FINAL

ENVIRONMENTAL ASSESSMENT FOR THE CONSTRUCTION AND TRAINING USE OF A MULTIPURPOSE MACHINE GUN RANGE AND A GRENADE LAUNCHER RANGE FORT BLISS, TEXAS

Prepared for:

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and

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FINAL FINDING OF NO SIGNIFICANT IMPACT FOR THE CONSTRUCTION AND TRAINING USE OF A MULTIPURPOSE MACHINE GUN RANGE AND A GRENADE LAUNCHER RANGE

1.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

Purpose of and Need for the Proposed Action: The purpose of the Proposed Action is to provide close-in, year-round, comprehensive and realistic training and range facilities for Soldiers in basic marksmanship skills with machine guns up to .50-caliber and grenade launchers firing non-dud producing rounds. Fort Bliss presently has or is planning to have adequate numbers of ranges that meet its Army Range Requirement Model (ARRM) guidelines for the planned number of Active Component Soldiers assigned to Units on the Installation and Reserve Component Soldiers that habitually train or mobilize at the Installation. All existing and/or planned ranges are located over 25 miles from the Cantonment Area. These extended distances do not allow Soldiers to march from their unit barracks, conduct small arms training, and then march back to their home station. Forces Command (FORSCOM) requires close-in training capabilities that can provide impromptu, emergency, and marching Units' qualification training in commonly used combat weapons. Thus, there is a need to augment FORSCOM's training capabilities at Fort Bliss by constructing two live-fire ranges in close proximity to the Cantonment Area. The two proposed ranges, while not fully capable ranges per the ARRM and Training Circulars (TC) 25-1 (Training Land) and 25-8 (Training Ranges), are intended to augment, but not replace, any of the full ranges planned to complete the ARRM requirements.

Proposed Action: The U.S. Army proposes to construct, operate, and maintain a multipurpose machine gun range (Range K) and a grenade launcher range (Range L) on Fort Bliss Military Range, El Paso, Texas. Both ranges would meet critical live-fire individual marksmanship training needs for both active and reserve component Units that train on the Installation. The proposed ranges would be located in South Training Area 1B (TA 1B), adjacent to the Rod and Gun Club, northeast of Purple Heart Memorial Highway (Loop 375) and the Cantonment Area.

Alternative Action: The practice ranges have specific requirements for construction, operation, and safety, including the need to be near the Cantonment Area. An alternative location for Range K was assessed for an area approximately 3,000 feet east of the proposed Range K location, but it was determined that it would have conflicts with ground training activities and Biggs Army Air Field takeoff and landing alignments that could not be resolved.

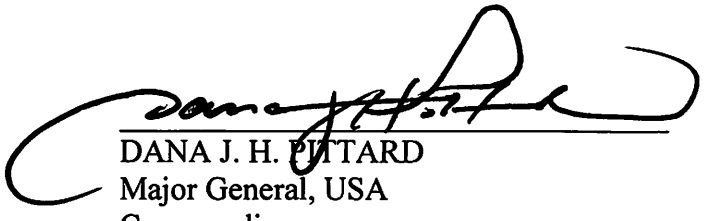
No Action: Under the No Action Alternative, the Installation would not construct Ranges K and L. Consequently, Fort Bliss would not have a Machine Gun Range or a Grenade Launcher Range within short walking distance from the Cantonment area. The Installation would not have the additional flexibility in training opportunities or scheduling that these ranges would have provided. Soldiers would continue to be transported to similar facilities on Doña Ana or McGregor Range to qualify for machine gun, sniper, and grenade launcher use, which is time-consuming and expensive. As such, the No Action Alternative would not meet the needs of the Army to expedite requirements, at times, for short-notice weapons familiarity training.

2.0 SUMMARY OF ENVIRONMENTAL RESOURCES AND IMPACTS

Implementation of the Proposed Action with the incorporated design, construction, operation, and safety measures will have minimal to moderate impacts on air quality, soils, water resources, biological resources, cultural resources, land use, airspace, health and safety, noise, environmental justice, and hazardous materials and waste within 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 will not materially change the analysis in these documents.

3.0 CONCLUSION

Based on the analysis of the Proposed Action and the design, construction, operation, 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.



28 AUG 2012

DANA J. H. PITTARD
Major General, USA
Commanding

Date

DRAFT

ENVIRONMENTAL ASSESSMENT FOR THE CONSTRUCTION AND TRAINING USE OF A MULTIPURPOSE MACHINE GUN RANGE AND A GRENADE LAUNCHER RANGE FORT BLISS, TEXAS

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EXECUTIVE SUMMARY

Purpose of and Need for the Proposed Action: The purpose of the Proposed Action is to provide close-in, year-round, comprehensive and realistic training and range facilities for Soldiers in basic marksmanship skills with machine guns up to .50-caliber and grenade launchers firing non-dud producing rounds. Fort Bliss presently has or is planning to have adequate numbers of ranges that meet its Army Range Requirement Model (ARRM) guidelines for the planned number of Active Component Soldiers assigned to Units on the Installation and Reserve Component Soldiers that habitually train or mobilize at the Installation. All existing and/or planned ranges are located over 25 miles from the Cantonment Area. These extended distances do not allow Soldiers to march from their unit barracks, conduct small arms training, and then march back to their home station. Forces Command (FORSCOM) requires close-in training capabilities that can provide impromptu, emergency, and marching Units' qualification training in commonly used combat weapons. Thus, there is a need to augment FORSCOM's training capabilities at Fort Bliss by constructing two live-fire ranges in close proximity to the Cantonment Area. The two proposed ranges, while not fully capable ranges per the ARRM and Training Circulars (TC) 25-1 (Training Land) and 25-8 (Training Ranges), are intended to augment, but not replace, any of the full ranges planned to complete the ARRM requirements.

Proposed Action: The U.S. Army proposes to construct, operate, and maintain a multipurpose machine gun range (Range K) and a grenade launcher range (Range L) on Fort Bliss Military Range, El Paso, Texas. Both ranges would meet critical live-fire individual marksmanship training needs for both active and reserve component Units that train on the Installation. The proposed ranges would be located in South Training Area 1B (TA 1B), adjacent to the Rod and Gun Club, northeast of Purple Heart Memorial Highway (Loop 375) and the Cantonment Area.

Alternative Action: The practice ranges have specific requirements for construction, operation, and safety, including the need to be nearby the Cantonment Area. An alternative location for Range K was assessed for an area approximately 3,000 feet east of the proposed Range K location, but it was determined it would have conflicts with ground training activities and Biggs Army Air Field (AAF) takeoff and landing alignments that could not be resolved.

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Environmental Consequences
The Proposed Action with specified design, construction, training use, and safety measures would have minimal to moderate impacts on the environment (Table ES-1). Cumulative impacts of recent U.S. Army 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, 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 is tiered to those documents.

Table ES-1. Potential Effects of the Proposed Action

Resource	No Action Alternative	Proposed Action
Air Quality	The No Action Alternative would have no effect on air quality.	During construction, the Proposed Action would result in slight increases in vehicle emissions from worker commutes, equipment transfer and use, and fugitive dust emissions. Temporary dust emissions would be minimized through best management practices (BMPs) such as dust suppression methods. During construction, proper routine maintenance of all vehicles and other construction equipment would be implemented to ensure that emissions are within design standards for all construction equipment.
Soils	The No Action Alternative would have no effect on soils.	Approximately 125 acres of soils would be disturbed by the Proposed Action. BMPs and a Stormwater Pollution Prevention Plan (SWPPP) would minimize soil loss during and after construction.
Water Resources	The No Action Alternative would have no effect on water resources.	No waters of the U.S. or wetlands would be affected. Impacts on surface drainage and infiltration would be minimal. The depth to groundwater precludes potential for lead contamination.
Biological Resources	The No Action Alternative would have no effect on biological resources.	Approximately 125 acres of a regionally common coppice dune community would be lost. No impact on species listed under the Endangered Species Act (ESA) or other special status species would occur. If construction is planned during the warm nesting season (March-September), potential impacts on birds listed under the Migratory Bird Treaty Act would be avoided through bird nesting surveys.
Cultural Resources	The No Action Alternative would have no effect on cultural resources.	No surface archaeological sites eligible for inclusion in the National Register of Historic Places (NRHP) would be affected by the Proposed Action, and the Proposed Action is not within the viewshed of a historic district. The project footprint has been placed in between eligible sites to avoid adverse effects on those properties. Nearby eligible sites would be marked with Seibert stakes prior to construction to avoid impacts on these sites. The remaining sites are ineligible for the NRHP or have been mitigated through data recovery. However, if cultural resources are discovered during the construction process, all work must stop until the Fort Bliss Cultural Resources Manager can review the discovery and, per the Programmatic Agreement, continue the consultation with the proper regulatory agencies.
Land Use	The No Action Alternative would have no effect on land use.	The training use of proposed ranges would be compatible with surrounding land use and would not require any change in land use designations.
Airspace	The No Action Alternative would have no effect on airspace.	No change in designated airspace would be required. A Small Arms Range Safety Area (SARSA) would be established and measures would be implemented to minimize hazards to aircraft.

Table ES-1, continued

Resource	No Action Alternative	Proposed Action
Health and Safety	The No Action Alternative would have no effect on health and safety.	Operation of the proposed ranges would have a minimal to moderate impact on health and safety. A Surface Danger Zone (SDZ) would be established within the SARSA. Both land classifications would require implementation of measures to minimize potential hazards, including signage, fencing, baffles to obstruct vertical gunfire, observation, and visibility restrictions.
Noise	The No Action Alternative would have no effect on noise.	The El Paso neighborhoods adjacent to Fort Bliss and proposed Range K could notice minimal noise from training gunfire depending upon the time of day and weather conditions.
Environmental Justice	The No Action Alternative would have no effect on environmental justice.	There would not be a disproportionate impact on minority and low income populations from the Proposed Action as impacted neighborhoods are similar in nature to the socio-economic make up of El Paso.
Hazardous Materials and Waste	The No Action Alternative would have no effect on hazardous materials.	The potential adverse effects of hazardous materials and waste would be minimal. Construction of the Proposed Action would require machinery and the use of petroleum, oil, and lubricants (POLs). Standard BMPs would be implemented to avoid and minimize potential impacts of POLs. Fort Bliss has a Spill Prevention, Control, and Countermeasures Plan, an Installation Spill Contingency Plan, and an Installation Hazardous Waste Material Management Program in place. Training use of proposed ranges would generate contaminants from bullets, fragments, and brass casings. Although lead bullets would be left in place, brass casings would be collected and recycled. The depth to groundwater and low precipitation rates in the region would preclude contamination of ground water.

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

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SECTION 1.0
PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 Introduction

Fort Bliss Army Reservation (Fort Bliss) is an active training facility located in El Paso, Texas, and the south-central area of New Mexico. The Installation is approximately 1.2 million acres in size and consists of the Cantonment Area, Biggs Army Airfield (AAF), and the Fort Bliss Training Complex (FBTC). The FBTC is separated into three geographic areas: South Training Area in El Paso County, Texas; Doña Ana Range-North Training Area in Doña Ana and Otero counties, New Mexico; and McGregor Range in Otero County, New Mexico. The FBTC is further divided into numbered training areas (TA) to manage and schedule the different training missions (Figure 1-1).

Fort Bliss was the home of the U.S. Army Air Defense Artillery Center, now relocated to Fort Sill, Oklahoma. As a result of Base Realignment and Closure (BRAC) mandates and Army Transformation and Army Growth Initiatives, Fort Bliss is transitioning from supporting the Army's Air Defense Artillery training to a major mounted training facility that supports Infantry Brigade Combat Teams (IBCTs) under Forces Command (FORSCOM). Fort Bliss is now the home of the U.S. Army 1st Armored Division. Fort Bliss has become a training platform for multiple Units deploying to Afghanistan and is a focal point for the U.S. Army as a major Installation for training Soldiers for combat readiness.

As part of its transition to supporting IBCTs under FORSCOM, Fort Bliss proposes to construct, operate, and maintain a multipurpose machine gun range (Range K) and a grenade launcher range (Range L) to be used for training Soldiers for deployment. BRAC-mandated expansion and construction, including the construction and operation of additional live-fire ranges, has been programmatically assessed in the *Fort Bliss, Texas and New Mexico Mission and Master Plan Final Supplemental Programmatic Environmental Impact Statement* (MMP SEIS, U.S. Army 2007), for which a Record of Decision (ROD) was signed 30 April 2007. Additionally, U.S. Army transformation and growth directives were assessed in the *Fort Bliss Army Growth and Force Structure Realignment Final Environmental Impact Statement* (GFS EIS, U.S. Army 2010), for which a ROD was signed on 08 June 2010.

Fort Bliss presently has limited live-fire ranges that meet FORSCOM requirements for close-in combat training. As such, Fort Bliss has proposed that two additional live-fire ranges be constructed close to the Cantonment Area to more readily assist in conducting close-in combat training. This location has not been assessed in the above-mentioned MMP SEIS and GFS EIS. Consequently, an Environmental Assessment (EA) is required per 32 Code of Federal Regulations (CFR) Part 651 Environmental Analysis of Army Actions. The present EA will be tiered from the two aforementioned documents.

1.2 Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to provide close-in, year-round, comprehensive and realistic training and range facilities for Soldiers in basic marksmanship skills with machine guns up to .50-caliber and grenade launchers firing non-dud producing rounds. Fort Bliss presently

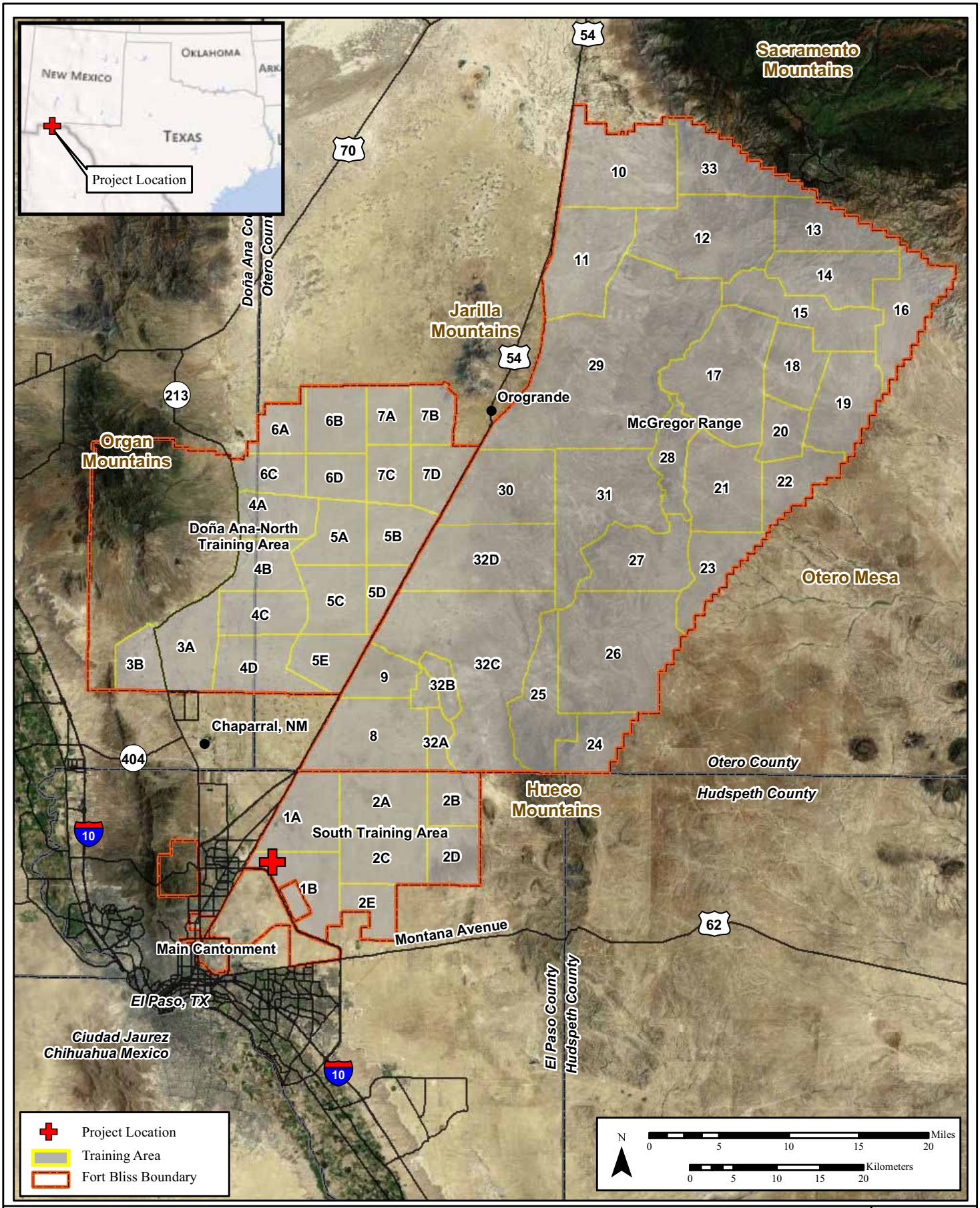

Figure 1-1: Fort Bliss and Location of Proposed Multipurpose Machine Gun Range (Range K) and Grenade Launcher Range (Range L)

GSRC

March 2012

has or is planning to have adequate numbers of ranges that meet its Army Range Requirement Model (ARRM) guidelines for the planned number of Active Component Soldiers assigned to Units on the Installation and Reserve Component Soldiers that habitually train or mobilize at the Installation. All existing and/or planned ranges are located over 25 miles from the Cantonment Area. These extended distances do not allow Soldiers to march from their unit barracks, conduct small arms training, and then march back to home station. FORSCOM requires close-in training capabilities that can provide impromptu, emergency, and marching Units' qualification training in commonly used combat weapons. Thus, there is a need to augment FORSCOM's training capabilities at Fort Bliss by constructing two live-fire ranges in close proximity to the Cantonment Area. These two ranges, while not fully capable ranges per the ARRM and TC 25-1 (Training Land) and 25-8 (Training Ranges), are intended to augment and not replace any of the full ranges planned to complete the ARRM requirements. The need for enhanced, efficient, and effective tactical training opportunities is discussed in greater detail below.

