consequences of No Action Alternative

Approximately 64 acres would not be disturbed for the construction of the Tac-Sites and supporting infrastructure. There would be no temporary increase in fugitive dust levels from construction activities. A section of NM 506 would not be renovated and paved and dust generation from vehicular traffic would continue to persist in the area.

3.3 Biological Resources

3.3.1 Affected Environment

The U.S. Fish and Wildlife Service (USFWS), under the Endangered Species Act (ESA) of 1973, and the State of New Mexico, under the New Mexico Wildlife Conservation Act (NMWCA) of 1978, list various species of flora and fauna that are known to occur, or have the potential to occur, on Fort Bliss as Threatened, Endangered, or Species of Concern. Additionally, Locally Important Natural Resources (LINRs) have been identified for protection by Fort Bliss. These include black grama grasslands, sand sagebrush communities, shinnery oak islands, arroyo-

riparian drainages, and playa lakes (U.S. Army 2010). A description of biological resources and information on habitat and occurrences can be found in the SEIS, GFS EIS and the *Fort Bliss Integrated Natural Resources Management Plan, November 2001* (INRMP). The INRMP is herein incorporated by reference. These documents can be found at <https://www.bliss.army.mil>.

The terrain for Proposed Tac-Site 1 is deep sand dune area with a westerly slope. The vegetation is dropseed-sandshrub and is dominated by sand sagebrush (*Artemisia filifolia*), mesa dropseed (*Sporobolus flexuosus*), and broom dalea (*Psoralea scoparius*). There is approximately 88,514 acres of sagebrush vegetation on Fort Bliss (U.S. Army 2001). The proposed access road to Tac-Site 1 bisects an arroyo, a LINR that is located approximately a half mile east of the Tac-Site. It is sparsely vegetated and littleleaf sumac (*Rhus microphylla*) is found along the edge.

The terrain for Proposed Tac-Site 2 is relatively flat with southwest slope. The vegetation is foothill desert shrubland and there is approximately 73,854 acres of this community on Fort Bliss. Foothill desert shrubland is dominated by creosotebush (*Larrea tridentata*) and whitethorn acacia (*Acacia constricta*). Other species include tarbush (*Flourensia cernua*), four-winged saltbush (*Atriplex canescens*), and bush muhly (*Muhlenbergia porteri*) (US Army 2001).

The proposed alternative location for the concrete batch plant is highly disturbed with little or no vegetation. The terrain is nearly level and the soils are compacted and covered with gravel. Mesquite coppice dune vegetation and can be found to the east and southeast, while a grassland area of mesa dropseed and tobosagrass (*Pleuraphis mutica*) can be found along the south side of the area.

Additionally, one small population of African rue (*Peganum harmala*) is known to exist along NM 506 and may be impacted by the renovation of the road. African rue is a Class B New Mexico listed noxious weed.

3.3.2 Threatened and Endangered Species, Species of Concern, and LINRs

No Federal or State listed threatened or endangered species would be affected by the Proposed Action and it would not impact habitat for any species listed under the ESA or the NMWCA. The Proposed Action occurs in habitat that could be utilized by bird species protected under the Migratory Bird Treaty Act of 1918. Additionally Tac-Site 1 would impact an arroyo and a sagebrush community, both LINRs.

The Western burrowing owl (*Athene cunicularia*) is listed by the USFWS as a Species of Concern. It occurs in all desert shrubland communities on Fort Bliss (U.S. Army 2010) but has not been detected on the proposed Tac-Sites. Currently Species of Concern do not receive legal protection under the ESA.

3.3.3 Environmental Consequences of Proposed Action

The Proposed Action would have no effect on species listed under the ESA due to lack of habitat in the areas affected by this action. The reduction of less than 1.0 % of both sagebrush and foothill desert shrubland vegetation would have negligible impacts to the vegetation communities and the wildlife using them for habitat. To minimize impacts to migratory birds, all site preparation and utility installation would require that either a preconstruction survey for

bird activity or that the work would be carried out in the fall and winter months, to coincide with the non-breeding season for these species. The proposed overhead electrical lines would be constructed in accordance with avian protection guidelines, including use of insulated jumper wires (APLIC 2006).

A potential loss to bats and migratory birds could occur from collisions with the mooring system, tether, or the aerostats themselves. However, the tether is extremely thin, and the aerostats would not be located within a major flyway for bats or migratory birds; as such, the odds of a collision with the tether or aerostat would be considered low. To minimize potential impacts to these species, ground-based outdoor lighting would be down-shielded and would be turned off when not in use. Night-time lighting on the aerostats would be white or red strobe lighting, rather than solid or pulsating lights (White Sands Test Center Operations Office 2010). The red or white strobe lighting scenario is designed not to attract avian species. Any observed bird or bat collision would be reported to the DPW-E biologists at Fort Bliss who will track these impacts and suggest mitigation measures if warranted.

The arroyo would lose a small amount of riparian habitat where the proposed access road crosses (Figure 3). The road crossing would be designed to allow water to continue flowing downstream so that further losses of arroyo-riparian attributes downstream of the crossing would not occur.

To prevent the spread of noxious weeds from construction activities, a noxious weed monitoring and treatment program would be established by the Proponent with guidance from DPW-E biologists and coordination with the Las Cruces District Office of BLM. Prior to construction the known locality of African rue on NM 506 would be marked by DPW-E biologists for avoidance during construction. Additionally all equipment would be cleaned of all dirt, mud, and plant debris prior to moving on or off the project area. Following construction areas of disturbance would be graded as appropriate for the surrounding topography and the surface left rough to facilitate re-growth of native vegetation.

3.3.4 Environmental Consequences of No Action Alternative

Under the No Action Alternative, there would be no impacts to the flora, fauna, migratory bird habitat, riparian habitat, or sagebrush community from construction of the Tac-Sites and associated infrastructure. The electric line would not be constructed, thus there would not be additional structures for birds to perch upon in the area.

3.4 Cultural Resources

3.4.1 Affected Environment

Cultural resources are regulated at Fort Bliss per the National Historic Preservation Act of 1966, the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990, the Archeological Resources Protection Act of 1979, and other statutes. Cultural resources are important because of their association or linkage to past events, historically important persons, design and construction values, and for their ability to yield important information about history. Fort Bliss manages cultural resources associated with all prehistoric and historic periods recognized in south central NM. The *Fort Bliss Texas and New Mexico, Mission and Master Plan, Programmatic Environmental Impact Statement* (MMP EIS) (U.S. Army 2000) describes

in detail the cultural history of Native Americans and post-contact inhabitants in the region. The *Integrated Cultural Resources Management Plan* (ICRMP) for Fort Bliss (U.S. Army 2008a) also contains detailed information about the history of Fort Bliss. Both documents are incorporated herein by reference and can be found at <https://www.bliss.army.mil>. Pursuant to Army Regulation AR 200-1, the GC at Fort Bliss is responsible for managing the cultural resources on the installation in compliance with all Federal laws, regulations, and standards.

This project has been evaluated for impacts to historic and archeological properties. It complies with both the National Historic Preservation Act (16 U.S.C. fl470, et. seq.) and the Programmatic Agreement (PA) entered into by the Fort Bliss Garrison Command, the Texas State Historic Preservation Officer, the New Mexico State Historic Preservation Officer, and the Advisory Council on Historic Preservation for the Management of Historic Properties on Fort Bliss.