1.2.1 Enhanced Tactical Training Opportunities

Effective live training, carried out to a high doctrinal standard, is the cornerstone of operational success. The training of the critical tasks that individual, crew, platoon, and companies have to accomplish to be combat ready is directly related to the availability and capability of live-fire ranges and maneuver areas. Soldiers must enter engagements with the best possible assurance of success and survival. Therefore, the U.S. Army requires Soldiers to be proficient in individual live-fire marksmanship skills with their assigned weapons. These weapons include machine guns and grenade launchers.

Training and qualifying Soldiers and Units to be proficient with individual and crew-served weapons requires three types of facilities in the field: individual live-fire ranges, range complexes that group various ranges, and range base camps. Fort Bliss has built or is building a number of firing ranges for machine gun, sniper, and grenade launcher qualification as part of three separate range complexes. Each range complex is associated with one of the three base camps that support the training of individual Soldiers, teams, and crews of multiple brigades. Tactically, the three range complexes are intended to support concurrent training of two or three brigades with the associated support Units. Individual live-fire ranges have been located to provide concurrent training with some of the ranges replicated on each complex. Live-fire ranges have been sited to:

- Avoid conflicts with other adjacent ranges
- Allow multiple Units to train simultaneously
- Cluster small arms ranges around the three base camps to the extent possible
- Avoid unexploded ordnance (UXO) areas to the extent possible
- Distribute the locations so independent qualifications can be conducted
- Provide operational capability 24 hours a day and 7 days a week, if necessary

To provide small arms qualification ranges for Soldiers within walking distance of the Main Cantonment, a small range complex approximately 2.5 miles from the Fort Bliss Cantonment Area (or one hour's walk) needs to be established. In addition, Soldiers would be able to practice patrolling skills while in transit to the ranges. The live-fire ranges located in the designated area would support modified qualification using machine guns up to the M2 .50-

caliber machine gun and the M203 grenade launcher. These ranges would support continued modified qualification, familiarization, and sustainment training for the Units stationing and mobilizing at Fort Bliss.

1.2.2 Flexibility and Efficiency

Units that are training and preparing to deploy may need additional range qualification time to validate unqualified Soldiers due to unforeseen events. According to U.S. Army Pamphlet 350-85, *Standards in Training Commission* (the document that outlines qualification standards for the U.S. Army Soldier), 80 percent of each brigade's infantry Soldiers must qualify both during the day and at night every six months with the M2 .50-caliber machine gun. A local or close-in small arms qualification range could provide unit leaders at the squad, platoon, and company level with the flexibility to train Soldiers who have been unable to qualify during regularly scheduled times due to illness, leave, schools, or other factors. This challenge is exacerbated by the fact that many newly assigned Soldiers do not arrive at the brigades until after the brigade has conducted the majority of its mandatory training, often after the brigade has shipped its vehicles to theater or a training center. It is therefore necessary to conduct qualification of limited numbers of individuals in a short amount of time in order to meet the requirements for deployment. Proposed ranges K and L would meet this need. Both ranges would serve as an efficient and effective location to train and prepare Soldiers for combat and certify that equipment is functioning properly.

Finally, Fort Bliss continues to have an important mobilization mission and anticipates a return to execution of missions with little notice. As the war in Afghanistan winds down, it is imperative that the U.S. Army has the capability to react to contingencies worldwide, both in terms of deterrence and in terms of quickly providing Combatant Commanders with relevant land power. These contingency missions require flexibility in range use and location in order to qualify Soldiers in a timely manner and transport them to contingencies worldwide. Proposed ranges K and L would fulfill this need by providing a location where Soldiers could qualify on machine guns and grenade launchers without needing vehicles or losing valuable time due to travel. In the event of a surge, these ranges could also provide needed training capacity in the short term. Maintaining a range complex that can quickly prepare Soldiers for operations worldwide supports the U.S. Army's mission.

1.3 Scope of the Analysis

The EA will identify, document, and evaluate the potential environmental effects of the construction, operation, and maintenance of Ranges K and L near the Cantonment Area. It will be prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) of 1969 (Public Law [PL] 91-190) and the President's Council on Environmental Quality (CEQ) Regulations outlined in 40 CFR parts 1500 – 1508 and 32 CFR Part 651 – Environmental Analysis of Army Actions. NEPA is a Federal environmental law establishing procedural requirements for all Federal agency actions, and directs the U.S. Army to disclose the environmental effects of its proposed activities at Fort Bliss to the public and officials who must make decisions regarding the proposal.

The proposed construction and training use of Ranges K and L on Fort Bliss are the focus of this EA. This EA provides a discussion of the affected environment and the potential impacts on physical, natural, and socioeconomic resources. A Valued Environmental Components (VEC) analysis indicated that the following resources could be affected by the Proposed Action, and these resources will be the focus of this EA:

- Air Quality
- Soils
- Water Resources
- Biological Resources
- Cultural Resources
- Land Use
- Airspace
- Health and Safety
- Noise
- Environmental Justice
- Hazardous Materials and Waste

1.4 Decision(s) To Be Made

The proponent for the action is FORSCOM G-3 - Training; Fort Bliss, Texas. The U.S. Army, FORSCOM G-3, Fort Bliss, and U.S. Army Corps of Engineers, Tulsa District, are the lead agencies responsible for the completion of the EA. One of the alternatives analyzed in the EA will be selected as the Proposed Action. 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 Commanding General. If it is determined that the Proposed Action will have significant environmental impacts, the action will either not be taken, or a Notice of Intent to prepare an Environmental Impact Statement will be published.

1.5 Public Participation

Public and agencies will be involved in the preparation of the EA, as per NEPA guidelines. Scoping letters were sent distributed to the agencies on November 30, 2011. A distribution list and copies of the scoping letters can be found in Appendix A, Interagency and Public Coordination. As part of the EA process and to better inform El Paso residents who live in neighborhoods adjoining the part of Fort Bliss proposed for Ranges K and L, representatives from Fort Bliss attended a Northern El Paso community breakfast meeting in August 2011. The purpose of the meeting was to present information on the proposed project and its potential impacts and to solicit community comments. Verbal responses from the public after the presentation were positive regarding the project and the overall importance of the Fort Bliss training mission.

The draft EA and FNSI were made available to the public with a Notice of Availability published in the *El Paso Times* on 10 June 2012, and the drafts were distributed to local libraries, agencies, organizations, and individuals who expressed interest in the project. A distribution list can be

found in Appendix A. Comments on the draft EA were received from the Region 6, U.S. Environmental Protection Agency (USEPA) and Texas Parks and Wildlife. Their comments and the Army's response are included in Appendix A. No comments were received from the public.

SECTION 2.0
DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

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2.1 Criteria for Evaluating Range Locations

The following criteria were established for selecting proposed range locations and evaluating their suitability for the Proposed Action. A suitable location would:

- Meet mission and safety requirements
- Avoid impacts on airspace safety zones and maneuver areas
- Allow for the design and execution of U.S. Army training requirements (TC 25-1 and 25-8, respectively)
- Avoid impacts on resources or allow environmentally sound mitigation to be accomplished within fiscal feasibility
- Avoid the need for design measures exceeding fiscal feasibility
- Be located near the Cantonment Area

2.2 No Action Alternative

Under the No Action Alternative, the Installation would not construct Ranges K and L. Consequently, Fort Bliss would not have a Machine Gun Range or a Grenade Launcher Range within short walking distance from the Cantonment area. The Installation would not have the additional flexibility in training opportunities or scheduling that these ranges would have provided. Soldiers would continue to be transported to similar facilities on Doña Ana or McGregor Range to qualify for machine gun, sniper, and grenade launcher use, which is time-consuming and expensive. As such, the No Action Alternative would not meet the needs of the Army to expedite requirements, at times, for short-notice weapons familiarity training.

2.3 Proposed Action

Fort Bliss proposes to construct, operate, and maintain a multipurpose machine gun range (Range K) and a grenade launcher range (Range L) to be used for training of Soldiers for deployment. The Proposed Action would locate ranges K and L in TA 1B, east of the Rod and Gun Club, northeast of Purple Heart Memorial Highway (Loop 375) and the Cantonment Area on Fort Bliss in El Paso, Texas (Figure 2-1).

Range K would facilitate the familiarization and qualification of Soldiers on the skills necessary to identify, engage with a machine gun, and defeat stationary infantry targets. Range K would be a multipurpose familiarization and qualification range that would accommodate all calibers of machine gun in the current U.S. Army arsenal up to and including the .50-caliber. Weapons that would be used on this range include the M249 squad automatic weapon (5.56 mm), the M60 machine gun (7.62 mm), the M240B machine gun (7.62 mm), the MK19 automatic grenade launcher, the M42 sniper weapon (7.62 mm) and the M2 machine gun (.50-caliber). Range K would occupy approximately 68 acres of land with six lanes for 5.56 mm and 7.62 mm caliber machine guns, and two lanes for the M2 machine gun and M21/M24/M110/M107 sniper rifle use. Non-dud producing ammunition would be used on this range. The estimated use of Range K would be 336 days (48 weeks, 7 days per week) during daytime hours.

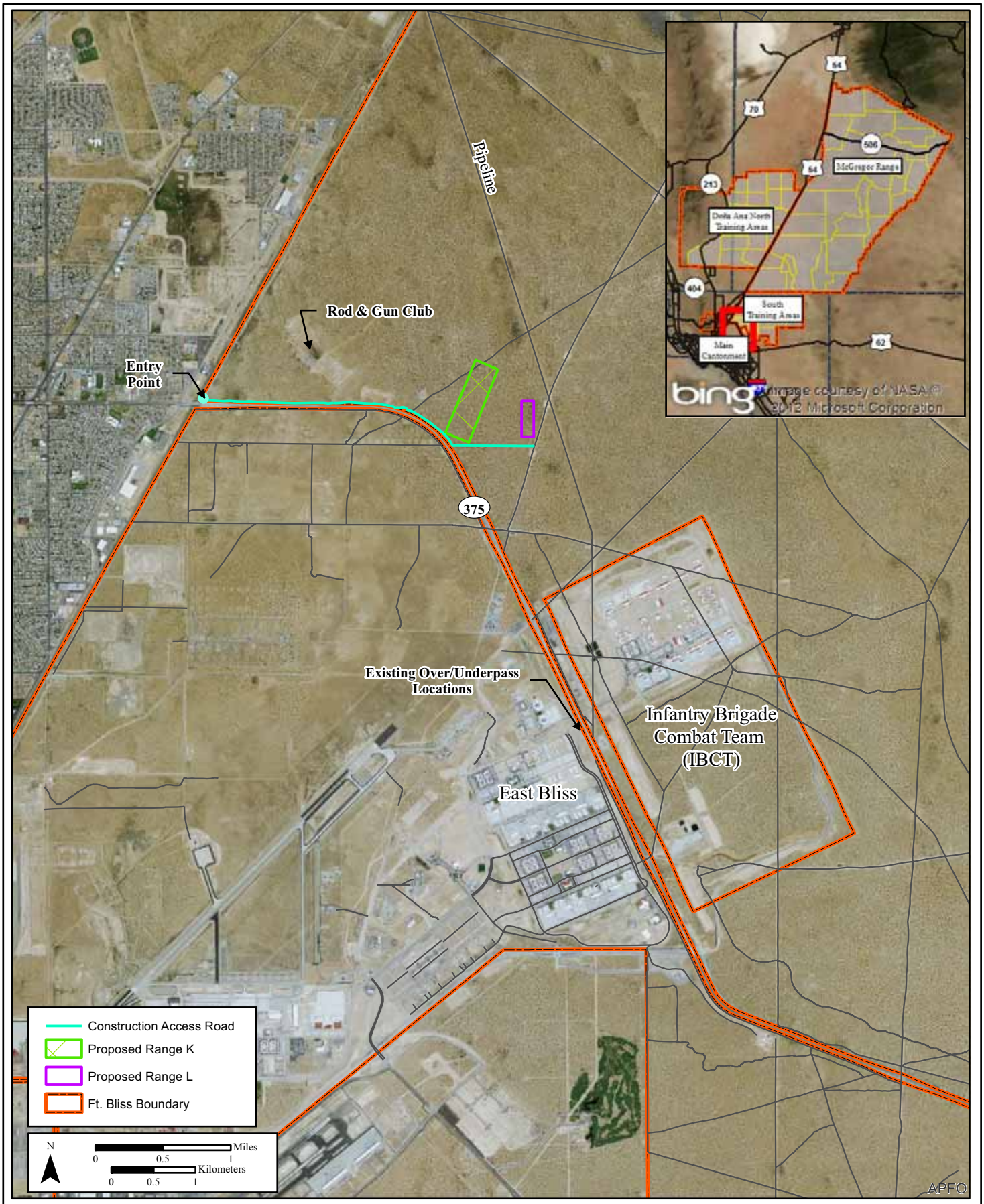

Figure 2-1: Proposed Range K, Range L, and Construction Access.

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March 2012

Range L would provide a facility to train and test individual Soldiers on the skills necessary to engage targets with an M203/320 grenade launcher. M203/320 qualification requires engaging targets through windows and into bunkers, which are simulated by wooden facades. Range L would occupy approximately 30 acres. M203/320 qualification is done with non-explosive, training practice-tracer, non-dud producing rounds. The estimated use for Range L would be 133 days (19 weeks, 7 days per week), and it would only be used during daytime hours.

Combined, the ranges would include two 800-square-foot buildings, one ammunition breakdown building, permanent vault-type latrines, one covered mess facility, one 248-square-foot range operations tower, and covered bleachers with enclosure. A small Ammunition Issue Point (AIP) would be constructed for temporary placement and handling of ammunition during use. No ammunition would be stored on-site while the facility is not in use. Supporting facilities include a generator, batteries, solar panels, parking, and stormwater drainage. Anti-terrorism/force protection includes vehicle barriers, appropriate vehicle parking setbacks, security lighting, security fencing, and gates. Supporting facilities would occupy an additional 25 acres. Solar power and batteries would be used to operate targets and range lighting, and a small generator would be located on-site as backup and to power small equipment (e.g., laptops). Although there is no intent at this time, utilities could be extended to the facilities in the future. Any future extension of utilities would be subject to a separate NEPA analysis.

Ranges K and L would be constructed in-house by the Directorate of Plans, Training, Mobilization, and Security (DPTMS) Range Branch. A UXO survey would be conducted prior to range construction. Clearing for both ranges would be limited to approximately 125 acres and would include clearing for firing berms, target protection berms, supporting structures, and improvements to the access road. Widening and straightening would be required on up to 0.6 mile of access road and would disturb up to 0.25 acre of land. Firing berms and target protection berms would be constructed utilizing soils found on-site. If necessary, additional soil would be obtained from approved borrow pits within Fort Bliss. No soil would be brought in from outside Fort Bliss boundaries. All site preparation activities would follow Best Management Practices (BMPs) per Fort Bliss Construction Stormwater Pollution Prevention Plan (SWPPP) guidance.

2.4 Alternatives Considered and Eliminated from Detailed Study

2.4.1 Use of another Department of Defense (DoD) Asset

Although the existing range complexes have been sited to maximize concurrent training of multiple Units, many of the individual ranges are clustered around base camps on the Doña Ana and McGregor Ranges in New Mexico and are a considerable distance from the Cantonment Area. In fact, the closest range that can facilitate machine gun or grenade launcher training is 15 miles (straight line distance) from the East Bliss troop areas. Infantry and light Units, in particular IBCT such as 3rd Brigade, 1st Armored Division, require ranges to which they can foot-march in order to accurately train for combat conditions. Foot-marching adds realism to training and allows Units to gain valuable patrolling skills. In the current situation, these troops would require 8 hours or more to walk to training sites prior to conducting training. The long distance and time required would make walking impractical given range scheduling, weather-related restrictions, and the need to conduct both day and night qualifications.

2.4.2 Use of an Alternative Site Location

The proposed ranges have specific requirements for construction, operation, and safety. They also need to be near the Cantonment Area, which is a high-density urban environment, to allow Units to march to them. An alternative location for Range K (multipurpose machine gun range) was assessed for an area approximately 3,000 feet east of the proposed Range K location. However, it was determined that the site would have conflicts with ground training activities and Biggs AAF air safety zone alignments, which could not be resolved. The Surface Danger Zone [SDZ] required for the proposed Range K would remove a large amount of land from the training areas, impact major maneuver routes, and conflict with other mission requirements. Locating Range K in close proximity to the Rod and Gun Club minimizes the impact to other mission requirements as the Rod and Gun Club SDZ can be shared. Additionally, both ranges were sited to avoid numerous cultural resource sites within the area. The proposed location is seen as the only location that best meets the needs of the Army.

SECTION 3.0
AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section of the EA describes the natural and human environment that exists within the project area and the potential impacts of the Proposed Action and alternatives as outlined in Section 2.0 of this document. Only those resources that have the potential to be affected by any of the alternatives considered are described, as per Council on Environmental Quality (CEQ) guidance (40 CFR 1501.7[3]). Locations and resources with no potential to be affected need not be analyzed. The effects from the Proposed Action include impacts from construction and training use of the proposed ranges K and L. 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.

The EA will examine the potential for direct, indirect, adverse, or beneficial impacts. The EA will also assess whether such impacts are likely to be long-term, short-term, permanent, or cumulative. A table of VECs (Table 3-1) was used to determine which resources could potentially be affected by the Proposed Action. These include air quality, soils, water resources, biological resources, cultural resources, land use, airspace, health and safety, noise, environmental justice, and hazardous materials and waste.