3.4.2 Environmental Consequences of Proposed Action

Surveys for cultural resources discovered no archeological sites eligible for inclusion in the National Register of Historic Properties within the proposed project area. Additionally, the proposed area is not within the viewshed of a historic district; therefore it is unlikely that cultural resources would be adversely affected.

If any sub-surface cultural resources are encountered during the construction of the Tac-Sites or supporting infrastructure; however, they would be properly mitigated per the PA. Any discovery of possible human remains would be treated in accordance with the NAGPRA and the Standard Operating Procedures (SOPs) set out in the ICRMP.

3.4.3 Environmental Consequences of No Action Alternative

The Tac-Sites and supporting infrastructure would not be constructed under the No Action Alternative; as such the existing cultural resource environment would be maintained.

3.5 Surface Water

3.5.1 Affected Environment

No Federal-regulated wetlands, arroyo-riparian drainages, or playa lakes as defined by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act of 1972 (CWA) would be impacted by the Proposed Action. An arroyo located east of Tac- Site 1 would be impacted by the proposed access road to the Tac-Site (Figure 3).

3.5.2 Environmental Consequences of Proposed Action

The arroyo would be minimally impacted by the proposed access road, as the road would be designed with culverts or a low water crossing to allow natural water flow.

Each Tac-Site would have a storm water detention pond, and the site would be appropriately graded and constructed to allow stormwater runoff from the concrete pad and other finished areas to drain to the detention pond. The storm water drainage system would comply with the EISA. A SWPPP following Fort Bliss Construction SWPPP guidance would be developed outlining the BMPs and other measures to be undertaken to prevent stormwater runoff during and following construction (U.S. Army 2011). All soil from the construction of the detention

ponds would remain on site and used in leveling the site. A SWPPP would also be developed by the owner or operator of the concrete batch plant as a condition of the contract.

3.5.3 Environmental Consequences of No Action Alternative

Surface water resources, including the drainage pattern of the arroyo that intersects the road that would provide access to Tac-Site 1 would not be further impacted, as the existing road would not be renovated.

3.6 Groundwater

3.6.1 Affected Environment

The majority of McGregor Range is located in the Tularosa Basin, which is a large, closed basin with surface drainages to playas and salt flats. Two groundwater aquifers are found within the Tularosa Basin on McGregor Range: an alluvial aquifer at the mouth of Grapevine Canyon along the western edge of the Sacramento Mountains and the Central Basin Aquifer. Both aquifers overlie a fractured limestone aquifer (U.S. Army 1998b; Shomaker 2011) (Figure 6).

The alluvial aquifer is a freshwater aquifer that extends north from Grapevine Canyon on McGregor Range to the Alamogordo area to approximately fifteen miles south of Grapevine Canyon along the western base of the Sacramento Mountains. It is estimated to range from 0 to 1,400 ft in thickness and stores approximately three million acre-feet (aft) of fresh water with an annual recoverable recharge of fresh water that is estimated at 4,500 aft. An additional 3.6 to 5.4 million aft of brackish water may be stored in the same area. The aquifer supplies potable water to Holloman Air Force Base, White Sands National Monument Headquarters, and the City of Alamogordo. However, potable water may not be readily available in the McGregor Range portion of the aquifer. In 1986 the U.S. Air Force drilled three exploratory wells within this alluvial aquifer on McGregor Range. These wells were drilled to depths of approximately 900 feet but were abandoned due to lack of water and poor quality (McLean 1970; U.S. Army 1998b).

One active livestock well, the Cox Well (formally Oliver Lee Well), is found on McGregor Range within the alluvial aquifer approximately two miles west of the proposed Tac-Site 1. It was constructed in 1911 to a depth of approximately 130 feet. The groundwater at the Cox Well is approximately 100 feet below the ground, and the well has a flow rate of less than 10 gallons per minute (gpm). The well is located in a depression area, or relict playa, which may also receive local recharge from stormwater (Meinzer and Hare 1915; U.S. Army 1998b).

Groundwater in the Central Basin Aquifer is brackish to saline and has little potential as a potable water source. As such, except for a few livestock wells, potable groundwater development within this aquifer has not been extensive (U.S. Army 2007).

3.6.2 Environmental Consequences of Proposed Action

There would be negligible impact to the groundwater from the Proposed Action. Each Tac-Site would have a well and an AST to provide water for potable use, fire protection, and construction (Figure 4). Each well would be designed and constructed to draw from the freshwater alluvial aquifer. The water would be stored for use in an AST and water for potable use would be treated

with an on-site reverse osmosis and desalination system (Covington pers. comm.). To determine aquifer characteristics and water availability, exploratory wells would be drilled under permits from the NM Office of the State Engineer (NMOSE) (Permit Numbers T-05793; T-05794). If the exploratory wells yield sufficient flow and quality, permits to appropriate underground water would be obtained to construct permanent wells. If not, the permanent water wells would not be constructed and water for firefighting and potable needs would be trucked in and stored in the AST.