Table 3-1. Summary of Valued Environmental Components (VEC) Analysis

Resource	No Action Alternative	Proposed Action
Air Quality	The No Action Alternative would have no effect on air quality.	During construction, the Proposed Action would result in slight increases in vehicle emissions from worker commutes, equipment transfer and use, and fugitive dust emissions. Temporary dust emissions would be minimized through BMPs, such as dust suppression methods. During construction, proper routine maintenance of all vehicles and other construction equipment would be implemented to ensure that emissions are within design standards for all construction equipment.
Soils	The No Action Alternative would have no effect on soils.	Approximately 125 acres of soils would be disturbed by the Proposed Action. BMPs and a SWPPP would minimize soil loss during and after construction.
Water Resources	The No Action Alternative would have no effect on water resources.	No waters of the U.S. or wetlands would be affected. Impacts on surface drainage and infiltration would be minimal. The depth to groundwater precludes potential for lead contamination.
Biological Resources	The No Action Alternative would have no effect on biological resources.	Approximately 125 acres of a regionally common coppice dune community would be lost. No impact on species listed under the Endangered Species Act (ESA) or other special status species would occur. If construction is planned during the warm nesting season (March-September), potential impacts on birds listed under the Migratory Bird Treaty Act would be avoided through bird nesting surveys.

Table 3-1, continued

Resource	No Action Alternative	Proposed Action
Cultural Resources	The No Action Alternative would have no effect on cultural resources.	No surface archaeological sites eligible for inclusion in the National Register of Historic Places (NRHP) would be affected by the Proposed Action and the Proposed Action is not within the viewshed of a historic district. The project footprint has been placed in between eligible sites and would be marked with Seibert stakes prior to construction to avoid adverse effects on those sites. The remaining sites are ineligible for the NRHP or have been mitigated through data recovery. However, if cultural resources are discovered during the construction process, all work must stop until the Fort Bliss Cultural Resources Manager can review the discovery and, per the Programmatic Agreement, continue the consultation with the proper regulatory agencies.
Land Use	The No Action Alternative would have no effect on land use.	The training use of proposed gun ranges would be compatible with surrounding land use and would not require any change in land use designations.
Airspace	The No Action Alternative would have no effect on airspace.	No change in designated airspace would be required. A Small Arms Range Safety Area (SARSA) would be established, and measures would be implemented to minimize hazards to aircraft.
Health and Safety	The No Action Alternative would have no effect on health and safety.	Operation of the proposed ranges would have a minimal to moderate impact on health and safety. A Surface Danger Zone (SDZ) would be established within a SARSA. Both land classifications would require implementation of measures to minimize potential hazards, including signage, fencing, baffles to obstruct vertical gunfire, observation, and visibility restrictions.
Noise	The No Action Alternative would have no effect on noise.	The El Paso neighborhoods adjacent to Fort Bliss and proposed Range K could notice minimal noise from training gunfire depending upon the time of day and weather conditions.
Environmental Justice	The No Action Alternative would have no effect on environmental justice.	There would not be a disproportionate impact on minority and low income populations from the Proposed Action as impacted neighborhoods are similar in nature to the socio-economic make up of El Paso.
Hazardous Materials and Waste	The No Action Alternative would have no effect on hazardous materials.	The potential adverse effects of hazardous materials and waste would be minimal. Construction of the Proposed Action would require machinery and the use of petroleum, oil, and lubricants (POLs). Standard BMPs would be implemented to avoid and minimize potential impacts of POLs. Fort Bliss has a Spill Prevention, Control, and Countermeasures Plan, an Installation Spill Contingency Plan, and an Installation Hazardous Waste Material Management Program in place. Training use of proposed ranges would generate contaminants from bullets, fragments, and brass casings. Although lead bullets would be left in place, brass casings would be collected and recycled. The depth to groundwater and low precipitation rates in the region would preclude contamination of groundwater.

3.1 Air Quality

3.1.1 Affected Environment

USEPA established National Ambient Air Quality Standards (NAAQS) for specific pollutants determined to be of concern with respect to the health and welfare of the general public (USEPA 2010a). NAAQS are classified as either "primary" or "secondary." The major pollutants of

concern, or criteria pollutants, are carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone (O_3), particulate matter less than 10 microns (PM-10), particulate matter less than 2.5 microns (PM-2.5), and lead. NAAQS represent the maximum levels of background pollution that are considered safe, with an adequate margin of safety, to protect the public health and welfare.

Emissions resulting from the Proposed Action would be within El Paso County. Areas that do not meet NAAQS are known as non-attainment areas, and areas that meet both primary and secondary standards are known as attainment areas. El Paso County is a moderate non-attainment area for PM-10 and is a maintenance area for CO (USEPA 2010b). However, the non-attainment area for PM-10 area is limited to the city limits of El Paso, and the maintenance area for CO is limited to the downtown area of El Paso. As mandated by the Federal Conformity Final Rule (40 CFR Parts 51 and 93), a conformity analysis must be performed when a Federal action generates air pollutants in a region that has been designated a non-attainment or maintenance area for one or more NAAQS. A conformity analysis compares project emissions to established limits, known as *de minimis* thresholds. If project emissions exceed *de minimis* thresholds, appropriate mitigation measures are required to reduce emissions.

3.1.2 Environmental Consequences

3.1.2.1 No Action Alternative

The No Action Alternative would not result in any impacts on air quality because no construction activities would occur. El Paso County would continue to be designated a non-attainment area.

3.1.2.2 Proposed Action

Temporary and minor increases in air pollution would occur from the use of construction equipment (combustion emissions) and the disturbance of soils (fugitive dust) during construction and access road improvements. Estimation of construction emissions considered use of heavy construction equipment (USEPA 2001, USEPA 2005a), construction workers commuting to and from work, supply trucks delivering materials to construction sites (USEPA 2005b, 2005c and 2005d), and fugitive dust from job site ground disturbances (Midwest Research Institute 1996, USEPA 2001). During the construction of the proposed ranges and access road, proper and routine maintenance of all vehicles and other construction equipment would be implemented to ensure that emissions are within the design standards of all construction equipment. Dust suppression methods may be implemented to minimize fugitive dust, including wetting solutions applied to construction areas. Estimates of total air emissions from construction activities are less than *de minimis* thresholds (Appendix B).

3.2 Soils

3.2.1 Affected Environment

Soils in the proposed project site are mapped as McNew-Copia-Foxtrot complex (Natural Resources Conservation Service [NRCS] 2011). From field observations, the mapping unit found in the project area is likely the Copia soil, a wind-deposited (eolian) loamy fine sand formed as shrub-coppice dunes, each dune typically anchored by a mesquite shrub. Dunes in the area range from approximately 4 to 6 feet in height above a mantle of wind-deposited sand

sheets. In general, these soils are found on 1 to 5 percent slopes, and are well drained to excessively drained (NRCS 2011).

Older soils underlie the shrub-coppice dunes, often with calcium carbonate-bearing soil horizons (calcic or petrocalcic horizons). White carbonate fragments commonly observed on the surface of the project area are detritus from these eroded soil horizons.

3.2.2 Environmental Consequences

3.2.2.1 No Action Alternative

The No Action Alternative would not result in any impacts on soils because no construction activities would occur.

3.2.2.2 Proposed Action

The Proposed Action would have permanent and minimal effects on soils at the proposed project site. Soils at this location are common and of limited value; therefore, disturbance of up to 125 acres of soils would have minimal adverse effects. A SWPPP would be implemented to avoid or minimize additional soil disturbance as a result of erosion during construction (U.S. Army 2011a). Excavation would generally be limited to clearing and leveling; thus, excavation below the sandy surface layer would be minimal. Soils left on-site would be used to construct firing berms and target protection berms. Excess material would be moved to an appropriate location for storage on Fort Bliss. If additional fill material is required, soils would be obtained from approved locations on Fort Bliss. Post-construction soil disturbance would be minimal and would include maintenance of berms and targets.

3.3 Water Resources

3.3.1 Affected Environment

Surface water at Fort Bliss is limited to ephemeral drainage networks and isolated wetlands as defined by the U.S. Army Corps of Engineers (USACE) (U.S. Army 2001). The proposed project site is located within the Rio Grande-Fort Quitman watershed (U.S. Geological Survey 2011). There are no surface water features in the vicinity of the project site. Stormwater is rapidly absorbed by the sandy surface soils and contributes to recharge of the Hueco Bolson. Depth to groundwater in the Hueco Bolson is approximately 350 feet below the surface of the proposed gun ranges (Sheng et. al 2001, Walker 2012). Average annual precipitation in the El Paso area ranges between 9 and 11 inches (National Climate Data Center 2012). The freshwater aquifer in the Hueco Bolson supplies the Cantonment Area and various range areas (U.S. Army 2011b) and is utilized by the El Paso Water Utilities to supply users in the region (El Paso Water Utilities 2007).

3.3.2 Environmental Consequences

3.3.2.1 No Action Alternative

The No Action Alternative would not result in any impacts on water resources because no construction activities would occur.

3.3.2.2 Proposed Action

The Proposed Action would have a minimal effect on surface drainage, infiltration and recharge, and water quality. A SWPPP would be implemented to avoid or minimize erosion caused by stormwater runoff during construction (U.S. Army 2011a). Contaminants associated with construction and operation of the small arms firing ranges would not affect groundwater quality due to the depth of the aquifer and limited precipitation. Contaminants would be unlikely to leach through the soils to the depth of groundwater.

3.4 Biological Resources

3.4.1 Affected Environment

Wildlife and plants with special status include species listed as threatened or endangered under the ESA, species listed by Texas as threatened or endangered, and other species of concern as listed by these agencies. These special status species and information on habitat and occurrences can be found in the MMP SEIS, the GFS EIS, and the *Fort Bliss Integrated Natural Resources Management Plan, November 2001* (INRMP) (U.S. Army 2001). The proposed project site supports a coppice dune community with moderate density of shrub cover including mesquite (*Prosopis glandulosa*), fourwing saltbush (*Atriplex canescens*), broom snakeweed (*Gutierrezia sarothrae*), and soaptree yucca (*Yucca elata*). Coppice dunes support a low diversity of plants and animals and occur on over 31 percent of Fort Bliss.

Two Federal Species of Concern, the western burrowing owl (*Athene cunicularia)* and the Texas horned lizard (*Phrynosoma cornutum)* could occur within coppice dune communities and have potential to occur at the proposed site. The western burrowing owl occurs in all desert shrubland communities and grassland vegetative communities on Fort Bliss. The Texas horned lizard, also a threatened species in Texas, is widespread throughout Fort Bliss in grassland and shrubland communities. Birds protected under the Migratory Bird Treaty Act of 1918 could occur in the proposed project site, including the western burrowing owl, loggerhead shrike, and numerous songbirds.

3.4.2 Environmental Consequences

3.4.2.1 No Action Alternative

The No Action Alternative would not result in any impacts on biological resources because no construction activities would occur. The proposed project site would continue to support a low-diversity, coppice dune community.

3.4.2.2 Proposed Action

Approximately 125 acres of a regionally common coppice dune community would be lost, which would result in minimal impacts on regionally common vegetation and wildlife species. No impact on species listed under the ESA or other special status species would occur. Although the Proposed Action would remove potential habitat for three Federal Species of Concern, impacts on individuals and habitat availability would be minimal relative to the abundance of these species and coppice dune communities throughout the region. If construction is planned during the warm nesting season (March-September), potential impacts on birds listed under the Migratory Bird Treaty Act would be avoided through bird nesting surveys. Security fencing installed at the proposed project site would incorporate wildlife-friendly features (i.e., features

that allow wildlife to pass safely underneath or through the fencing). Anti-perching devices would be placed on structures associated with the ranges to minimize harm to migratory birds.

3.5 Cultural Resources

3.5.1 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 of 1990, the Archaeological 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 as associated with prehistoric and historic periods recognized in Texas. The 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 2008) also contains detailed information about the history of Fort Bliss. Pursuant to Army Regulation (AR) 200-1, the Garrison Commander at Fort Bliss is responsible for managing the cultural resources on the Installation in compliance with all Federal laws, regulations, and standards. Compliance with Section 106 of the NHPA is achieved through implementation of a Programmatic Agreement between Fort Bliss and the Texas Historical Commission. The Programmatic Agreement stipulates conditions for avoidance, minimization, and mitigation of impacts on cultural resources.

The Area of Potential Effect (APE) for the current Proposed Action includes the footprint of the proposed ranges and the temporary construction access road. The APE has been substantially degraded by historic and current land use. Historically, the area was dominated by grassland communities; however, historic and current land uses have resulted in conversion of grasslands to coppice dunes. The area was previously surveyed (Williams et al. 2010) and resulted in 99 sites, 44 of which were previously recorded and 55 of which were newly defined. Of the 99 sites, 19 are recommended as eligible for listing in the NRHP, all under Criterion *d*. These sites are among the largest sites in the area and typically have numerous features preserved in the buried Holocene soils in some interdunal areas. The remaining 80 sites are not eligible for listing in the NRHP. All of the sites date entirely or primarily to the prehistoric period and were composed of prehistoric campsites, prehistoric habitation sites, and artifact scatters. Thirty-eight previously recorded sites have been tested, two sites have been partially mitigated, and one site has been fully mitigated. These sites have been consulted on with the Texas State Historic Preservation Officer, and Fort Bliss has received concurrence on the eligibility determinations. Ongoing government-to-government consultations with federally recognized tribes that have shown interest in the resources at Fort Bliss have not identified any resources of concern to the tribes within the APE.

3.5.2 Environmental Consequences

3.5.2.1 No Action Alternative

The No Action Alternative would not result in any impacts on cultural resources because no construction activities would occur and because no cultural resources are known to occur within the APE.

3.5.2.2 Proposed Action

No surface archaeological sites eligible for inclusion in the NRHP would be affected by the Proposed Action, and the Proposed Action is not within the viewshed of a historic district. The project footprint has been placed in between eligible sites to avoid adverse effects on those properties. The eligible sites would be demarcated with Seibert stakes to avoid impacts on the sites. The remaining sites are ineligible for the NRHP or have been mitigated through data recovery. Final siting of proposed access roads would be reviewed by Fort Bliss Department of Public Works – Environmental archaeologists prior to construction.

If cultural resources are discovered during the construction process, all work must stop until the Fort Bliss Cultural Resources Manager can review the discovery and, as per the Programmatic Agreement, continue the consultation with the proper regulatory agencies. Consultation between Fort Bliss Cultural Resources Manager, Texas State Historic Preservation Officer, and Advisory Council on Historic Preservation through an existing Programmatic Agreement will determine if further action is required on behalf of the Fort Bliss Garrison Commander. Any discovery of possible human remains would be treated in accordance with the Native American Graves Protection and Repatriation Act and the standard operating procedures set out in the ICRMP.

3.6 Land Use

3.6.1 Affected Environment

The proposed project site is located in an area of relatively undisturbed land immediately northeast of Purple Heart Memorial Highway (Loop 375) within TA 1B. TA 1B is designated for both military and recreational use. The specific location of the proposed ranges is classified by Fort Bliss as Land Use Category A (Figure 3-1). Land Use Category A allows on-road vehicle maneuvering for wheeled or tracked vehicles on existing roads; off-road vehicle maneuvering; dismounted (foot traffic) maneuvering and training; aircraft operations; mission support facilities; live fire; safety danger zone/safety footprint; and environmental management (U.S. Army 2010).

TA 1B is utilized for on- and off-road vehicle maneuvers and use of military training ranges similar in purpose to the proposed sites. Non-military use includes public recreation such as hunting, hiking, picnicking, and bird watching. Public recreation use is controlled through access permits by Fort Bliss Range Operations to ensure safety and use compatibility with military activities. Both proposed range sites are located in a designated recreational use area and a portion of the Land Navigation Course traverses the proposed footprint of Range K. The Fort Bliss Rod and Gun Club, open to the public, is located less than 1 mile west of the proposed project site.

3.6.2 Environmental Consequences

3.6.2.1 No Action Alternative

The No Action Alternative would not result in any impacts on land use resources because no change in land use would occur. The proposed project site would continue to support military training and recreational use.

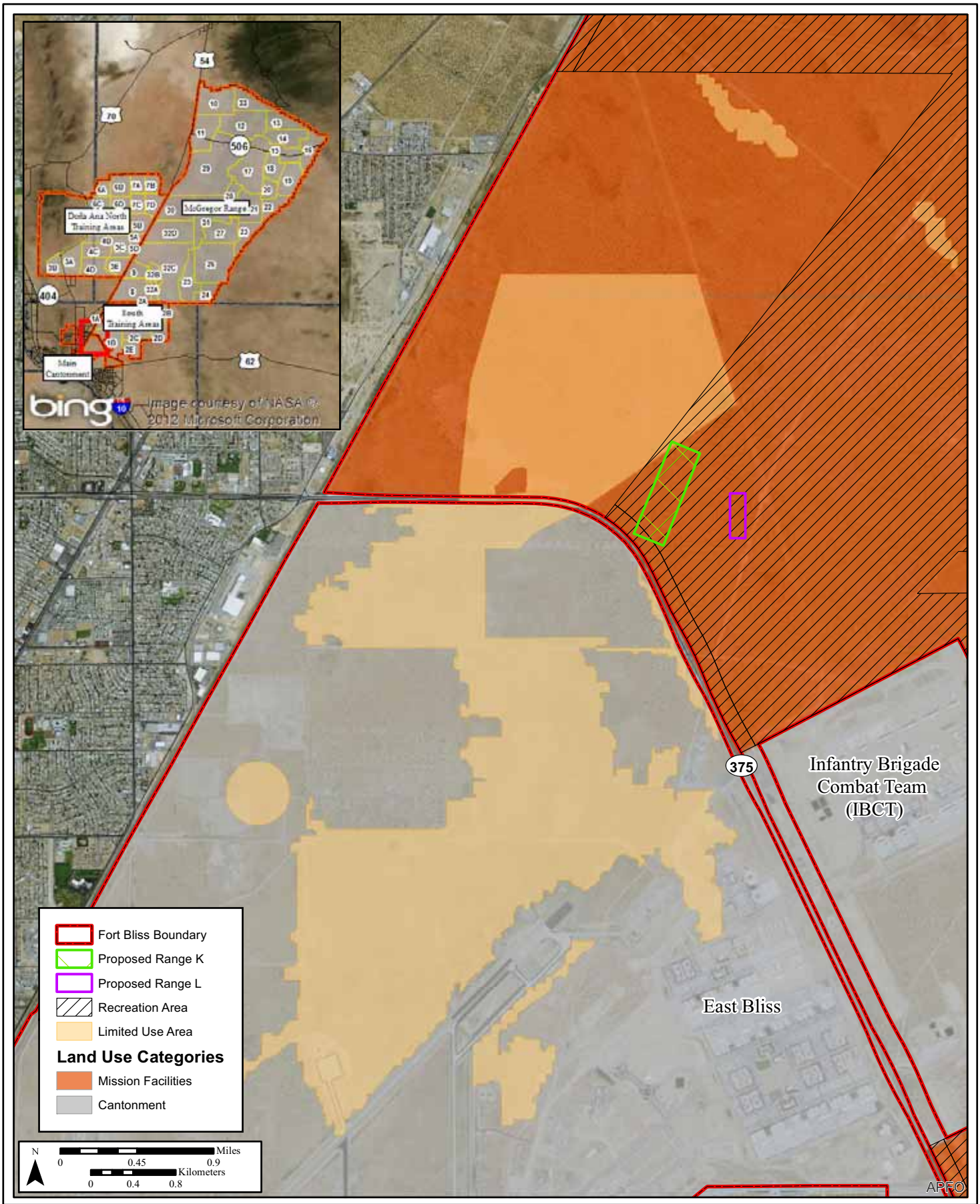

Figure 3-1: Designated Land Use Associated with Proposed Ranges

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3.6.2.2 Proposed Action

Live-fire ranges are Mission Support Facilities (U.S. Army 2010) and are allowable military uses for Land Use Category A; thus, the training use of proposed ranges K and L would be compatible with surrounding land use and would not necessitate a change of the existing land use category. Designated recreational use would be minimally impacted. The Land Navigation Course would be reduced and appropriate signage and security fencing would prevent recreational users from entering potentially hazardous areas. A Small Arms Safety Area (SARSA) has been approved for the proposed ranges (see Figure 3-3). The Surface Danger Zone (SDZ) for the proposed ranges would largely overlap the existing Rod and Gun Club SDZ and would not affect land use in the area (see Figure 3-3).

3.7 Airspace

3.7.1 Affected Environment

The U.S. Army manages airspace in accordance with DoD Directive 5030.19, *Responsibilities on Federal Aviation and National Airspace System Matters*. The U.S. Army implements these requirements through AR 95-2, *Air Traffic Control, Airspace, Airfields, Flight Activities, and Navigational Aids*. Airspace has defined designations assigned by the Federal Aviation Administration (FAA) and adopted from international norms to control flights of all aircraft, especially around airports. The controlled airspace is designed to provide aircraft separation for approach, landing, and takeoff from the airports in the El Paso area. Airspace in the vicinity of Fort Bliss consists of a combination of Class C and Class E airspace around the El Paso International Airport, and Class D airspace around Biggs AAF (Figure 3-2). Entering Class C or Class D airspace requires radio contact with the controlling Air Traffic Control (ATC) authority, and an ATC clearance is ultimately required for landing. Operations in Class E airspace conducted under visual flight rules are not subject to ATC clearance.

3.7.2 Environmental Consequences

3.7.2.1 No Action Alternative

The No Action Alternative would not result in any impacts on airspace because no construction activities would occur.

3.7.2.2 Proposed Action

The proposed training use of ranges K and L would not require any change in designated airspace. Implementation of the measures included in the SARSA and Fort Bliss Regulation 385-63, *Safety: Fort Bliss Training Complex Range Operations* would minimize the potential impacts on low-flying aircraft. Safety precautions to be followed include horizontal visibility requirements (4,000 feet), vertical ceiling (cloud height) requirements (3,967 feet), safety observers, communication links, and other factors identified in the SARSA documentation that enhance range safety. Biggs AAF and the El Paso International Airport would be notified of the SARSA prior to training use of the proposed ranges. All use of Range K would temporarily cease upon notification or observation of aircraft entering the SARSA.

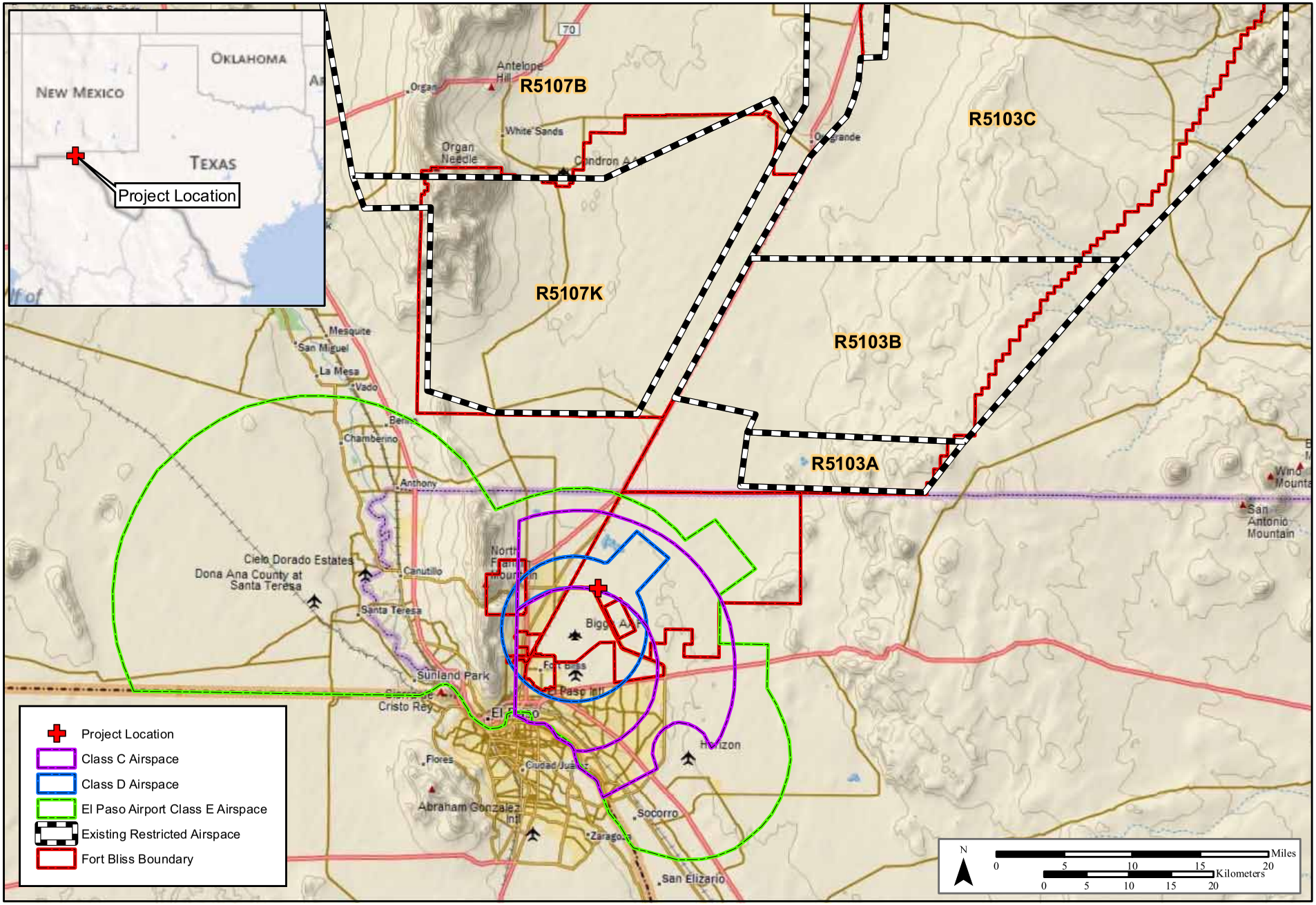

Figure 3-2: Airspace Designations Associated with the Proposed Ranges

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3.8 Health and Safety

3.8.1 Affected Environment

Federal, state, and Fort Bliss guidelines, rules, and regulations are in place to protect personnel throughout the Installation. Health programs are promoted through U.S. Army Public Health Command (USAPHC) and Medical Command. Various Fort Bliss standard operating procedures have also been established to meet health and safety requirements. Health hazards in the area could include dehydration and heat illness and contact with venomous animals and spiny vegetation. 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, *Safety: Fort Bliss Training Complex Range Operations*. A SARSA and SDZ have been established for the Rod and Gun Club, and the proposed ranges would share a large portion of this existing designation (Figure 3-3).

3.8.2 Environmental Consequences

3.8.2.1 No Action Alternative

The No Action Alternative would not result in any impacts on health or safety. Training and recreational use in the area would continue to be subject to the hazards of the environment and the SDZ established for the Rod and Gun Club.

3.8.2.2 Proposed Action

Health impacts would be minimal. Measures would be taken to ensure proper hydration and avoidance of dangerous animals and plants. Impacts on safety would be moderate and would include hazards to low-flying aircraft, as well as the public and Soldiers on the ground. Training use of the proposed ranges would require expansion of the horizontal and vertical hazard zones associated with the existing Rod and Gun Club SARSA (Figure 3-3). The SDZ would include the eastern margins of the Fred Hervey water treatment plant treatment pond, but not the inhabited facility to the west. In order to avoid potential impacts on safety at the water treatment plant, only the eastern firing lanes would be used for .50-caliber weapons training, and the water treatment plant would be notified prior to each use of Range K. Measures to minimize adverse effects on safety are outlined in the SARSA documentation and Fort Bliss Regulation 385-63, *Safety: Fort Bliss Training Complex Range Operations*. These measures include horizontal visibility requirements (4,000 feet), vertical ceiling (cloud height) requirements (3,967 feet), safety observers, communication links, and other measures identified in the SARSA documentation that enhance range safety. The SDZ would be demarcated at the nearest existing boundary extending beyond the limits of the horizontal hazards, and a fence with signage would be constructed around the ranges to deter entry. The live-fire military activities would occur under controlled conditions and only in the specified areas. The live-fire military activities would be scheduled and would temporarily restrict non-military access to the site and the SDZ.

3.9 Noise

3.9.1 Affected Environment

Ambient or background noise level is the all-encompassing noise level associated with a given environment. It is a composite of sounds from all sources. Ambient noise in the area surrounding the proposed ranges includes traffic noise from Purple Heart Highway (Loop 375),

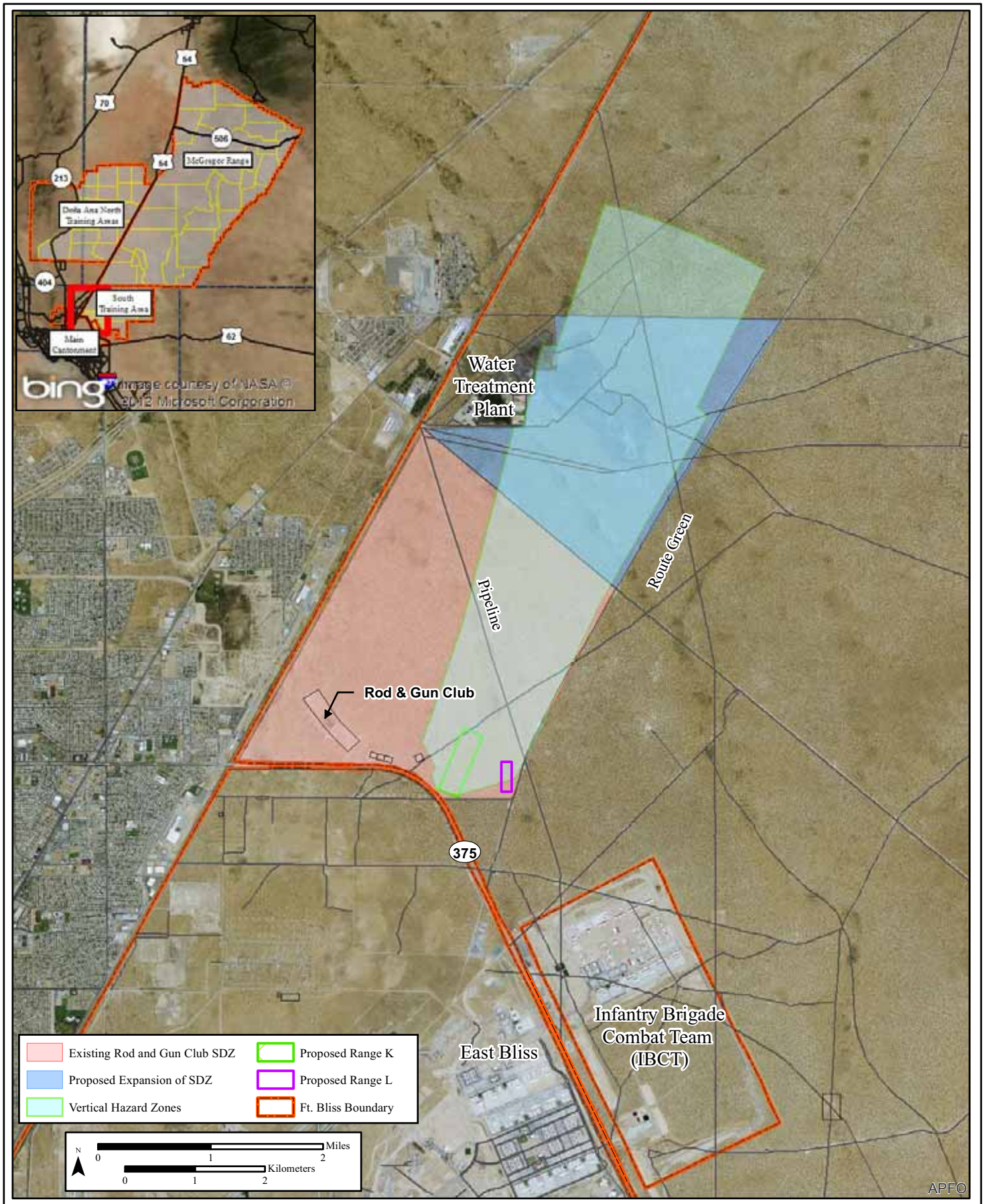

Figure 3-3: Proposed Small Arms Safety Area (SARSA) and Surface Danger Zone (SDZ) for the Proposed Range K

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March 2012

Railroad Drive, and residential streets within the Shearman neighborhood. Ambient noise is also contributed to by a Union Pacific railroad main line which runs parallel to the Installation boundary, local parks and recreational areas, residential construction activities, and gunfire from the Fort Bliss Rod and Gun Club. Peak or maximum sound levels are typically obtained to measure single noise events. Noise levels are measured in two ways: A-weighted noise (higher frequencies), which reflects what people actually hear and C-weighted noise (lower frequencies), which tend to reflect people actually feel (as well as hear). The latter is typically considered to be "blast" noise whereas noise from small caliber weapons such as machine guns and rifles is measured as peak A-weighted noise. A-weighted sound level (expressed as dBA) is a sound level that has been weighted to correspond with the non-linear sensitivity of the human ear. It discriminates against the lower frequencies.

The U.S. Army categorizes noise impacts into three zones as determined by the expected peak noise level measured in decibels (dB) (Table 3-2). The zones are associated with land uses that are considered to be compatible with specific noise decibel levels or ranges. The noise levels for each zone (I, II, and III) attempt to estimate annoyance to the affected population and relative numbers of complaints that may be expected. Zone I is the "normal" noise environment (for examples, normal conversation is approximately 60 dB; noise from traffic or a busy restaurant approaches 87 dB). Noise-sensitive land uses, such as residences, schools, and medical facilities, are acceptable within the Zone I, but are not normally recommended in Noise Zone II, and not recommended at all in Zone III (U.S. Army 2007).

Table 3-2. Land Use Noise Limits for Impulsive Sources and Small Arms

Zone	Small Arms Noise Limits	Noise Sensitive Land Uses
I	Less than 87 dB	Acceptable
II	Greater than 87 but less than 104 dB	Normally not recommended
III	Greater than 104 dB	Not recommended

Source: AR 200-1.

Fort Bliss has identified noise zones that correspond to Table 3-2 in its Installation Operational Noise Management Plan (IONMP) based on noise analyses performed by the Operational Noise Office of the U.S. Army Public Health Command (USAPHC). The IONMP establishes procedures to respond to public complaints and to monitor both the noise environment and any proposed land use changes surrounding the installation. Analyses indicate that Zone III peak noise levels from existing small arms ranges would not extend beyond the Installation (U.S. Army 2007). Ambient noise in the communities closest to the proposed ranges is also relatively high (refer to further discussion in Sec 3.9.2.2).

The City of El Paso has enacted a city ordinance (Chapter 9.40 NOISE), which adopted standards for allowable exterior noise levels to protect the health of citizens (Table 3-3). Each noise limit specified is increased by 5 dBA (A-weighted decibels, expressed on a logarithmic scale) for impulse (e.g., gunfire) or simple tone noises. If the ambient noise level exceeds the resulting standard, the ambient noise level is the standard.

Table 3-3. Allowable Exterior Noise Level as Established by City of El Paso Noise Zones

El Paso Noise Zone	Time Interval	Allowable Exterior Noise Level
I - All single-, double-, and multiple-family residential structures or property	10:00 p.m. to 7:00 a.m. 7:00 a.m. to 10:00 p.m.	50 dBA 55 dBA
II - All commercial properties	10:00 p.m. to 7:00 a.m. 7:00 a.m. to 10:00 p.m.	60 dBA 65 dBA
III - All manufacturing or industrial properties	10:00 p.m. to 7:00 a.m. 7:00 a.m. to 10:00 p.m.	65 dBA 70 dBA

3.9.2 Environmental Consequences

3.9.2.1 No Action Alternative

Under the No Action Alternative, noise associated with the Fort Bliss Rod and Gun Club, Union Pacific Railroad, and traffic on Railroad Drive would continue to have minimal to moderate impacts on residential and public areas west of Fort Bliss.