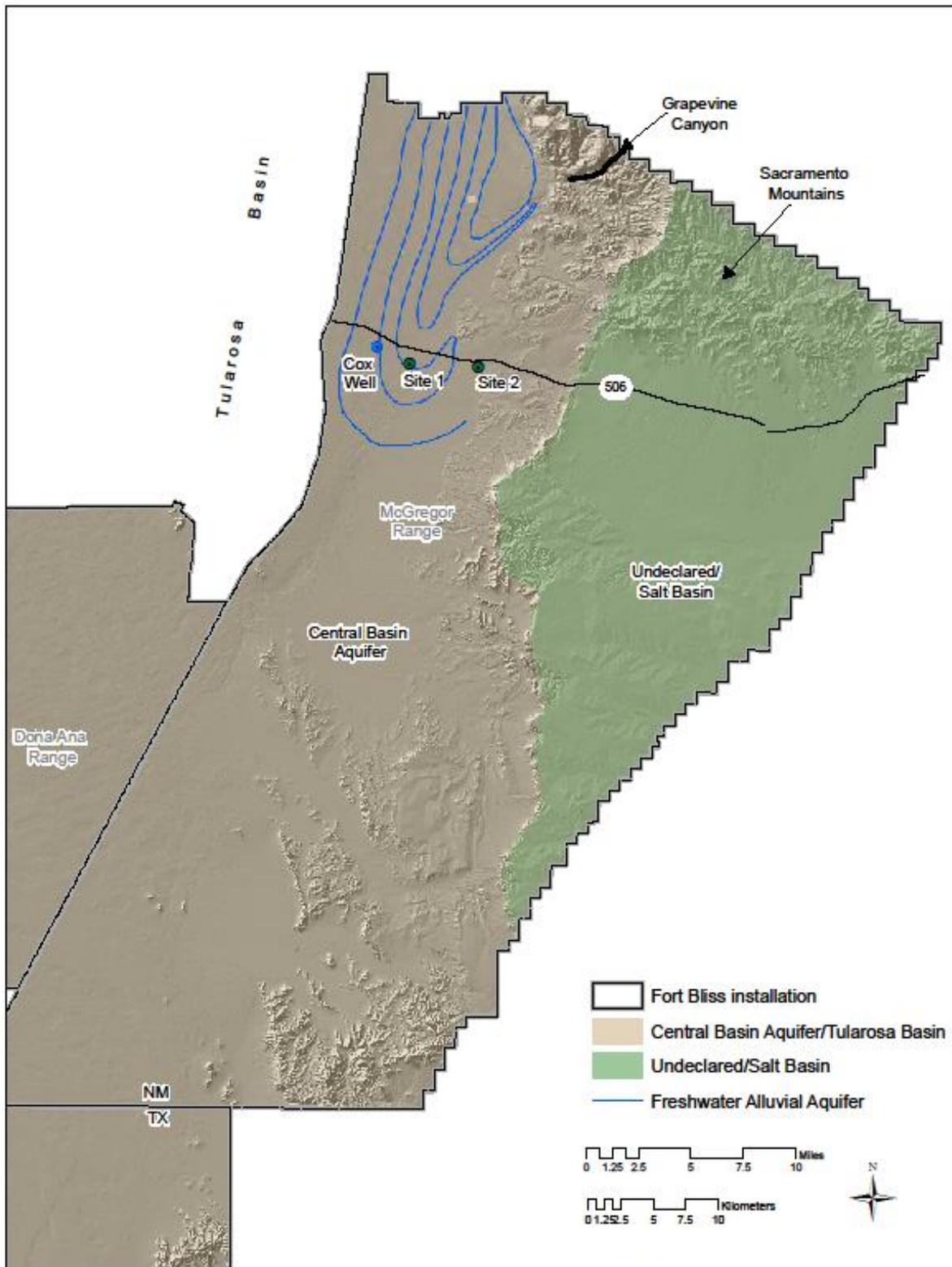
The chance that the proposed wells would cause a noticeable drawdown of the Cox Well over time is minimal due to their two mile separation. Additionally, the Cox well may receive some local recharge from stormwater. The 40-year NMOSE model simulated drawdown at the Cox Well from pumping 50gpm from the alluvial aquifer by the proposed well at Tac-Site 1 would equal three feet. This can be considered a worst case scenario. Pumping from the underlying fractured limestone aquifer would have little or no drawdown effect on the Cox Well, as it draws upon the alluvial aquifer. If the exploratory wells yield sufficient flow and quality to meet design needs, permits to appropriate underground water would be obtained for the quantity supported by the well that would not result in impacts to the Cox Well (Shomaker 2011).

Each Tac-Site would have an on-site septic system to treat domestic wastewater. The proposed septic system would be designed and constructed in accordance with Title 20, Chapter 7, Part 3, of the NM Administrative Code (USACE 2010b). DPW-E Waste Water Compliance staff will review final plans prior to construction to ensure compliance with the NM Administrative Code.

3.6.3 Environmental Consequences of No Action Alternative

The No Action Alternative would result in the wells not being drilled; therefore a new source in the area for water for firefighting purposes would not be available. Water for such purposes would continue to be brought in by tankers from long distance.

Environmental Assessment for the Construction and Operation of
JLENS Tactical Training Sites on Fort Bliss, McGregor Range, New Mexico



Source: McLean 1970,
U.S Army 1998b

Figure 6: Ground Water Aquifers on McGregor Range

3.7 Air Quality

3.7.1 Affected Environment

Air Quality is regulated by the United States Environmental Protection Agency (USEPA) per the Clean Air Act (CAA) of 1970. The USEPA has established nationwide air quality standards known as the National Ambient Air quality Standards (NAAQS), and the CAA, under New Source Rules (NSR) requires regulation of all new air emissions. The USEPA has delegated this responsibility to the New Mexico Air Quality Board (NMAQB) in New Mexico. The NMAQB has established rules and regulations for air pollutant emissions to determine whether a new or modified emission source would require air quality permitting under the NSR. All sources that emit 10 tons per year (tpy) or more of a NAAQS pollutant are required to submit a NOI, while sources that emit in excess of 25 tpy are required to obtain a GCP from the NMAQB. NAAQS pollutants include particulate matter (PM₁₀ and PM_{2.5}), carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO₂), ozone, and lead.

3.7.2 Environmental Consequences of Proposed Action

During construction there would be a temporary, but negligible, increase in fugitive dust and emissions from construction equipment and vehicles. Fugitive dust during construction would be controlled by watering and other construction BMPs. NM 506 and the proposed access roads would also be surfaced with asphalt, which would reduce fugitive dust levels resulting from vehicle travel in the area. The nearby concrete batch plant would reduce haul time and emissions release from the haul trucks. During high wind conditions, fugitive dust from the stockpiled sand and gravel would be noticeable, but no inhabited areas exist in close proximity to the site. Fugitive dust would not be noticeable above the background dust load common in the desert environment. Additionally, the batch plant owner or operator would be required to hold and comply with a GCP from the NMAQB.

Each Tac-Site would have two mobile PU-810B Tactical Power Generators for electrical backup and training purpose (Neely per. comm. 2010). For the purpose of this analysis, each generator is assumed to operate less than 400 hours per year. As such, emissions would be less than 10 tons per year for NO_x and CO, and an air quality permit from the NMAQB would not be required (Moncada per. comm. 2010). A summary of the air quality emission calculations can be found in Appendix C, Air Emissions Calculations.

To ensure compliance with the CAA and the NMAQB rules and regulations, generator operating hours would be monitored by the Proponent as part of operations with guidance from the DPW-E Air Quality Program staff.

3.7.3 Environmental Consequences of No Action Alternative

The existing fugitive dust load in the area from traffic on NM 506 would continue to persist, as a 7.5-mile section of NM 506 would not be renovated and paved. Fugitive dust could also increase as traffic loads on NM 506 increase as mission training increases. However any such increase of fugitive dust would be expected to be temporary and non-persistent.

3.8 Transportation, Construction, and Supporting Infrastructure

3.8.1 Affected Environment

Access to McGregor Range is provided by US 54 and NM 506 (Figure 1). NM 506 is a semi-improved road that intersects US 54 north of the town of Orogrande, NM and runs easterly across McGregor Range serving the northern portion of the range, as well as, the southeastern part of Otero County, and communities in the southern Sacramento Mountains. It is heavily used by both the military and civilians.

3.8.2 Environmental Consequences of Proposed Action

A temporary disruption in normal traffic use of NM 506 and the railroad would be expected during Tac-Site construction and the renovation of NM 506. Paving of NM 506 would reduce fugitive dust in the area and the need for future road maintenance. Paving would also improve traffic flow and safety on NM 506. Fort Bliss would obtain a ROW from the BLM to establish its interest to improve, and maintain the section of NM 506 leading to the Tac-Sites.

Renovation of the Union Pacific Railroad crossing would be coordinated with the railroad company to minimize disruptions to the railroad and ensure safety.

Construction of access roads to the Tac-Sites would result in approximately 4.6 acres being cleared and grubbed. Paving of these roads would reduce fugitive dust and road maintenance. To exclude and protect cattle, the new access road to Tac-Site 1 would have a cattle guard at the boundary of GU-2.