3.9.2.2 Proposed Action

Noise from proposed Range K could affect nearby El Paso communities adjoining Fort Bliss, and noise analysis studies were undertaken to better understand any potential impacts of the Proposed Action. In March 2011, at the request of Fort Bliss, USAPHC generated a computer model of expected noise zone contour lines in the project area using available information on weapon types, topography, range layout, and conservative atmospheric conditions favoring noise propagation (Figure 3-4). The noise contours generated are based on peak levels rather than a cumulative or average level, thus the size of the contours will not change with number of (simulated) rounds fired. Peak noise data shown in Figure 3-4 are expressed as "PK15 (met)" meaning that the maximum un-weighted sound level of a single noise-producing event is likely to be exceeded only 15 percent of the time due to weather conditions or other variables.

Noise contours from the computer model for the proposed Range K .50-caliber gunfire (Figure 3-4, blue lines) are shown with contours modeled for the existing Fort Bliss Rod and Gun Club (Figure 3-4, green lines) using primarily .30-caliber weapons and smaller. Results show that peak Zone II noise contours (87 and 104 dB PK15 [met]) from proposed Range K would extend beyond the western boundary of the Installation approaching 1 mile. It also extends beyond the existing Zone II noise contour for the Rod and Gun Club. The increased area of Zone II would be approximately 707 acres and encompasses an additional 645 residences, Desertaire Elementary School, and Shearman Park. Proposed Range L (grenade launcher range) would not generate adverse noise contours beyond those created by Range K.

Fort Bliss Rod and Gun Club, however, has received no noise complaints to date from the local community. Noise models for the club show a Zone II noise contour that extends beyond the Installation's western boundary (approximately 2,700 feet) towards Dryer Street, encompassing559 acres, Parkland Elementary School, and 392 single-family and 38 multifamily residential homes (Figure 3-4, dark green line). The Zone III contour encompasses a portion of Purple Heart Highway (Loop 375). There are no sensitive noise receptors (residents) in the Purple Heart Highway corridor, and motorists have traveled through the Zone III-modeled area of the Rod and Gun Club for years without incident.

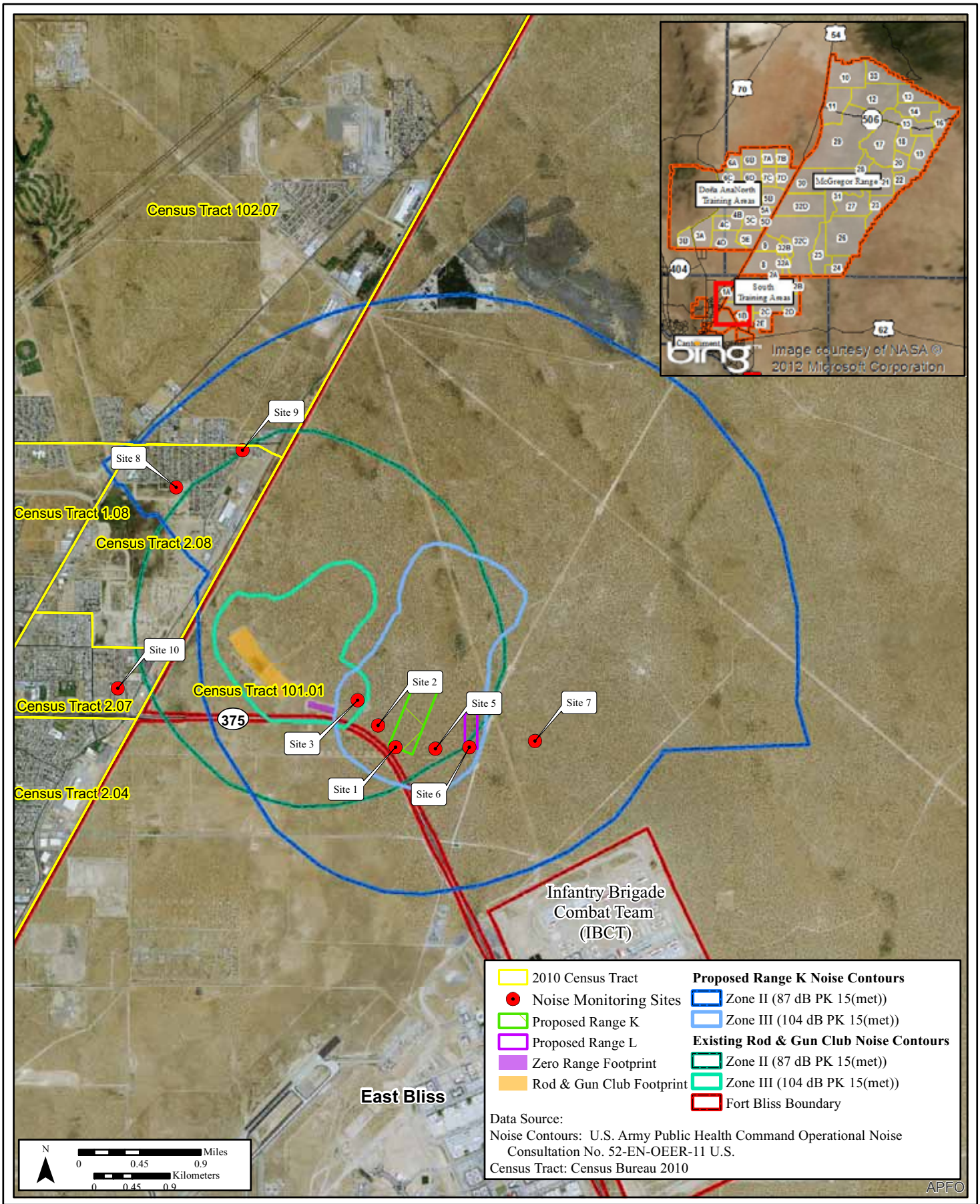

Figure 3-4: Existing and Proposed Noise Contours Generated by the Rod and Gun Club and Proposed Range K

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May 2012

In August 2011, a USAPHC Operational Noise Consultation and test (2nd Addendum to No. 52-EN-0EER-11) was conducted to validate and test the computer modeling results. Ground-based noise monitors were placed in various locations both inside and outside Fort Bliss (Figure 3-4) to measure actual noise generated by .50-caliber and .30-caliber machine guns firing single shots and bursts from the proposed Range K location. Monitoring equipment collected data over a period of two days at pre-determined firing times both day and night.

The test corroborated that the use of .50-caliber machine guns on proposed Range K would result in Zone II-level noise extending west of Fort Bliss, but only sporadically (13 percent of the time). Noise from .30-caliber firing was not detected at all. Results indicated that .50-caliber gunfire in adjacent El Paso neighborhoods (see Figure 3-4, sites 8, 9, and 10) was mostly indistinguishable from ambient noise levels. The majority of events (87 percent) were either inaudible or below the threshold of 87 dB for Zone II noise. Site 8 (see Figure 3-4) in a residential park recorded only 2 out of 20 (10 percent) gunfire noise events in the Zone II range (Table 3-4). Site 9 in a new residential housing area resulted in 6 out of 20 or 30 percent gunfire noise emissions in the Zone II range (Table 3-4). A third location in an established residential neighborhood (Site 10) recorded all 20 noise events at less than ambient level in the area. Thus, the Zone II noise model contours appear overly conservative in that actual noise levels recorded during the test were predominantly lower (in the range of Zone I). The risk of impacts to the public from noise is, therefore, predicted to be low. There would be no risk to public health or damage to structures.

Table 3-4. Maximum Peak Levels Recorded at Noise Monitoring Sites

Site	Distance (miles)	Angle from weapon (degrees)	Measured Maximum Peak* (dBP)
8	2.55	320	87, 82, 92, 86, AL, AL, AL, AL, AL, AL, AL, AL, 82, 80, 82, 85, AL, AL, AL, AL
9	2.49	333	AL, 97, 95, 94, AL, AL, 84, 83, 85, 87, AL, AL, 84, 83, 88, 96, AL, AL, AL, 84
10	2.17	282	AL

* Un-weighted. Sound levels represent single firing events at different times of the day.
AL = less than ambient level, gunfire not recorded.

Analysis of the test data indicates that the average noise levels from .50-caliber weapons on Range K did not exceed the city's allowable exterior noise levels per the noise ordinance. The noise metric that averages sounds over time is the Equivalent Continuous Sound Level (LEQ). The LEQ is a weighted measure for which the decibel levels of noise that is varying over a period of time are equated to a steady noise having the same acoustical energy over the same period of time. Using the data for the off-post meter locations, USAPHC determined that the sound level of 55 LEQ was not exceeded. The highest LEQ reading was 53.9. Furthermore, the on-the-ground test conducted by USAPHC indicates that the ambient noise level in the community would often exceed the LEQ from weapons firing on Range K (Stewart 2012).

Although the proposed Range K would generate a Zone III noise contour potentially encompassing a portion of Purple Heart Highway (Loop 375), it is not expected to adversely impact traffic or public health. According to the USAPHC, the threshold for damage to unprotected human ears is 137 dB. The direction of weapons fire would be directly away from

the highway. The direction of fire should preclude that level of noise reaching the highway behind the baseline of the range.

3.10 Environmental Justice and Socioeconomics

3.10.1 Affected Environment

Executive Order (EO) 12898, Environmental Justice, was issued by President Clinton on February 11, 1994. Objectives of the EO include development of Federal agency implementation strategies, identification of minority and low-income populations where proposed Federal actions have disproportionately high and adverse human health and environmental effects, and participation of minority and low-income populations.

A minority population exists where the percentage of minorities in an affected area is 50 percent of the community and is meaningfully greater than the percentage of minorities in the next larger geographic area surrounding the affected population. Low-income populations are those whose income is $22,050 or less for a family of four as identified using the U.S. Census Bureau's (USCB) statistical poverty threshold. USCB defines a "poverty area" as a census tract with 20 percent or more of its residents below the poverty threshold, and an "extreme poverty area" as one with 40 percent or more below the poverty level.

The Zone II noise contour generated by the proposed ranges encompasses approximately 1,000 acres and a portion of Census Tracts 2.08 and 102.07. The populations in this affected area are essentially the same racial composition and income level as surrounding the City of El Paso and El Paso County (Table 3-5) (USCB 2010). The affected area is primarily residential and currently includes approximately 1,000 homes, Desertaire Elementary School, a church, and Shearman Park. However, development in this area is occurring rapidly, and the number of affected residences could double in the future.

Table 3-5. Minority Population and Poverty Data

Location	Minority Population (percent)	All Ages in Poverty (percent)
El Paso County	86.9	25.6
City of El Paso	85.8	24.1
Census Tract 2.08	81.2	37.3
Census Tract 102.07	76.2	10.2

Source: USCB 2010 and American Community Survey 5-Year Estimates, 2006-2010 for county and city, 2005-2009 for census tract data.

3.10.2 Environmental Consequences

3.10.2.1 No Action Alternative

The No Action Alternative would not result in any impacts on minority populations and poverty areas. Ambient noise levels would continue to be affected by public infrastructure (including the Rod and Gun Club) and continued military activities on Fort Bliss.

3.10.2.2 Proposed Action

The El Paso civilian community adjacent to Fort Bliss near proposed ranges K and L could hear noise from training gunfire depending upon the time of day and weather conditions. Generally, noise would be more noticeable when wind conditions are from the east, and at night when the Rod and Gun Club is closed and the traffic on Railroad Drive is light. The Union Pacific trains, however, operate day and night near the neighborhood, and wind is predominantly from the west. The affected community is comprised of minority and low-income populations essentially similar to the larger El Paso socio-economic community as a whole, with one exception. Census Tract 2.08 is an area that has 37.3 percent of residents below poverty level, compared to the City of El Paso average of 24.1 percent (see Table 3-4). However, this area is part of a larger area where a USAPHC computer model projected noise levels incompatible with residences based upon the proposed Range K location. The Census Tract 2.08 population would not receive a disproportionate effect from an increase in noise levels that would almost certainly be inaudible or barely audible most of the time. It should be noted that the ambient noise levels at Census tract 2.08 and surrounding neighborhoods, because of traffic on Railroad Drive, the Union Pacific trains, the Rod and Gun Club, made noise from the Range K test firing almost indistinguishable from background noise. This was verified by the USAPHC's results using average noise levels which were below city ordinance limits.

Property values could be adversely affected by construction of nearby Army ranges. The EA looked at the potential for this to occur at the neighborhoods located near the ranges. However, due to the ambient noise levels from traffic, railroad, and gun club activities, it was determined that any increased effects of the proposed range on property values would be minimal. Property values would more likely be affected by the fact that the neighborhoods are fast growing and popular, and El Paso is experiencing substantial growth in that portion of the city.

3.11 Hazardous Materials and Waste

3.11.1 Affected Environment

Hazardous materials are substances that cause human physical or health hazards (29 CFR 1910.1200). 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, such as toxic agents, carcinogens, and irritants.

Hazardous waste is produced from various equipment maintenance processes and is composed of any material listed in 40 CFR 261 Subpart D or those that exhibit characteristics of toxicity, corrosiveness, ignitability, or reactivity. Hazardous wastes are managed under the Installation Hazardous Waste Management Plan, which provides detailed information on training; hazardous waste management roles and responsibilities; and hazardous waste identification, storage, transportation, and spill control, consistent with Federal and state regulations.

Typical contaminants associated with small arms firing ranges are lead, antimony, copper, zinc, arsenic, and polycyclic aromatic hydrocarbons (USEPA 2005 and Interstate Technology and Regulatory Council 2003). These contaminants may leach from bullets and fragments, brass casings, and related sporting material (e.g., clay targets), and potentially impact soils, surface waters, and groundwater in the vicinity of the firing range. Lead is generally considered to be

the primary contaminant in soils at small arms firing ranges, with detectable concentrations in the soil behind and adjacent to targets and impact berms. Elevated lead levels may also be found in vegetation growing near impact berms. Lead particles can migrate off-site from the firing range through various mechanisms, such as airborne particulates, stormwater runoff, berm erosion, and dissolved lead in groundwater and surface water (Pollution Prevention Resource Exchange 1998).

3.11.2 Environmental Consequences

3.11.2.1 No Action Alternative

Under the No Action Alternative, hazardous materials and waste would not have adverse effects on the environment because no construction or use of munitions would occur.

3.11.2.2 Proposed Action

Construction of the proposed range sites and improvements to access roads would require machinery and the use of POL. A limited amount of hazardous materials and solid waste would be used or generated during routine maintenance and operation of the facilities and associated equipment, including brass casings, batteries, bullets, tracers, gunpowder, and POL. Recyclable and non-recyclable materials would be collected on-site in appropriate containers and disposed of at an approved disposal facility for the type of waste. All hazardous wastes would be disposed of according to the Installation Hazardous Waste Management Plan.

Fuel for the generators would be transported and stored on-site in designated trucks. Secondary containment for parking and fuel trucks would be utilized. Drip pans would be provided for stationary equipment to capture any POL accidentally spilled during construction and operation activities or leaks from the equipment. Fort Bliss has a Spill Prevention, Control, and Countermeasures Plan, an Installation Spill Contingency Plan, and an Installation Hazardous Waste Management Plan in place. These plans establish responsibilities, duties, procedures, and resources to be employed to contain, mitigate, and clean up POL spills.

Minimal hazardous materials and solid waste impacts would occur as a result of spent munitions generated during training use of the proposed ranges. Training use of proposed ranges would generate contaminants from bullets, fragments, and brass casings. Although bullets would be left in place, brass casings would be collected and recycled, thereby minimizing the potential for soil contamination. The depth to groundwater and low precipitation rates in the region would preclude contamination of groundwater. If the site is reutilized in the future, it would be cleaned up to appropriate standards.

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SECTION 4.0
CUMULATIVE IMPACTS

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 MMP SEIS, GFS EIS, or the follow-up SEIS, the cumulative impact on the natural and human environment from construction of firing ranges and support infrastructure on Fort Bliss is covered by these documents. The cumulative effects of the Proposed Action would not differ substantially from those identified in that analysis. The primary cumulative effects identified include those associated with increased urbanization of the landscape and associated degradation of the human and biological environment.

The continued development of infrastructure on the Installation and in surrounding areas could have cumulative impacts on nearby non-military land uses. The MMP SEIS identified several projects that would result in continued development and use of lands on and surrounding Fort Bliss. Development of infrastructure on the Installation and in surrounding areas would continue to result in increased noise, loss and degradation of soils, vegetative communities, and wildlife habitat, and increased surface water runoff with accelerated erosion and sedimentation, and could allow for the introduction and expansion of invasive species. Although the construction and operation of Range K and L would contribute to these adverse effects, the cumulative effects of these actions would be minimal. Much of the undeveloped land on the Installation and surrounding areas is already partially degraded as a result of past and current uses (e.g., grazing, urban development, military training activities). Much of the land on the Installation and in surrounding areas is characterized by development associated with the City of El Paso and Fort Bliss Cantonment Area, by undeveloped areas generally associated with mountain ranges, or by degraded vegetation communities.

In general, opportunities for avoiding, minimizing, or mitigating cumulative impacts related to the Proposed Actions have been incorporated by design or through the management processes to address the direct and indirect impacts identified in the MMP SEIS. They include such measures as siting and consolidating facilities and live-fire ranges to reduce the area affected; ensuring land use compatibility in the Real Property Master Plan; energy-efficient facility design; executing a Programmatic Agreement for historic properties; implementing projects in the Integrated Natural Resources Management Plan; promoting a sustainable range and training base through the Integrated Training Area Management program; and maintaining Solid Waste Management (including an aggressive recycling program), Stormwater Management, Spill Prevention, Control, and Countermeasures, Asbestos Management, Lead Hazard Management, and Pollution Prevention plans. Fort Bliss has an Environmental Management System to monitor environmental compliance and waste reduction metrics and to provide data for adaptive management programs in the future. In addition, an adaptive noise management program would be used to limit the cumulative impacts of noise associated with the Proposed Action.

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SECTION 5.0
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5.0 REFERENCES

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SECTION 6.0
LIST OF PREPARERS

6.0 LIST OF PREPARERS

The following people were primarily responsible for preparing this Environmental Assessment.

Name	Agency/Organization	Discipline/ Expertise	Experience	Role in Preparing EA
Eric Webb	Gulf South Research Corporation	NEPA/Coastal Ecology	20 years NEPA and natural resources studies	EA review
Mark Walker	Gulf South Research Corporation	Forestry and Natural Resources Management	30 years NEPA and natural resources management	Fort Bliss Project Manager and EA review
John Kipp	Fort Bliss Environmental Division, NEPA Planner	Soil science, Geomorphology	25 years NEPAand earth science	EA review
Michael Hodson	Gulf South Research Corporation	Community Ecology	10 years NEPA and natural resources studies	Project Manager and EA preparation
Steve Oivanki	Gulf South Research Corporation	Geology	20 years NEPA and natural resources studies	EA review
Lucinda Freeman	Gulf South Research Corporation	Archaeology	9 years cultural resources experience	Cultural resources
Liz Ayarbe-Perez	Gulf South Research Corporation	GIS/Graphics	3 years GIS/graphics	GIS analysis and graphics
Steve Kolian	Gulf South Research Corporation	Environmental Engineering	15 years NEPA and environmental engineering	Air quality and noise
Ann Guissinger	Gulf South Research Corporation	Socioeconomics	25 years NEPA and economic analysis	Environmental Justice, health and safety, airspace
Ben Tomson	Gulf South Research Corporation	Ecology	3 years NEPA and natural resources	Biological resources
David Gates	Gulf South Research Corporation	Plant Ecology	2 years NEPA and natural resources	Hazardous materials and soils

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SECTION 7.0
ACRONYMS AND ABBREVIATIONS

7.0 ACRONYMS AND ABBREVIATIONS

AAF	Biggs Army Airfield
AIP	Ammunition Issue Point
APE	Area of Potential Effects
AR	Army Regulation
ARRM	Army Range Requirement Model
ATC	Air Traffic Control
BMPs	Best Management Practices
BRAC	Base Realignment and Closure
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Clean Water Act
dB	Decibels
dBA	Decibels Expressed on a Logarithmic Scale
dBP	Peak Decibels
DoD	Department of Defense
DPTMS	Directorate of Plants, Training, Mobilization, and Security
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FBTC	Fort Bliss Training Complex
FNSI	Finding of No Significant Impact
FORSCOM	Forces Command
Fort Bliss	Fort Bliss Army Reservation
GFS EIS	Growth and Force Structure Realignment FEIS
IBCT	Infantry Brigade Combat Team
ICRMP	Integrated Cultural Resources Management Plan
INRMP	Integrated Natural Resources Management Plan
IONMP	Installation Operational Noise Management Plan
LEQ	Equivalent Continuous Sound Level
MMP SEIS	Fort Bliss, Texas and New Mexico Mission and Master Plan Final Supplemental Programmatic Environmental Impact Statement
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO_2	Nitrogen Dioxide
NPDES	National Pollution Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	Nation Register of Historic Places
O_3	Ozone
PK15(met)	Peak Noise Level Exceeded by 15 Percent of events

PL	Public Law
PM-2.5	Particulate Matter less than 2.5 microns
PM-10	Particulate Matter less than 10 microns
POLs	Petroleum, Oil, and Lubricants
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
ROI	Region of Influence
SARSA	Small Arms Range Safety Area
SDZ	Surface Danger Zone
SEIS	Supplemental Environmental Impact Statement
SO_2	Sulfur dioxide
SWPPP	Stormwater Pollution Prevention Plan
TA	Training Area
USACE	U.S. Army Corps of Engineers
USAPHC	U.S. Army Public Health Command
USCB	U.S. Census Bureau
USEPA	U. S. Environmental Protection Agency
UXO	Unexploded Ordnance
VEC	Valued Environmental Component

APPENDIX A
INTERAGENCY AND PUBLIC CORRESPONDENCE

DISTRIBUTION LIST

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

Richard Burges Library
9600 Dyer Street
El Paso, TX 79924-4766

USEPA
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El Paso, TX 79901-1212

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Wildlife Diversity Program
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Austin, TX 78744

Texas Historical Commission
Mr. Mark Wolfe
State Historic Preservation Officer
Texas Historical Commission
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Austin, TX 78701

Texas Department of Transportation
Mr. Timothy F. Twomey
Area Engineer
El Paso District – West El Paso Area Office
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El Paso, TX 79904

El Paso County
Sergio Lewis
County Commissioner
Precinct 2
500 E. San Antonio
El Paso, TX 79901

City of El Paso
Ms. Ellen A. Smyth
Environmental Services and Code Enforcement
7968 San Paulo
El Paso, TX 79901

Mr. Carl. L. Robison
City Representative
2 Civic Center Plaza
El Paso, Texas 79901

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BLISS
1 PERSHING ROAD
FORT BLISS, TEXAS 79916-3803

REPLY TO
ATTENTION OF:

November 30, 2011

Environmental Division

Ms. Ellen A. Smyth
Environmental Services and Code Enforcement
City of El Paso
7968 San Paulo
El Paso, TX 79901

Dear Ms. Smyth:

Department of the Army – Installation Management Command (IMCOM) is preparing the Environmental Assessment (EA) for Construction and Training Use of a Multi-purpose Machine Gun Range (Range K) and a Grenade Launcher Range (Range L), Fort Bliss, Texas. The proposed ranges would be located in South Training Area 1B, adjacent to the Rod and Gun Club, northeast of Loop 375 and Cantonment Area 9 (See Attachment A). Range K would facilitate the familiarization and qualification of Soldiers on the skills necessary to identify and engage with a machine gun, and defeat stationary infantry targets. Range K would be a multi-purpose familiarization and qualification range that would accommodate all calibers of machine gun in the current Army arsenal up to and including the .50 caliber. Range L would provide a facility to train and test individual Soldiers on the skills necessary to engage targets with an M203/320 grenade launcher. M203/320 qualification requires engaging targets through windows and into bunkers, which are simulated by wooden facades. M203/320 qualification is done with training practice-tracer (TP-T) rounds, which are non-explosive and not dud-producing.

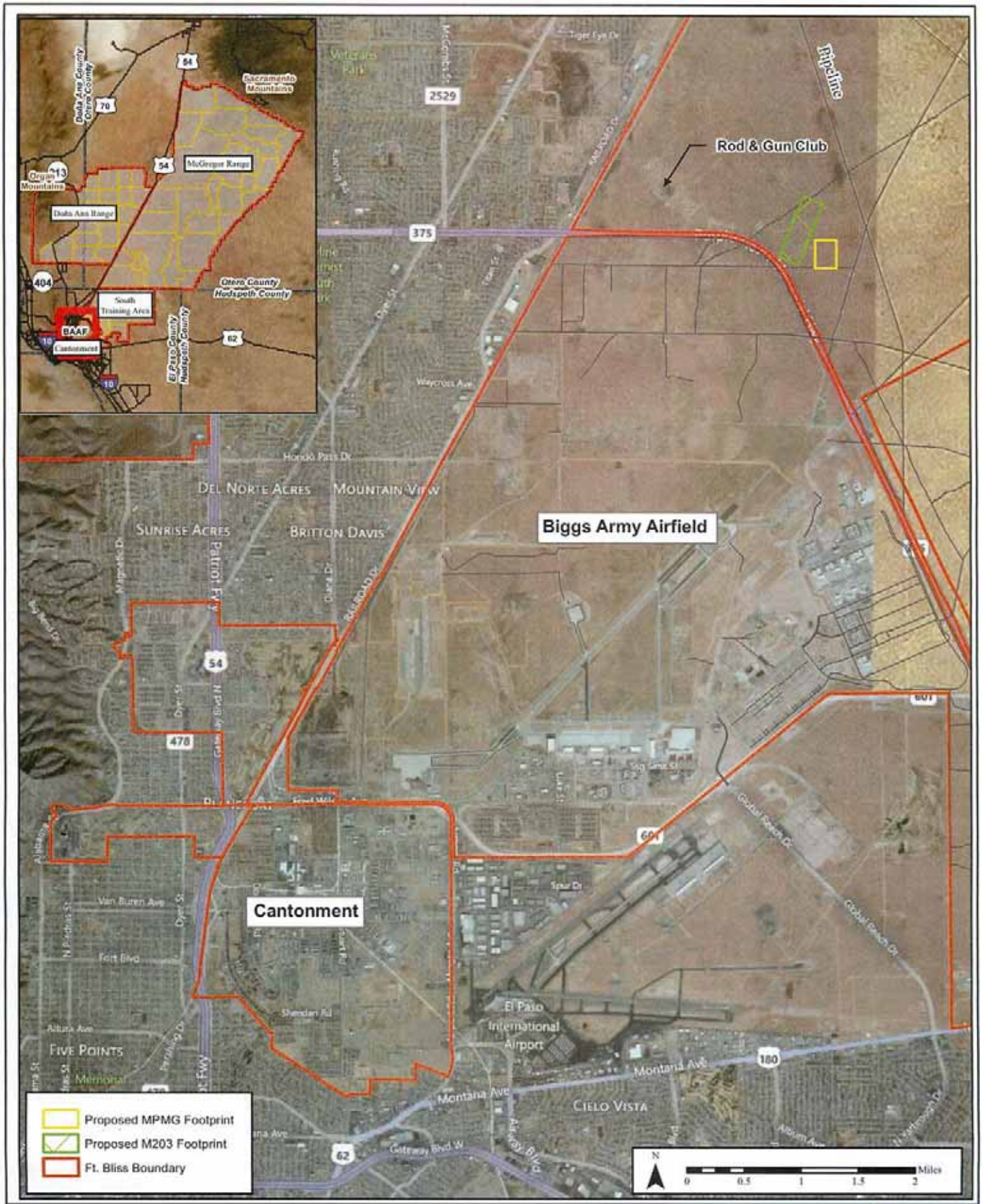
Specifically, the proposed action would involve: 1) improvement of an existing access road for construction; 2) clearing of approximately 75 acres of mesquite (*Prosopis glandulosa*) dominated dunes; 3) placement of supporting buildings and targets; 4) construction of perimeter fencing and security lighting; 5) having range availability for up to 365 days a year and 24 hours a day.

The purpose of the proposed action is to provide close-in, year-round, comprehensive and realistic training and range facilities for Soldiers in basic marksmanship skills with the machine gun and grenade launcher. These training facilities will be used by the Active Component Soldiers assigned to units on the installation and Reserve Component Soldiers that habitually train or are mobilizing at the installation. Both ranges would meet critical live-fire individual marksmanship training needs for both Active and Reserve Component Units that train on the installation.

We are requesting input regarding potential effects on the environment regarding this Proposed Action. If you have any questions or would like to discuss the project in more detail during the preparation of the EA, please contact Dr. John Kipp, NEPA Planner, phone number (915) 568-5162.

Sincerely,

Vicki G. Hamilton, R.A.
Chief, Environmental Division
Directorate of Public Works



Attachment A: Proposed Multi-purpose Machine Gun Range and Grenade Launcher Range, Fort Bliss, Texas

GSRC

November 2011

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BLISS
1 PERSHING ROAD
FORT BLISS, TEXAS 79916-3803

REPLY TO
ATTENTION OF:

November 30, 2011

Environmental Division

Mr. Carl L. Robinson
City Representative
City of El Paso
2 Civic Center Plaza
El Paso, TX 79901

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Specifically, the proposed action would involve: 1) improvement of an existing access road for construction; 2) clearing of approximately 75 acres of mesquite (*Prosopis glandulosa*) dominated dunes; 3) placement of supporting buildings and targets; 4) construction of perimeter fencing and security lighting; 5) having range availability for up to 365 days a year and 24 hours a day.

The purpose of the proposed action is to provide close-in, year-round, comprehensive and realistic training and range facilities for Soldiers in basic marksmanship skills with the machine gun and grenade launcher. These training facilities will be used by the Active Component Soldiers assigned to units on the installation and Reserve Component Soldiers that habitually train or are mobilizing at the installation. Both ranges would meet critical live-fire individual marksmanship training needs for both Active and Reserve Component Units that train on the installation.

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Chief, Environmental Division
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FORT BLISS, TEXAS 79916-3803

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November 30, 2011

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Specifically, the proposed action would involve: 1) improvement of an existing access road for construction; 2) clearing of approximately 75 acres of mesquite (*Prosopis glandulosa*) dominated dunes; 3) placement of supporting buildings and targets; 4) construction of perimeter fencing and security lighting; 5) having range availability for up to 365 days a year and 24 hours a day.

The purpose of the proposed action is to provide close-in, year-round, comprehensive and realistic training and range facilities for Soldiers in basic marksmanship skills with the machine gun and grenade launcher. These training facilities will be used by the Active Component Soldiers assigned to units on the installation and Reserve Component Soldiers that habitually train or are mobilizing at the installation. Both ranges would meet critical live-fire individual marksmanship training needs for both Active and Reserve Component Units that train on the installation.

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Vicki G. Hamilton, R.A.
Chief, Environmental Division
Directorate of Public Works

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BLISS
1 PERSHING ROAD
FORT BLISS, TEXAS 79916-3803

REPLY TO
ATTENTION OF:

November 30, 2011

Environmental Division

Ms. Lorinda Gardner
Regional Director
Region 6, El Paso
Texas Commission on Environmental Quality
401 E. Franklin Avenue, Suite 560
El Paso, TX 79901-1212

Dear Ms. Gardner:

Department of the Army – Installation Management Command (IMCOM) is preparing the Environmental Assessment (EA) for Construction and Training Use of a Multi-purpose Machine Gun Range (Range K) and a Grenade Launcher Range (Range L), Fort Bliss, Texas. The proposed ranges would be located in South Training Area 1B, adjacent to the Rod and Gun Club, northeast of Loop 375 and Cantonment Area 9 (See Attachment A). Range K would facilitate the familiarization and qualification of Soldiers on the skills necessary to identify and engage with a machine gun, and defeat stationary infantry targets. Range K would be a multi-purpose familiarization and qualification range that would accommodate all calibers of machine gun in the current Army arsenal up to and including the .50 caliber. Range L would provide a facility to train and test individual Soldiers on the skills necessary to engage targets with an M203/320 grenade launcher. M203/320 qualification requires engaging targets through windows and into bunkers, which are simulated by wooden facades. M203/320 qualification is done with training practice-tracer (TP-T) rounds, which are non-explosive and not dud-producing.

Specifically, the proposed action would involve: 1) improvement of an existing access road for construction; 2) clearing of approximately 75 acres of mesquite (*Prosopis glandulosa*) dominated dunes; 3) placement of supporting buildings and targets; 4) construction of perimeter fencing and security lighting; 5) having range availability for up to 365 days a year and 24 hours a day.

The purpose of the proposed action is to provide close-in, year-round, comprehensive and realistic training and range facilities for Soldiers in basic marksmanship skills with the machine gun and grenade launcher. These training facilities will be used by the Active Component Soldiers assigned to units on the installation and Reserve Component Soldiers that habitually train or are mobilizing at the installation. Both ranges would meet critical live-fire individual marksmanship training needs for both Active and Reserve Component Units that train on the installation.

We are requesting input regarding potential effects on the environment regarding this Proposed Action. If you have any questions or would like to discuss the project in more detail during the preparation of the EA, please contact Dr. John Kipp, NEPA Planner, phone number (915) 568-5162.

Sincerely,

Vicki G. Hamilton, R.A.
Chief, Environmental Division
Directorate of Public Works

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BLISS
1 PERSHING ROAD
FORT BLISS, TEXAS 79916-3803

REPLY TO
ATTENTION OF:

November 30, 2011

Environmental Division

Mr. Timothy F. Twomey
Area Engineer
El Paso District – West El Paso Area Office
Texas Department of Transportation
4201 Hondo Pass Drive
El Paso, TX 79904

Dear Mr. Twomey:

Department of the Army – Installation Management Command (IMCOM) is preparing the Environmental Assessment (EA) for Construction and Training Use of a Multi-purpose Machine Gun Range (Range K) and a Grenade Launcher Range (Range L), Fort Bliss, Texas. The proposed ranges would be located in South Training Area 1B, adjacent to the Rod and Gun Club, northeast of Loop 375 and Cantonment Area 9 (See Attachment A). Range K would facilitate the familiarization and qualification of Soldiers on the skills necessary to identify and engage with a machine gun, and defeat stationary infantry targets. Range K would be a multi-purpose familiarization and qualification range that would accommodate all calibers of machine gun in the current Army arsenal up to and including the .50 caliber. Range L would provide a facility to train and test individual Soldiers on the skills necessary to engage targets with an M203/320 grenade launcher. M203/320 qualification requires engaging targets through windows and into bunkers, which are simulated by wooden facades. M203/320 qualification is done with training practice-tracer (TP-T) rounds, which are non-explosive and not dud-producing.

Specifically, the proposed action would involve: 1) improvement of an existing access road for construction; 2) clearing of approximately 75 acres of mesquite (*Prosopis glandulosa*) dominated dunes; 3) placement of supporting buildings and targets; 4) construction of perimeter fencing and security lighting; 5) having range availability for up to 365 days a year and 24 hours a day.

The purpose of the proposed action is to provide close-in, year-round, comprehensive and realistic training and range facilities for Soldiers in basic marksmanship skills with the machine gun and grenade launcher. These training facilities will be used by the Active Component Soldiers assigned to units on the installation and Reserve Component Soldiers that habitually train or are mobilizing at the installation. Both ranges would meet critical live-fire individual marksmanship training needs for both Active and Reserve Component Units that train on the installation.