Approximately nine miles of new overhead electrical line would be installed to supply the Tac-Sites. The lines would be constructed along the south side of NM 506 (Appendix B) and adjacent to the access roads to minimize any environmental or visual impact. They would be constructed in accordance with avian protection guidelines, including insulated jumpers (APLIC 2006) (Figure 3). A BLM utility ROW would be obtained for the section of the electrical line from US 54 to the railroad through BLM non-withdrawn lines.

Approximately four miles of new fiber optic cable would be installed to supply communications to the Tac-Sites. The fiber optic cable would be installed adjacent to NM 506 and the access roads to minimize environmental impacts (Figure 3 and Appendix B).

If the exploratory wells are found sufficiently productive, permanent wells would be constructed for fire protection and potable water use. Otherwise, water would be transported to the Tac-Sites and stored in the ASTs. Prior to construction of the permanent wells, a permit from the NMOSE for the appropriation of underground water shall be obtained for each well. The proposed wells and ASTs would also provide water for firefighting purposes in an area where water for such use was not previously readily available.

Water for potable use would be treated by a reverse osmosis and desalination unit system (USACE 2010b). Leachate would be stored in on-site tanks and periodically removed by truck for proper disposal per approved procedures at Fort Bliss.

3.8.3 Environmental Consequences of No Action Alternative

A 7.5-mile section NM 506 would not be renovated and paved. This could result in an increase need for road maintenance as mission training increases in the area. Poor road conditions and road maintenance activities would continue to impede or delay traffic and mission training, but the overall effect would not change substantially from existing conditions.

3.9 Health and Safety

3.9.1 Affected Environment

Federal, State, and Fort Bliss guidelines, rules, and regulations are in place to protect personnel throughout the installation. Safety information and analysis is found in the MMP EIS (U.S. Army 2000) and follow-up SEIS (U.S. Army 2007), and Fort Bliss Regulation 385-63. Health programs are promoted through U.S. Army Public Health Command (USAPHC) and Medical Command (MEDCOM). Various Fort Bliss SOPs have also been established to meet health and safety requirements.

Health hazards in the JLENS activity area could include exposure to unexploded ordnance (UXO), dehydration and heat illness, and contact with venomous animals and spiny vegetation. Lightning strikes are potential hazards, especially during stormy summertime weather.

3.9.2 Environmental Consequences of Proposed Action

The Proposed Action is located in a military training area, so there is a small potential of encountering unexploded UXO during construction of the Tac-Sites. Prior to site preparation work, each site would be surveyed for UXO. Detected UXO would be handled by explosive ordnance disposal (EOD) personnel, as per approved procedures at Fort Bliss.

Paving of NM 506 and the access roads would decrease fugitive dust in the area caused by road traffic, thereby increasing visibility and increasing traffic safety.

The radars are very powerful and there is a small potential to adversely affect personnel and wildlife on the ground. To protect personnel and wildlife on the ground from radiation exposure, radar operations would comply with all standard operating procedures, safety protocols, and applicable Federal, State, and Army regulations governing radar operations. Additionally, the radars have a built in safety feature that would not allow them to emit until the aerostats reach an altitude of at least 1000 feet AGL (Neely pers. comm.2010).

There is also a small potential of damage to the aerostats, facilities, and personnel from lightning strikes due to the Tac-Sites locations on relative flat and open terrain and height of the aerostats relative to their surroundings. To protect against lightning strikes, the facilities would be designed and constructed with appropriate lightning and grounding protection.

Each Tac-Site would have a perimeter fence with security lighting to exclude and protect wildlife and prevent unauthorized access. Perimeter security lighting would be down shielded.

When elevated at night, the aerostats would be lighted for aviation safety. Night-lighting of the aerostat would be white or red strobe lighting and conform to all Federal Aviation Administration (FAA) and Army regulations.

All transportation and on-site storage of fuel for the generators and helium for the aerostats would be in designated and marked trucks. All Federal, State, local, and Army laws and regulations governing transportation and storage of such material would be complied with.

Each Tac-Site would also have a well and an AST to supply groundwater for domestic and fire protection use. Water for domestic use would be treated by an on-site reverse osmosis and desalination system. Additionally the proposed wells and ASTs would provide water for firefighting purposes on northern McGregor Range where there was none previously.

3.9.3 Environmental Consequences of No Action Alternative

The existing fugitive dust load in the area from traffic on NM 506 would continue to persist, as a 7.5-mile section of NM 506 would not be renovated and paved. The presence of fugitive dust reduces visibility and road safety, and could impede or delay traffic and mission training. Procedures such as breaking up military convoys into small units, maintaining posted speeds, and reducing speed when conditions warrant would improve overall traffic safety by reducing fugitive dust. Additionally, water for firefighting purposes in this area of McGregor Range would not be available and water for such purposes would continue to be brought in by tanker from long distances.

3.10 Noise

3.10.1 Affected Environment

Noise is common throughout Fort Bliss from gunfire, ordnance detonations, missile and rocket launches, aircraft and ground vehicles, and other sources. At the Tac-Sites, gunfire and detonation impulse noise from the nearby missile and firing ranges (Figure 3) would be audible at certain times. Sonic booms and aircraft noise from military aircraft using the airspace may also be heard at times. Vehicles traveling on NM 506 would produce low-level background noise.

3.10.2 Environmental Consequences of Proposed Action

A temporary increase in noise would be anticipated from operation of heavy equipment, generators, and the concrete batch plant during construction and road renovation. Noise would also increase during JLENS training operations from generator use. The U.S. Army requires use of hearing protection for personnel exposed to both intermittent and impulse noise above certain threshold levels.

Though noise in the area would increase from the construction and operation of the Tac-Sites, critical noise receptors such as populated areas are too far from the Tac-Sites to be affected. No changes in the noise contours as analyzed in the GFS EIS (U.S. Army 2010) are anticipated as a result of the Proposed Action.

3.10.3 Environmental Consequences of No Action Alternative

There would be no change in the existing background noise levels of the area from construction or operation of the Tac-Sites.

3.11 Hazardous Materials and Waste

3.11.1 Affected Environment

Hazardous materials are substances that cause human physical or health hazards (49 CFR 171.8). Materials that are physically hazardous include combustible and flammable substances, compressed gases, and oxidizers. Health hazards are associated with materials that cause acute or chronic reactions including toxic agent, carcinogens, and irritants.

Hazardous waste is produced from various equipment maintenance processes and is comprised of any material listed in 40 CFR 261 Subpart D, or those which exhibits characteristics of toxicity, corrosivity, ignitability, and reactivity. Hazardous wastes are managed under the Installation Hazardous Waste Material Management Program (U.S. Army 2011).

3.11.2 Environmental Consequences of Proposed Action

Construction of the proposed Tac-Sites and supporting infrastructure would require machinery and the use of petroleum, oil, and lubricants (POLs) and drilling mud. Drilling mud used to lubricate drilling bits would be stored in a container or in a lined, bermed area within the well site and removed after drilling.

A limited amount of hazardous materials and other waste would be used or generated during routine maintenance and operation of the facilities and associated equipment including POLs and deicing chemicals. Deicing would occur on the concrete mooring pad, preventing the deicing chemicals from contaminating the ground. Fuel for the generators and helium for the aerostats would be transported and stored on-site in designated trucks. Secondary containment for parking and using the fuel trucks would be utilized. Solid waste would be separated into recyclable and non-recyclable and collected on site in appropriate containers and disposed of at an approved disposal facility for the type of waste. Leachate from the reverse osmosis and desalination system would be stored in an on-site tank and periodically removed for proper disposal.

3.11.3 Environmental Consequences of No Action Alternative

There would be no hazardous materials and waste produced from the construction or operations of the Tac-Sites.

3.12 Air Space Operations

3.12.1 Affected Environment

The U.S. Army manages airspace per Department of Defense (DoD) Directive 5030.19, *Responsibilities on Federal Aviation and National Airspace System Matters*. The Army implements these requirements through AR 95-2, *Air Traffic Control, Airspace, Airfields, Flight Activities, and Navigational Aids*. Airspace over the JLENS Tac-Sites is restricted for military use and designated SUA R5103C (U.S. Army 2007) (Figure 7). Use of airspace on McGregor Range is scheduled through the DPTMS, McGregor Base Camp - Range Operations.

3.12.2 Environmental Consequences of Proposed Action

When elevated the aerostat would fly at an altitude of approximately 10,000 feet above MSL and require a 4.6 mile (7.4 km) diameter airspace restriction from the surface to 15,000 feet MSL around each aerostat. The siting of the Tac-Sites assures that the aerostats and their corresponding airspace restrictions would remain entirely within Fort Bliss restricted airspace boundaries (SUA R5103C) when they are elevated (U.S. Army 2007). When moored, the restricted air space for the aerostats is surface to 500 feet AGL and 1000 feet in diameter (Figures 2, 3, and 7).

To minimize airspace conflicts, elevation of the aerostat would be done through Range Operations - Flight Control in cooperation with WSMR, Holloman Air Force Base, and the FAA. An Obstruction Evaluation (OE) would be submitted to the FAA each time the aerostats are elevated. The restricted airspace for the aerostats would be marked on sectional airspace charts, as these sites would be considered permanent use areas. The sectionals are included in pre-flight planning and pilot briefings. To minimize airspace conflicts with the overhead electrical lines (more noticeable to low-flying aircraft such as helicopters), the electrical lines would be located adjacent to roads instead of cross country.

3.12.3 Environmental Consequences of No Action Alternative

In the absence of the JLENS program, there would be no additional restrictions to military restricted airspace (SUA R5103C) on McGregor Range.

Environmental Assessment for the Construction and Operation of
JLENS Tactical Training Sites on Fort Bliss, McGregor Range, New Mexico

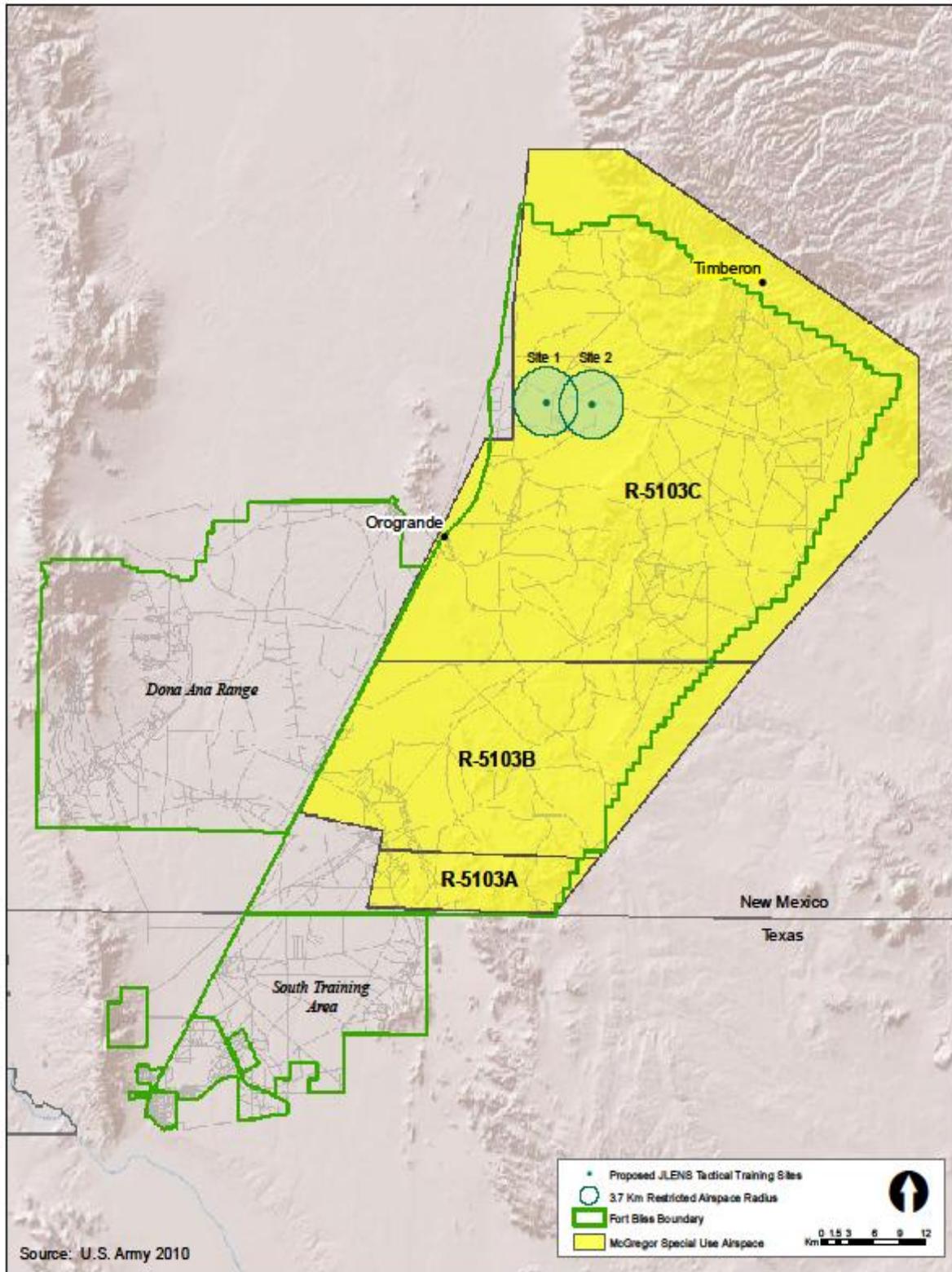


Figure 7: McGregor Range Restricted Airspace

3.13 Radio Frequency and Spectrum Use

3.13.1 Affected Environment

Radio frequency radiation is generated from radars, communication equipment, and other source emitters. The DoD has established an Area Frequency Coordinator (AFC) at WSMR to ensure the successful operation of communication and other electronic assets, provide rapid frequency coordination to minimize harmful interference, and maximize radio spectrum use by all military activities within New Mexico, western Texas, western Colorado, and eastern Utah. Additionally all electronic uses are subject to various U.S. Army, DoD, FAA, and Federal Communication Commission (FCC) directives and regulations.