We are requesting input regarding potential effects on the environment regarding this Proposed Action. If you have any questions or would like to discuss the project in more detail during the preparation of the EA, please contact Dr. John Kipp, NEPA Planner, phone number (915) 568-5162.

Sincerely,

Vicki G. Hamilton, R.A.
Chief, Environmental Division
Directorate of Public Works

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BLISS
1 PERSHING ROAD
FORT BLISS, TEXAS 79916-3803

REPLY TO
ATTENTION OF:

November 30, 2011

Environmental Division

Mr. Mark Wolfe
State Historic Preservation Officer
Texas Historical Commission
108 W. 16th Street
Austin, TX 78701

Dear Mr. Wolfe:

Department of the Army – Installation Management Command (IMCOM) is preparing the Environmental Assessment (EA) for Construction and Training Use of a Multi-purpose Machine Gun Range (Range K) and a Grenade Launcher Range (Range L), Fort Bliss, Texas. The proposed ranges would be located in South Training Area 1B, adjacent to the Rod and Gun Club, northeast of Loop 375 and Cantonment Area 9 (See Attachment A). Range K would facilitate the familiarization and qualification of Soldiers on the skills necessary to identify and engage with a machine gun, and defeat stationary infantry targets. Range K would be a multi-purpose familiarization and qualification range that would accommodate all calibers of machine gun in the current Army arsenal up to and including the .50 caliber. Range L would provide a facility to train and test individual Soldiers on the skills necessary to engage targets with an M203/320 grenade launcher. M203/320 qualification requires engaging targets through windows and into bunkers, which are simulated by wooden facades. M203/320 qualification is done with training practice-tracer (TP-T) rounds, which are non-explosive and not dud-producing.

Specifically, the proposed action would involve: 1) improvement of an existing access road for construction; 2) clearing of approximately 75 acres of mesquite (*Prosopis glandulosa*) dominated dunes; 3) placement of supporting buildings and targets; 4) construction of perimeter fencing and security lighting; 5) having range availability for up to 365 days a year and 24 hours a day.

The purpose of the proposed action is to provide close-in, year-round, comprehensive and realistic training and range facilities for Soldiers in basic marksmanship skills with the machine gun and grenade launcher. These training facilities will be used by the Active Component Soldiers assigned to units on the installation and Reserve Component Soldiers that habitually train or are mobilizing at the installation. Both ranges would meet critical live-fire individual marksmanship training needs for both Active and Reserve Component Units that train on the installation.

We are requesting input regarding potential effects on the environment regarding this Proposed Action. If you have any questions or would like to discuss the project in more detail during the preparation of the EA, please contact Dr. John Kipp, NEPA Planner, phone number (915) 568-5162.

Sincerely,

Vicki G. Hamilton, R.A.
Chief, Environmental Division
Directorate of Public Works

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BLISS
1 PERSHING ROAD
FORT BLISS, TEXAS 79916-3803

REPLY TO
ATTENTION OF:

November 30, 2011

Environmental Division

Ms. Kathy Boydson
Wildlife Diversity Program
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, TX 78744

Dear Ms. Boydson:

Department of the Army – Installation Management Command (IMCOM) is preparing the Environmental Assessment (EA) for Construction and Training Use of a Multi-purpose Machine Gun Range (Range K) and a Grenade Launcher Range (Range L), Fort Bliss, Texas. The proposed ranges would be located in South Training Area 1B, adjacent to the Rod and Gun Club, northeast of Loop 375 and Cantonment Area 9 (See Attachment A). Range K would facilitate the familiarization and qualification of Soldiers on the skills necessary to identify and engage with a machine gun, and defeat stationary infantry targets. Range K would be a multi-purpose familiarization and qualification range that would accommodate all calibers of machine gun in the current Army arsenal up to and including the .50 caliber. Range L would provide a facility to train and test individual Soldiers on the skills necessary to engage targets with an M203/320 grenade launcher. M203/320 qualification requires engaging targets through windows and into bunkers, which are simulated by wooden facades. M203/320 qualification is done with training practice-tracer (TP-T) rounds, which are non-explosive and not dud-producing.

Specifically, the proposed action would involve: 1) improvement of an existing access road for construction; 2) clearing of approximately 75 acres of mesquite (*Prosopis glandulosa*) dominated dunes; 3) placement of supporting buildings and targets; 4) construction of perimeter fencing and security lighting; 5) having range availability for up to 365 days a year and 24 hours a day.

The purpose of the proposed action is to provide close-in, year-round, comprehensive and realistic training and range facilities for Soldiers in basic marksmanship skills with the machine gun and grenade launcher. These training facilities will be used by the Active Component Soldiers assigned to units on the installation and Reserve Component Soldiers that habitually train or are mobilizing at the installation. Both ranges would meet critical live-fire individual marksmanship training needs for both Active and Reserve Component Units that train on the installation.

We are requesting input regarding potential effects on the environment regarding this Proposed Action. If you have any questions or would like to discuss the project in more detail during the preparation of the EA, please contact Dr. John Kipp, NEPA Planner, phone number (915) 568-5162.

Sincerely,

Vicki G. Hamilton, R.A.
Chief, Environmental Division
Directorate of Public Works

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BLISS
1 PERSHING ROAD
FORT BLISS, TEXAS 79916-3803

REPLY TO
ATTENTION OF:

November 30, 2011

Environmental Division

Mr. Al Armendariz
Regional Administrator, Region 6
US Environmental Protection Agency
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

Dear Mr. Armendariz:

Department of the Army – Installation Management Command (IMCOM) is preparing the Environmental Assessment (EA) for Construction and Training Use of a Multi-purpose Machine Gun Range (Range K) and a Grenade Launcher Range (Range L), Fort Bliss, Texas. The proposed ranges would be located in South Training Area 1B, adjacent to the Rod and Gun Club, northeast of Loop 375 and Cantonment Area 9 (See Attachment A). Range K would facilitate the familiarization and qualification of Soldiers on the skills necessary to identify and engage with a machine gun, and defeat stationary infantry targets. Range K would be a multi-purpose familiarization and qualification range that would accommodate all calibers of machine gun in the current Army arsenal up to and including the .50 caliber. Range L would provide a facility to train and test individual Soldiers on the skills necessary to engage targets with an M203/320 grenade launcher. M203/320 qualification requires engaging targets through windows and into bunkers, which are simulated by wooden facades. M203/320 qualification is done with training practice-tracer (TP-T) rounds, which are non-explosive and not dud-producing.

Specifically, the proposed action would involve: 1) improvement of an existing access road for construction; 2) clearing of approximately 75 acres of mesquite (*Prosopis glandulosa*) dominated dunes; 3) placement of supporting buildings and targets; 4) construction of perimeter fencing and security lighting; 5) having range availability for up to 365 days a year and 24 hours a day.

The purpose of the proposed action is to provide close-in, year-round, comprehensive and realistic training and range facilities for Soldiers in basic marksmanship skills with the machine gun and grenade launcher. These training facilities will be used by the Active Component Soldiers assigned to units on the installation and Reserve Component Soldiers that habitually train or are mobilizing at the installation. Both ranges would meet critical live-fire individual marksmanship training needs for both Active and Reserve Component Units that train on the installation.

We are requesting input regarding potential effects on the environment regarding this Proposed Action. If you have any questions or would like to discuss the project in more detail during the preparation of the EA, please contact Dr. John Kipp, NEPA Planner, phone number (915) 568-5162.

Sincerely,

Vicki G. Hamilton, R.A.
Chief, Environmental Division
Directorate of Public Works

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BLISS
1 PERSHING ROAD
FORT BLISS, TEXAS 79916-3803

REPLY TO
ATTENTION OF:

November 30, 2011

Environmental Division

Mr. Adam Zerrenner
Supervisor
Austin Ecological Services Field Office
U.S. Fish and Wildlife Service
10711 Burnet Road, Suite 200
Austin, TX 78758

Dear Mr. Zerrenner:

Department of the Army – Installation Management Command (IMCOM) is preparing the Environmental Assessment (EA) for Construction and Training Use of a Multi-purpose Machine Gun Range (Range K) and a Grenade Launcher Range (Range L), Fort Bliss, Texas. The proposed ranges would be located in South Training Area 1B, adjacent to the Rod and Gun Club, northeast of Loop 375 and Cantonment Area 9 (See Attachment A). Range K would facilitate the familiarization and qualification of Soldiers on the skills necessary to identify and engage with a machine gun, and defeat stationary infantry targets. Range K would be a multi-purpose familiarization and qualification range that would accommodate all calibers of machine gun in the current Army arsenal up to and including the .50 caliber. Range L would provide a facility to train and test individual Soldiers on the skills necessary to engage targets with an M203/320 grenade launcher. M203/320 qualification requires engaging targets through windows and into bunkers, which are simulated by wooden facades. M203/320 qualification is done with training practice-tracer (TP-T) rounds, which are non-explosive and not dud-producing.

Specifically, the proposed action would involve: 1) improvement of an existing access road for construction; 2) clearing of approximately 75 acres of mesquite (*Prosopis glandulosa*) dominated dunes; 3) placement of supporting buildings and targets; 4) construction of perimeter fencing and security lighting; 5) having range availability for up to 365 days a year and 24 hours a day.

The purpose of the proposed action is to provide close-in, year-round, comprehensive and realistic training and range facilities for Soldiers in basic marksmanship skills with the machine gun and grenade launcher. These training facilities will be used by the Active Component Soldiers assigned to units on the installation and Reserve Component Soldiers that habitually train or are mobilizing at the installation. Both ranges would meet critical live-fire individual marksmanship training needs for both Active and Reserve Component Units that train on the installation.

We are requesting input regarding potential effects on the environment regarding this Proposed Action. If you have any questions or would like to discuss the project in more detail during the preparation of the EA, please contact Dr. John Kipp, NEPA Planner, phone number (915) 568-5162.

Sincerely,

Vicki G. Hamilton, R.A.
Chief, Environmental Division
Directorate of Public Works

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

July 11, 2012

Mr. John F. Barrera
NEPA Program Manager
Building 642S Taylor Road
Fort Bliss, Texas 79916

Dear Mr. Barrera:

In accordance with our responsibilities under Section 309 of the Clean Air Act (CAA) and the National Environmental Policy Act (NEPA), the U.S. Environmental Protection Agency (EPA) Region 6 has reviewed the Draft Environmental Assessment (DEA) for the Construction and Training Use of a Multipurpose Machine Gun and Grenade Launcher Range at Fort Bliss, Texas. The proposed action would include construction of a machine gun range and a grenade launcher range adjacent to the cantonment area. This will provide soldiers with necessary flexibility in weapons qualifications training. EPA offers the following comments for your consideration in preparation of the Final EA.

- If training is to be conducted between the hours of 10:00 PM and 7:00 AM; please calculate an average day-night sound level (Ldn). This sound measurement would more accurately reflect the effects of the proposed action at lower ambient sound levels that occur during night.

- Please include all comments received concerning the DEA.

We appreciate the opportunity to provide comments for the Draft EA. Please send two copies of the Final EA to my attention upon completion. Should you have any questions or concerns regarding this letter, do not hesitate to contact Keith Hayden of my staff, at 214-665-2133 or hayden.keith@epa.gov for assistance.

Sincerely,

Rhonda Smith
Chief, Office of Planning and
Coordination

Reference: EPA comment on Range K&L EA

US Army Public Health Command, formerly CHPPM, discontinued using DNL for small arms noise analyses because the resulting contours were typically so small that the results were useless as a land use planning tool. Nevertheless, the Small Arms Range Noise Assessment Model (SARNAM), used by the Army to assess small arms noise, retains the capability to run DNL. Calculating the DNL requires estimating the number and type of rounds to be fired over a given time period as well as estimating the percentage of firing that would occur between 2200 and 0700 hours.

In order to address the comment made by US EPA, the USAPHC performed an analysis that assumed 50% of the rounds fired on the range would be at night and increased the number of rounds to be fired until the DNL would result in a Zone II (65 ADNL) noise level going off the installation. Assuming that ammunition expenditure was evenly split between 7.62 mm and .50 caliber rounds, it would take 4,000,000 rounds fired over the course of a year to generate noise levels above 65 ADNL off-post .

Given the purpose and anticipated use of the range, and the number of firing lanes, it is highly unlikely that the number of rounds would approach the level required to produce an off-post DNL impact. Furthermore, the range is not likely to be used at night more than 20 percent of the time. That would be consistent with the use of ranges for night firing and qualifications at Army installations.

TEXAS PARKS & WILDLIFE

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July 11, 2012

Mr. John F. Barrera
Fort Bliss NEPA Program Manager
Bldg. 624S Taylor Road
Fort Bliss, TX 79916

RE: Draft Environmental Assessment for the Construction and Training Use of a Multipurpose Machine Gun Range and Grenade Launcher Range at Fort Bliss, El Paso County

Dear Mr. Barrera:

Texas Parks and Wildlife Department (TPWD) has received the draft Environmental Assessment (EA) and Finding of No Significant Impact for the above-referenced project. TPWD staff has reviewed the draft EA and offers the following comments and recommendations for consideration.

Project Description

Fort Bliss proposes to construct, operate, and maintain a multipurpose machine gun range (Range K) and a grenade launcher range (Range L) in Training Area 1B. Range K would occupy approximately 68 acres of land and Range L would occupy approximately 30 acres. Combined, the ranges would include two 800-square foot buildings, one ammunition breakdown building, permanent vault-type latrines, one covered mess facility, one 248-square-foot range operations tower, and covered bleachers with enclosure. Supporting facilities including a generator, batteries, solar panels, parking, and stormwater drainage would occupy an additional 25 acres. Clearing for both ranges would be limited to 125 acres and would include clearing for firing berms, target protection berms, supporting structures, and improvements to the access road. Up to 0.6 mile of access road would be widened and straightened, which would disturb up to 0.25 acre of land.

Federal Law: Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits taking, attempting to take, capturing, killing, selling/purchasing, possessing, transporting, and importing of migratory birds, their eggs, parts and nests, except when specifically

4200 SMITH SCHOOL ROAD
AUSTIN, TEXAS 78744-3291
512.389.4800
www.tpwd.state.tx.us

authorized by the Department of the Interior. This protection applies to most native bird species, including ground nesting species. The U.S. Fish and Wildlife Service (USFWS) Migratory Bird Office can be contacted at (505) 248-7882 for more information on potential impacts to migratory birds.

Section 3.4.1 of the draft EA states that the species of concern Western Burrowing Owl (*Athene cunicularia hypugaea*) and other birds protected by the MBTA could occur on the proposed project site. Section 3.4.2.2 states that if construction is planned during the warm nesting season (March-September), potential impacts to birds protected by the MBTA would be avoided through bird nesting surveys. Anti-perching devices would be placed on structures associated with the ranges to minimize harm to migratory birds.

Recommendation: TPWD supports proposed measures to minimize impacts to migratory birds. TPWD recommends excluding vegetation clearing activities during the general bird nesting season to avoid adverse impacts to this group. If migratory bird species are found nesting on or adjacent to the project area, they must be dealt with in a manner consistent with the MBTA.

Western Burrowing Owls residing in El Paso and surrounding counties are not only summer (breeding) residents but many owls stay in the El Paso region as winter residents. As stated above, the MBTA prohibits the intentional and unintentional take of migratory birds (including ground nesting species), their nests, and eggs. If mammal burrows would be disturbed as a result of construction, operation, or maintenance of the proposed project, TPWD recommends they be surveyed for burrowing owls. If nesting owls are found, disturbance should be avoided until the eggs have hatched and the young have fledged.

State Law: Parks and Wildlife Code, Section 68.015

Section 68.015 of the Parks and Wildlife Code regulates state-listed species. Please note that there is no provision for take (incidental or otherwise) of state-listed species. A copy of *TPWD Guidelines for Protection of State-Listed Species*, which includes a list of penalties for take of species, is attached for your reference. State-listed species may only be handled by persons with a scientific collection permit obtained through TPWD. For more information on this permit, please contact the Wildlife Permits Office at (512) 389-4647.

Section 3.4.1 of the draft EA states that the state-listed threatened Texas horned lizard (*Phrynosoma cornutum*) could occur within the coppice dune communities on the proposed project site. The Texas horned lizard is widespread throughout Fort Bliss in grassland and shrubland communities. TPWD notes that parse vegetation consisting of grass, cactus, and scattered brush found in the project area could also potentially support the state-listed threatened Mountain short-horned lizard (*P. hernandesi*).

Recommendation: Texas horned lizards and Mountain short-horned lizards are generally active in this part of Texas from March through September. TPWD recommends avoiding disturbance of the Mountain short-horned lizard, Texas horned lizard, and colonies of the Harvester ant (the primary food source of the Texas horned lizard) during clearing and construction. TPWD recommends a biological monitor be present during construction to try to relocate protected species if found. If the presence of a biological monitor during construction is not feasible, state-listed threatened species observed during construction should be allowed to safely leave the site.

A mixture of cover, food sources, and open ground is important to the Mountain short-horned lizard, Texas horned lizard, and Harvester ant. Disturbed areas within suitable habitat for these species should be revegetated with site-specific native, patchy vegetation rather than sod-forming grasses. TPWD recommends review and implementation of the attached monitoring and management guidelines for horned lizards.

Species of Concern

In addition to state- and federally-protected species, TPWD tracks special features, natural communities, and rare species that are not listed as threatened or endangered. These species and communities are tracked in the Texas Natural Diversity Database (TXNDD), and TPWD actively promotes their conservation. TPWD considers it important to evaluate and, if necessary, minimize impacts to rare species and their habitat to reduce the likelihood of endangerment.

Based on the project description, site location, and publicly-available aerial photographs, the following species of concern could be impacted as a result of the proposed project:

- Sand prickly-pear (*Opuntia arenaria*)
- Sand scahuista (*Nolina arenicola*)
- Wheeler's spurge (*Chamaesyce geyeri* var. *wheeleriana*)

Additional information about these species from the book *Rare Plants of Texas* is attached for your reference.