3.13.2 Environmental Consequences of Proposed Action

Operations of JLENS could create electromagnetic radiation interference with flight operations and other communications systems within and outside of Fort Bliss boundaries. To reduce the incidences of electromagnetic radiation interference, the radar systems would comply with Military Standard (MIL-STD) 461F (DoD 2007) for allowable electromagnetic emissions. Operations and frequency use would be coordinated with the AFC, FAA, and the FCC. A permit from the Fort Bliss Network Enterprise Center (NEC) would be required prior to operations and all standard operating procedures, safety protocols, directives, and regulations would be followed when the JLENS is in operation (U.S. Army 2009).

3.13.3 Environmental Consequences of No Action Alternative

There would be no additional radar and electromagnetic emissions from Fort Bliss as a result of the No Action Alternative.

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4.0 CUMULATIVE IMPACTS

Cumulative Impacts are defined as the impacts on the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. Although the Proposed Action is not specifically addressed in the SEIS and GFS EIS, the cumulative impact on the natural and human environment from construction of training facilities and support infrastructure on McGregor Range is covered in these documents. The Proposed Action would not significantly change those analyses. However, when the aerostats are elevated, additional airspace restrictions would be in place on McGregor Range. The additional airspace restriction would potentially impact other training missions on northern McGregor Range. Coordination with Range Operations-Flight Control, WSMR, Holloman Air Force Base, and the FAA during JLENS operations would alleviate conflicts resulting from the additional airspace restriction. Additionally, the Proposed Action would increase safety in the area by providing a source of water for firefighting purposes on northern McGregor Range where there was none previously.

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5.0 SUMMARY OF MITIGATION MEASURES

The following is a summary of the mitigation measures identified under the Proposed Action:

- All overhead electric lines would be constructed in accordance with avian protection guidelines as described in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (APLIC 2006). This includes using insulated jumper wires.
- To minimize impacts to migratory birds, all site preparation and utility installation would require that either a preconstruction survey for bird activity or that the work would be carried out in the fall and winter months, to coincide with the non-breeding season for these species.
- Any observed bird or bat collision with the aerostat or tether would be reported to the DPW-E biologists who will track these impacts and suggest mitigation measures if warranted.
- Where the access road to Tac-Site 1 crosses the arroyo the road would be designed to allow water to flow across it so that further losses of arroyo-riparian attributes downstream of the crossing would not occur.
- To prevent the spread of noxious weeds from construction activities, a noxious weed monitoring and treatment program would be established by the Proponent with guidance from DPW-E biologists and coordination with the Las Cruces District Office of the BLM. Prior to construction, the known locality of African rue on NM 506 would be marked by DPW-E biologists for avoidance during construction. Construction equipment would be cleaned of all dirt, mud, and plant debris prior to moving onto or off of the project area. Following construction, disturbed areas would be graded to match the surrounding topography and the surface left rough to facilitate re-growth of native vegetation.
- If any sub-surface cultural resources are encountered during the construction of the Tac-Sites or supporting infrastructure, they would be properly mitigated per the PA. Any discovery of possible human remains would be treated in accordance with the NAGPRA and the Standard Operating Procedures (SOPs) set out in the ICRMP.
- To ensure compliance with the CAA and the NMAQB rules and regulations, generator operating hours would be monitored by the Proponent as part of operations with guidance from the DPW-E Air Quality Program staff.
- To minimize airspace conflicts, elevation of the aerostat would be done through Range Operations - Flight Control in cooperation with WSMR, Holloman Air Force Base, and the FAA. An Obstruction Evaluation (OE) would be submitted to the FAA each time the aerostats are elevated. The restricted airspace for the aerostats would be marked on sectional airspace charts. To minimize airspace conflicts with the overhead electrical lines (more noticeable to low-flying aircraft such as helicopters), the electrical lines would be located adjacent to roads instead of cross country.

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6.0 ACRONYMS AND ABBREVIATIONS

%	Percent
AFC	Area Frequency Coordinator
aft	Acre Feet
AGL	Above Ground Level
AST	Above Ground Storage Tank
BLM	Bureau of Land Management
BMPs	Best Management Practices
BRAC	Base Realignment and Closure
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Clean Water Act
DoD	Department of Defense
DPTMS	Directorate of Plans, Training, Mobilization and Security
DPW-E	Directorate of Public Works-Environmental Division
EA	Environmental Assessment
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EOD	Explosive Ordnance Disposal
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FCC	Federal Communication Commission
FCR	Fire Control Radar
FEIS	Final Environmental Impact Statement
FLPMA	Federal Land Policy and Management Act
FNSI	Finding of No Significant Impact
FORSCOM	Forces Command
GC	Garrison Commander
GCP	General Construction Permit
GFS EIS	Growth and Force Structure Realignment FEIS
gpd	Gallons per Day
gpm	Gallons per Minute
GU	Grazing Unit
IAMD	Joint Integrated Air and Missile Defense
ICRMP	Integrated Cultural Resources Management Plan
IMCOM	Installation Management Command
INRMP	Integrated Natural Resources Management Plan
JLENS	Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System
km	Kilometer
kv	Kilovolt
LINRs	Locally Important Natural Resources
MEDCOM	Medical Command
MIL-STD	Military Standard
MLWA	Military Lands Withdrawal Act

**Environmental Assessment for the Construction and Operation of
JLENS Tactical Training Sites on Fort Bliss, McGregor Range, New Mexico**

MMP EIS	Mission and Master Plan, Programmatic EIS
MSL	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEC	Network Enterprise Center
NEPA	National Environmental Policy Act
NM	New Mexico
NMAQB	New Mexico Air Quality Bureau
NMOSE	New Mexico Office of the State Engineer
NMWCA	New Mexico Wildlife Conservation Act
NOI	Notice of Intent
NO _x	Nitrogen Oxides
NRCS	Natural Resources Conservation Service
NSR	New Source Rules
OE	Obstruction Evaluation
PA	Programmatic Agreement
PL	Public Law
PM	Particulate Matter
POLs	Petroleum, Oil, and Lubricants
REC	Record of Environmental Consideration
RMP	Resource Management Plan
ROD	Record of Decision
ROW	Right-of-way
SDZ	Surface Danger Zone
SEIS	Supplemental Environmental Impact Statement
SO ₂	Sulfur dioxide
SOPs	Standard Operation Procedures
SWPPP	Stormwater Pollution Prevention Plan
SUA	Special Use Airspace
SuR	Surveillance Radar
TA	Training Area
Tac-Site	Tactical Training Site
tpy	Tons per year
TX	Texas
U.S.	United States
USACE	United States Army Corps of Engineers
USAPHC	United States Army Public Health Command
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UXO	Unexploded Ordnance
VCSA	Vice Chief of Staff Army
VEC	Valued Environmental Component
VFR	Visual Flight Rules
VRM	Visual Resource Management
WSMR	White Sands Missile Range

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APPENDIX A

Interagency and Public Coordination

DISTRIBUTION LIST

Libraries

Alamogordo Public Library
920 Oregon Ave
Alamogordo, NM 88310

El Paso Main Public Library
501 North Oregon
El Paso TX 79901

NMSU Zuhl Library
2999 McFie Circle
Las Cruces, NM 88003

Thomas Branigan Memorial Library
200 E. Picacho Ave
Las Cruces, NM 88001

UTEP Library
500 W. University Ave
El Paso, TX 79968

Bureau of Land Management

James Christensen
McGregor Range
Bureau of Land Management
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Tularosa, NM 88352

Jennifer Montoya
NEPA Coordinator
Bureau of Land Management
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49th Civil Engineer Squadron
Asset Management Flight
Asset Optimization Section
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Holloman Air Force Base, NM 88330

Joint Task Force North

Mrs. Grace Moreno
Environmental Protection Specialist
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Bldg 11603
Old Ironsides Drive
Fort Bliss, TX 79918

New Mexico Environmental Department

Mrs. Georgia Cleverly
Border and Environmental Reviews
New Mexico Environmental Department
1190 St. Francis Road
Santa Fe, NM 87502

New Mexico Game and Fish

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Acting Supervisor
SW Area – Las Cruces Office
New Mexico Department of Game and Fish
2715 Northrise Drive
Las Cruces, NM 88011

Mark L. Watson
Conservation Services Division
New Mexico Department of Game and Fish
P.O. Box 25112
Santa Fe, NM 87504

Leon Redman
Division Chief - SE Area
New Mexico Department of Game and Fish,
1912 West 2nd Street
Roswell, NM 88201

White Sands Missile Range
Deborah Hartell
DPW-E-C
Environmental Division, Bldg. 163
White Sands Missile Range, NM 88002

Otero County
Tommie Herrell
County Commissioner
District 1
1101 New York Ave., Rm. 202
Alamogordo, NM 88310

State Historic Preservation Office
Ms. Jan V. Biella, RPA
Interim State Historic Preservation Officer
State of New Mexico Office of Cultural
Affairs
Historic Preservation Division
Bataan Memorial Building
407 Galisteo Street, Suite 236
Santa Fe, NM 87501

U.S. Border Patrol
Ms. Carmen Bueno
8901 Montana
El Paso, TX 79925

USFWS Regional Office
Dr. Benjamin Tuggle
Regional Director
US Fish and Wildlife Service
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Albuquerque, NM 87102

USFWS State Office
Wally Murphy
Field Supervisor
NM Ecological Services Field Office
US Fish and Wildlife Service
2105 Osuna NE
Albuquerque, NM 87113

GOVERNOR
Susana Martinez



DIRECTOR AND SECRETARY
TO THE COMMISSION
James S. Lane, Jr.

STATE OF NEW MEXICO
DEPARTMENT OF GAME & FISH

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Santa Fe, NM 87507
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Phone: (505) 476-8008
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Alto, NM

December 14, 2011

Mr. Brian A. Locke, Ph.D.
DPW Division of Environment
IMBL-PWE
Bldg 624S, Taylor Rd.
Fort Bliss, TX 79916

Re: Joint Land Attack Cruise Missile Defense System Draft Environmental Assessment
NMGF No. 14747

Dear Dr. Locke,

The Department of Game and Fish (Department) has reviewed the draft environmental assessment for the above referenced project. The Department does not anticipate significant impacts to wildlife or sensitive habitats from implementation of this project.

For more information on listed and other species of concern, contact the following sources:

1. BISON-M Species Accounts, Searches, and County lists: <http://www.bison-m.org>
2. Habitat Handbook Project Guidelines:
http://wildlife.state.nm.us/conservation/habitat_handbook/index.htm
3. For custom, site-specific database searches on plants and wildlife, go to <http://nhnm.unm.edu>, then go to Data, then to Free On-Line Data, and follow the directions
4. New Mexico State Forestry Division (505-476-3334) or <http://nmrareplants.unm.edu/index.html> for state-listed plants
5. For the most current listing of federally listed species **always** check the U.S. Fish and Wildlife Service at (505-346-2525) or <http://www.fws.gov/southwest/es/NewMexico/SBC.cfm>.

Thank you for the opportunity to review and comment on your project. If you have any questions, please contact Mark Watson, Habitat Specialist, at (505) 476-8115 or mark.watson@state.nm.us

Sincerely,

A handwritten signature in blue ink, appearing to read "Matt Wunder".

Matt Wunder, Chief
Conservation Services Division

MW/mw

xc: USFWS NMES Field Office
Ray Aaltonen, SW Area Operations Assistant Chief, NMDGF
Pat Mathis, SW Area Habitat Specialist, NMDGF
Leon Redman, SE Area Operations Chief, NMDGF
George Farmer, SE Area Habitat Specialist, NMDGF



DEPARTMENT OF THE ARMY
HEADQUARTERS, U. S. ARMY GARRISON COMMAND
ENVIRONMENTAL DIVISION, CONSERVATION BRANCH
IMWE-BLS-PWE
FORT BLISS, TEXAS 79916-6816

93470

November 21, 2011

REPLY TO
ATTENTION OF:

IMWE-BLS-PWE

Ms. Jan V. Biella, RPA
Interim State Historic Preservation Officer
State of New Mexico Office of Cultural Affairs
Historic Preservation Division
Bataan Memorial Building
407 Galisteo Street, Suite 236
Santa Fe, NM 87501



Dear Ms. Biella:

Please find enclosed a copy of the draft "Environmental Assessment for the Construction and Operation of Joint Land Attach Cruise Missile Defense Elevated Netted Sensor System (JLENS) Tactical Training Sites on Fort Bliss, McGregor Range, New Mexico", a copy of the correspondence prepared by my NEPA staff (enclosed letter), a negative results NIAF form for project 1202, and the RHPC and associated figures for compliance with the Fort Bliss Programmatic Agreement. Fort Bliss has prepared an Environmental Assessment (EA) to analyze the environmental impacts of construction and operation of two JLENS tactical sites. The enclosed EA provides a full description of the action. As the enclosed NEPA letter states, we seek your agencies input into the preparation for the final EA.

In addition, SOP #9 of the Fort Bliss PA outlines the process by which NEPA compliance and compliance with the National Historic Preservation Act is achieved under our PA. As stated in SOP #9.3, since an EA is being prepared for this proposed action we are attaching the RHPC and associated figures for your 30-day review.

The attached RHPC and figures show the APE for this project, valid survey areas with project numbers, and nearby sites. The project includes an overhead power line running into to two JLENS tactical sites. A careful review of the Fort Bliss records and GIS system shows that all of the areas in the proposed APE have valid survey under our PA with the exception of one small portion at the western-most portion of the power line. This area was surveyed by in-house staff (Fort Bliss project 1202) and no archaeological sites were discovered. The negative results NIAF and associated figures for project 1202. All of the sites adjacent to the APE have been consulted on with your office and received concurrence. A single site, LA 116848/FB 16002 will be impacted by construction, this site was found ineligible for the NRHP in consultation with your office (HPD log 90409).

Fort Bliss is making a finding of "No Historic Properties Affected" per SOP #6 of the PA based on the fact that the undertaking will not impact any NRHP eligible sites. If you have any questions or concerns please do not hesitate to contact Senior Archaeologist Brian Knight at (915) 568-6746 or email at brian.d.knight@us.army.mil. For comments directly related to the EA, please provide them to POC listed in the enclosed NEPA letter. As always, thank you for your support of cultural resource management on Fort Bliss.

Sincerely,



Brian Knight, RPA
Chief, Conservation Branch

Enclosures

No Historic Properties Affected.


for NM State Historic Preservation Officer

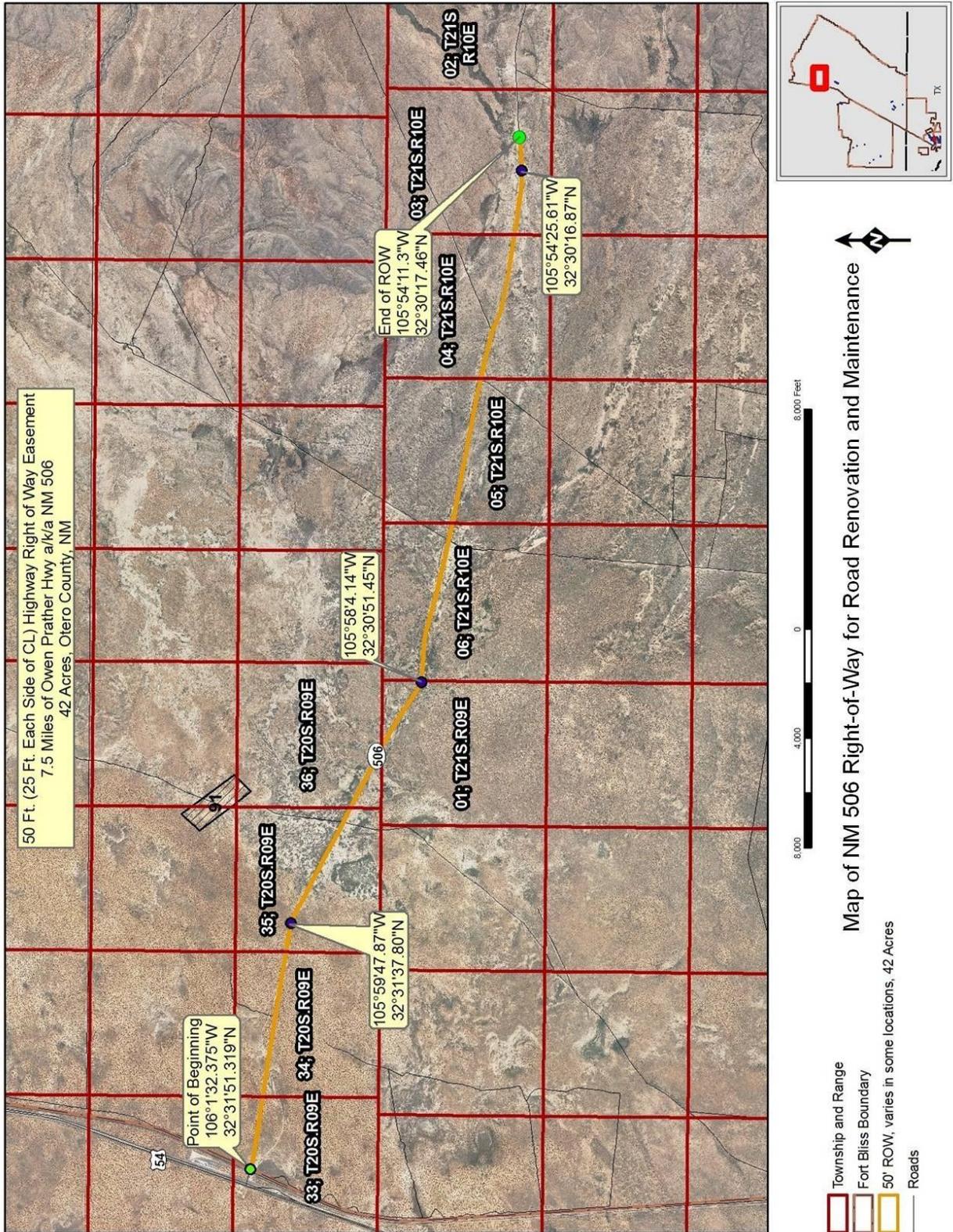
12.20.2011

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APPENDIX B

ROW and Utility Maps

Environmental Assessment for the
Construction and Operation of JLENS Tactical Training Sites on Fort Bliss, McGregor Range, New Mexico



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APPENDIX C

Air Emissions Calculations

Environmental Assessment for the
Construction and Operation of JLENS Tactical Training Sites on Fort Bliss, McGregor Range, New Mexico

Generator Emission Calculations

Equation: $AE = EHP \times LF \times TO_{10} \times EF \times CF_1 \times CF_2$

Where AE (tons/year) = actual emission of pollutants

EHP (hp) = engine horsepower

LF = load factor

TO_{10} (hr) = operational hours

EF (grams/hp-hr) = emission factor (U.S. EPA AP-42)

CF_1 (grams/lb) = mass conversion factor (grams to pounds)

CF_2 (lb/ton) = mass conversion factor (pounds to tons)

Emission Factors (AP-42) ¹				
NO _x	CO	PM-10 (gram s/hp-hr)	SO ₂	VOC- HAP ³
6.9	8.5	0.4	0.1102	1
				0.0207

Operating Scheme:		Daily	Operating	Total
Start	End	(hr)	Day	Time
			(day)	(hr)
1/1/2011	12/31/2011	1.1	360	396

Generator Description	Type	Engine Horsepower (hp)	Engine No.	Fuel Type	Fuel Capacity (gal)	Power Output (kW)	Load Factor	Engine Efficiency (%)	Operating Hours	Emission Calculations							
										CF ₁ (g/lb)	CF ₂ (lb/gr)	NO _x (ton/yr)	CO (ton/yr)	PM-10 (ton/yr)	SO ₂ (ton/yr)	VOC ² (ton/yr)	VOC-HAP ³ (ton/yr)
JLENS PU-180B	Back-up	535	2	Diesel	120	766	0.8	80%	396	0.0022	0.0005	2.57	3.17	0.149	0.041	0.373	0.008
JLENS PU-180B	Back-up	535	2	Diesel	120	766	0.8	80%	396	0.0022	0.0005	2.57	3.17	0.149	0.041	0.373	0.008
		0	0	Diesel	0	0	0.8	80%	0	0.0022	0.0005	0.00	0.00	0.000	0.000	0.000	0.000
		0	0	Diesel	0	0	0.8	80%	0	0.0022	0.0005	0.00	0.00	0.000	0.000	0.000	0.000
		0	0	Diesel	0	0	0.8	80%	0	0.0022	0.0005	0.00	0.00	0.000	0.000	0.000	0.000
Sum: 4												5.15	6.34	0.30	0.08	0.75	0.02

Notes:

Supple. = provides supplemental power when or where electrical power is not readily available

Back-up = provides emergency, stand-by or back-up electrical power in event of outage of either generator

Operating scheme: Assuming that the generators will provide no more than 400 hr/yr for back-up and preventative maintenance (PM) operation at 80% load

hp - horsepower

gal - gallons

kVA - kilo volt-amps

¹ EPA non-road engines Tier 1 emission standards

² VOC - volatile organic compounds

³ VOC-HAP - volatile organic, hazardous air pollutants