Recommendation: TPWD recommends the project area be surveyed for the rare plant species listed above during their respective flowering seasons when they would be most detectable. If the project area is found to contain rare species, natural plant communities, or special features, TPWD recommends that precautions be taken to avoid impacts to them.

No records of rare or protected species have been documented within 1.5 miles of the project sites in the TXNDD. However, please note that absence of TXNDD information in an area does not imply that a species is absent from that area. Given the small proportion of public versus private land in Texas, the TXNDD does not include a representative inventory of rare resources in the state. Although it is based on the best data available to TPWD regarding rare species, the data from the TXNDD do not provide a definitive statement as to the presence, absence or condition of special species, natural communities, or other significant features within your project area. These data are not inclusive and **cannot be used as presence/absence data**. They represent species that could potentially be in your project area. This information cannot be substituted for on-the-ground surveys. The TXNDD is updated continuously. As the project progresses and for future projects, please request the most current and accurate information at txndd@tpwd.state.tx.us.

Recommendation: Please review the attached TPWD county list of rare and protected species for El Paso County, as rare species in addition to those discussed above could be present depending upon habitat availability. These lists are also available online at http://www.tpwd.state.tx.us/landwater/land/maps/gis/ris/endangered_species/. The USFWS should be contacted for species occurrence data, guidance, permitting, survey protocols, and mitigation for federally-listed species. For the USFWS rare species lists by county please visit http://www.fws.gov/endangered/.

Determining the actual presence of a species in a given area depends on many variables including daily and seasonal activity cycles, environmental activity cues, preferred habitat, transiency and population density (both wildlife and human). The absence of a species can be demonstrated only with great difficulty and then only with repeated negative observations, taking into account all the variable factors contributing to the lack of detectable presence. If encountered during construction, measures should be taken to avoid impacting wildlife.

I appreciate the opportunity to review and comment on this project. Please call me at (512) 389-4579 if we may be of further assistance.

Sincerely,

Julie C. Wicker

Julie C. Wicker
Wildlife Habitat Assessment Program
Wildlife Division

JCW:ERCS-1308

Attachments (4)

References:

Poole, J.M., W.R. Carr, D.M. Price, and J.R. Singhurst. 2007. Rare plants of Texas. Texas A&M University Press, College Station

DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BLISS
1 PERSHING ROAD
FORT BLISS, TX 79916-3803

IMBL-PWE

Mr. Mark Wolfe
State Historic Preservation Officer
Texas Historical Commission
108 W. 16th Street
Austin, TX 78701

Re: Draft Finding of No Significant Impact Environmental Assessment for the Construction and Training Use of a Multipurpose Machine Gun Range and a Grenade Launcher Range Fort Bliss, Texas

Dear Mr. Wolfe:

Fort Bliss has prepared an Environmental Assessment (EA) to evaluate potential environmental impacts resulting from the construction and training use of a multipurpose machine gun range (MPMG) and a grenade launcher range located northeast of Purple Heart Memorial Highway (Loop 375), adjacent to the Rod and Gun Club and Cantonment Area. The MPMG range will be designed for weapons firing up to .50-caliber. The grenade range will accommodate use of inert, non-explosive rounds. Constructing additional live-fire ranges close to the Cantonment Area will provide Soldiers needed flexibility in weapons qualification training.

Enclosed for your review is the EA and Draft Finding of No Significant Impact for the construction and training use of a MPMG range and a grenade launcher range on Fort Bliss. Please forward any comments you have concerning this draft to Mr. John F. Barrera, NEPA Program Manager, Bldg. 624S Taylor Rd, Fort Bliss, Texas 79916 no later than 30 days from this letter or email to john.f.barrera@us.army.mil.

Thank you in advance for your review of this document. Feel free to contact Mr. Barrera if you have any questions or need further clarification.

Sincerely,

Brian D. Knight, M.A., RPA
Chief, Conservation Branch
Environmental Division
Directorate of Public Works
Fort Bliss, Texas

CONCUR
by William A. Martin
for Mark Wolfe
State Historic Preservation Officer
Date 7/6/12
Track# 201206940

Encl.

DEPARTMENT OF THE ARMY
HEADQUARTERS, U. S. ARMY GARRISON COMMAND
DIRECTORATE OF ENVIRONMENT, CONSERVATION DIVISION
IMSW-BLS-Z
FORT BLISS, TEXAS 79916-6816

June 12, 2012

REPLY TO
ATTENTION OF:

Garrison Command
IMBL-PWE
Conservation Branch

Mr. Bill Martin
Archaeology Division
Texas Historical Commission
108 West 16th Street
El Rose Building, 1st Floor
Austin, TX 78701

Dear Mr. Martin,

Fort Bliss is proposing to construct two new ranges in Texas Training Area 1B: a Multipurpose Machine Gun Range (Range K) and a Grenade Launcher Range (Range L). I have provided a map of that location for your reference. That area was most recently surveyed during Project 0851, under Task Order 11 awarded to our contractor, SRI. They produced a report entitled *Results of a 5,000-Acre Cultural Resource in the Southern Maneuver Areas, Fort Bliss Military Reservation, El Paso County, Texas*, MacWilliams et al. 2010, which your office reviewed and commented on (April 9, 2010). Your office concurred with our eligibility recommendations for all the sites evaluated during that project.

The original design for Range L would have placed FB6728/41EP1640 at risk for adverse effects (see attached map). After consultation with the Proponent, it was decided to move that Range to the east and avoid any effects. No other Historic Properties were found in the original footprint of proposed Range K or the newly designed Range L. Fort Bliss, therefore, makes a finding of "No Historic Properties Affected" and per SOP #6 of the Fort Bliss Programmatic Agreement, the "finding of effect" for this undertaking. Per SOP #9 of the PA, attached RHPC illustrates that finding of effect and is included with a draft copy of the EA for your review. Please note, although the attached map shows a portion of the range footprint touching eligible sites FB 6789/41EP1669, no roads, targets or other ground disturbance will occur in that area. Fort Bliss will have an archaeological monitor present to insure that no adverse effect occurs to

that site. If you have any questions, concerns etc. please do not hesitate to contact Brian Knight at (915) 568-6746 or email at brian.d.knight.civ@mail.mil.

Sincerely,

Brian Knight, RPA
Chief, Conservation Branch

Attachment

CONCUR
by
for Mark Wolfe
State Historic Preservation Officer
Date 7/6/12
Track# 20120940

APPENDIX B
AIR EMISSIONS CALCULATIONS

CALCULATION SHEET-COMBUSTION EMISSIONS-CONSTRUCTION

Assumptions for Combustion Emissions					
Type of Construction Equipment	Num. of Units	HP Rated	Hrs/day	Days/yr	Total hp-hrs
Water Truck	1	300	8	130	312000
Diesel Road Compactors	1	100	8	15	12000
Diesel Dump Truck	3	300	8	60	432000
Diesel Excavator	1	300	8	15	36000
Diesel Hole Trenchers	0	175	8	0	0
Diesel Bore/Drill Rigs	0	300	8	0	0
Diesel Cement & Mortar Mixers	1	300	8	60	144000
Diesel Cranes	0	175	8	0	0
Diesel Graders	1	300	8	60	144000
Diesel Tractors/Loaders/Backhoes	1	100	8	60	48000
Diesel Bulldozers	1	300	8	60	144000
Diesel Front-End Loaders	1	300	8	60	144000
Diesel Forklifts	1	100	8	130	104000
Diesel Generator Set	1	40	8	130	41600

Emission Factors							
Type of Construction Equipment	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	PM-10 g/hp-hr	PM-2.5 g/hp-hr	SO2 g/hp-hr	CO2 g/hp-hr
Water Truck	0.440	2.070	5.490	0.410	0.400	0.740	536.000
Diesel Road Compactors	0.370	1.480	4.900	0.340	0.330	0.740	536.200
Diesel Dump Truck	0.440	2.070	5.490	0.410	0.400	0.740	536.000
Diesel Excavator	0.340	1.300	4.600	0.320	0.310	0.740	536.300
Diesel Trenchers	0.510	2.440	5.810	0.460	0.440	0.740	535.800
Diesel Bore/Drill Rigs	0.600	2.290	7.150	0.500	0.490	0.730	529.700
Diesel Cement & Mortar Mixers	0.610	2.320	7.280	0.480	0.470	0.730	529.700
Diesel Cranes	0.440	1.300	5.720	0.340	0.330	0.730	530.200
Diesel Graders	0.350	1.360	4.730	0.330	0.320	0.740	536.300
Diesel Tractors/Loaders/Backhoes	1.850	8.210	7.220	1.370	1.330	0.950	691.100
Diesel Bulldozers	0.360	1.380	4.760	0.330	0.320	0.740	536.300
Diesel Front-End Loaders	0.380	1.550	5.000	0.350	0.340	0.740	536.200
Diesel Forklifts	1.980	7.760	8.560	1.390	1.350	0.950	690.800
Diesel Generator Set	1.210	3.760	5.970	0.730	0.710	0.810	587.300

CALCULATION SHEET-COMBUSTION EMISSIONS-CONSTRUCTION

Emission factors (EF) were generated from the NONROAD2005 model for the 2006 calendar year. The VOC EFs includes exhaust and evaporative emissions. The VOC evaporative components included in the NONROAD2005 model are diurnal, hotsoak, running loss, tank permeation, hose permeation, displacement, and spillage. The construction equipment age distribution in the NONROAD2005 model is based on the population in U.S. for the 2006 calendar year.

Emission Calculations							
Type of Construction Equipment	VOC tons/yr	CO tons/yr	NOx tons/yr	PM-10 tons/yr	PM-2.5 tons/yr	SO2 tons/yr	CO2 tons/yr
Water Truck	0.151	0.712	1.888	0.141	0.138	0.254	184.290
Diesel Road Paver	0.005	0.020	0.065	0.004	0.004	0.010	7.091
Diesel Dump Truck	0.209	0.985	2.614	0.195	0.190	0.352	255.170
Diesel Excavator	0.013	0.052	0.182	0.013	0.012	0.029	21.276
Diesel Hole Cleaners\Trenchers	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Bore/Drill Rigs	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Cement & Mortar Mixers	0.097	0.368	1.155	0.076	0.075	0.116	84.057
Diesel Cranes	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Graders	0.056	0.216	0.751	0.052	0.051	0.117	85.104
Diesel Tractors/Loaders/Backhoes	0.098	0.434	0.382	0.072	0.070	0.050	36.556
Diesel Bulldozers	0.057	0.219	0.755	0.052	0.051	0.117	85.104
Diesel Front-End Loaders	0.060	0.246	0.793	0.056	0.054	0.117	85.089
Diesel Aerial Lifts	0.227	0.889	0.981	0.159	0.155	0.109	79.171
Diesel Generator Set	0.055	0.172	0.274	0.033	0.033	0.037	26.924
Total Emissions	**1.029**	**4.313**	**9.840**	**0.855**	**0.832**	**1.310**	**949.832**

Conversion factors	
Grams to tons	1.102E-06

CALCULATION SHEET-TRANSPORTATION COMBUSTION EMISSIONS-CONSTRUCTION

Construction Worker Personal Vehicle Commuting to Construction Site-Passenger and Light Duty Trucks									
	Emission Factors		Assumptions				Results by Pollutant		
Pollutants	Passenger Cars g/mile	Pick-up Trucks, SUVs g/mile	Mile/day	Day/yr	Number of cars	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	1	1.61	130	130	15	15	0.28	0.45	0.73
CO	3	15.7	130	130	15	15	0.84	4.39	5.22
NOx	0.95	1.22	130	130	15	15	0.27	0.34	0.61
PM-10	0	0.0065	130	130	15	15	-	0.00	0.00
PM 2.5	0	0.006	130	130	15	15	-	0.00	0.00
CO2	369	511	130	130	15	15	103.08	142.75	245.83
	0								

Heavy Duty Trucks Delivery Supply Trucks to Construction Site									
	Emission Factors		Assumptions				Results by Pollutant		
Pollutants	10,000-19,500 lb Delivery Truck (g/m)	33,000-60,000 lb semi trailer rig (g/m)	Mile/day	Mile/day	Number of trucks	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	0.29	0.55	130	130	2	2	0.01	0.02	0.03
CO	1	3.21	130	130	2	2	0.04	0.12	0.16
NOx	1	12.6	130	130	2	2	0.04	0.47	0.51
PM-10	0.12	0.33	130	130	2	2	0.00	0.01	0.02
PM 2.5	0.13	0.36	130	130	2	2	0.00	0.01	0.02
CO2	536	536	130	130	2	2	19.96	19.96	39.93
Daily Commute New Staff Associated with Proposed Action									
	Emission Factors		Assumptions				Results by Pollutant		
Pollutants	Passenger Cars g/mile	Pick-up Trucks, SUVs g/mile	Mile/day	Day/yr	Number of Cars	Number of trucks	Total Emissions cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	1.36	1.61	300	20	0	0	-	0.00	-
CO	12.4	15.7	300	20	0	0	-	0.00	-
NOx	0.95	1.22	300	20	0	0	-	0.00	-
PM-10	0.0052	0.0065	300	20	0	0	-	0.00	-
PM 2.5	0.0049	0.006	300	20	0	0	-	0.00	-
CO2	369	511	300	20	0	0	-	0.00	-

Truck Emission Factor Source: MOBILE6.2 USEPA 2005 Emission Facts: Average annual emissions and fuel consumption for gasoline-fueled passenger cars and light trucks. EPA 420-F-05-022 August 2005. Emission rates were generated using MOBILE.6 highway.

CALCULATION SHEET-TRANSPORTATION COMBUSTION EMISSIONS-CONSTRUCTION

Conversion factor:	gms to tons
	0.000001102

Carbon Equivalents	Conversion Factor
N2O or NOx	311
Methane or VOCs	25

Source: EPA 2010 Reference, Tables and Conversions, Inventory of U.S. Greenhouse Gas Emissions and Sinks; http://www.epa.gov/climatechange/emissions/usinventoryreport.html

CARBON EQUIVALENTS

Construction Commuters	Conversion	Emissions CO2 tons/yr	Total CO2
VOCs	25	18.23	
NOx	311	0.61	
Total		18.83	264.67

Delivery Trucks	Conversion	Emissions CO2 tons/yr	Total CO2
VOCs	25	0.78	
NOx	311	157.54	
Total		158.32	198.25

Kirtland AFB staff and Students	Conversion	Emissions CO2 tons/yr	Total CO2
VOCs	25	-	
NOx	311	-	
Total		-	-

CALCULATION SHEET-FUGITIVE DUST-CONSTRUCTION

Construction Fugitive Dust Emissions

Construction Fugitive Dust Emission Factors

	1		Units	Source		
General Construction Activities		3	ton PM10/acre-month	MRI 1996; EPA 2001; E		60
New Road Construction		0.42	ton PM10/acre-month	MRI 1996; EPA 2001; EPA 2006		
	0					0
PM2.5 Emissions	0					0
PM2.5 Multiplier		0.10	(10% of PM10 emissions assumed to be PM2.5)	EPA 2001; EPA 2006		
		0.00				0
Control Efficiency		0.50	(assume 50% control efficiency for PM10 and PM2.5 emissions)	EPA 2001; EPA 2006		60
					60	

Project Assumptions

Construction Area (0.19 ton PM10/	1		**Conversion Factors**	
Duration of Soil Disturbance in Projec	1	months	0.000022957	acres per feet
Length	0	miles	5280	feet per mile
Length (converted)	0	feet		
Width	0	feet		
Area	25.00	acres		

Staging Areas

Duration of Construction Project	6	months
Length		miles
Length (converted)		feet
Width		feet
Area	2.00	acres

	Project Emissions (tons/year)			
	PM10 uncontrolled	**PM10 controlled**	**PM2.5 uncontrolled**	**PM2.5 controlled**
Construction Area (0.19 ton PM10/ac	75.00	37.50	7.50	3.75
Staging Areas	6.00	3.00	0.60	0.30
Total	**81.00**	**40.50**	**8.10**	**4.05**

References:

EPA 2001. *Procedures Document for National Emissions Inventory, Criteria Air Pollutants, 1985-1999.* EPA-454/R-01-006. Office of Air Quality Planning and Standards, United States Environmental Protection Agency. March 2001.

EPA 2006. *Documentation for the Final 2002 Nonpoint Sector (Feb 06 version) National Emission Inventory for Criteria and Hazardous Air Pollutants.* Prepared for: Emissions Inventory and Analysis Group (C339-02) Air Quality Assessment Division Office of Air Quality Planning and Standards, United States Environmental Protection Agency. July 2006.

MRI 1996. *Improvement of Specific Emission Factors (BACM Project No. 1).* Midwest Research Institute (MRI). Prepared for the California South Coast Air Quality Management District, March 29, 1996.

Construction Fugitive Dust Emission Factors

General Construction Activities Emission Factor

1 ton PM10/acre-month Source: MRI 1996; USEPA 2001; USEPA 2006

The area-based emission factor for construction activities is based on a study completed by the Midwest Research Institute (MRI) Improvement of Specific Emission Factors (BACM Project No. 1), March 29, 1996. The MRI study evaluated seven construction projects in Nevada and California (Las Vegas, Coachella Valley, South Coast Air Basin, and the San Joaquin Valley). The study determined an average emission factor of 0.11 ton PM10/acre-month for sites without large-scale cut/fill operations. A worst-case emission factor of 0.42 ton PM10/acre-month was calculated for sites with active large-scale earth moving operations. The monthly emission factors are based on 168 work-hours per month (MRI 1996). A subsequent MRI Report in 1999, Estimating Particulate Matter Emissions from Construction Operations, calculated the 0.19 ton PM10/acre-month emission factor by applying 25% of the large-scale earthmoving emission factor (0.42 ton PM10/acre-month) and 75% of the average emission factor (0.11 ton PM10/acre-month).

The 0.19 ton PM10/acre-month emission factor is referenced by the USEPA for non-residential construction activities in recent procedures documents for the National Emission Inventory (USEPA 2001; USEPA 2006). The 0.19 ton PM10/acre-month emission factor represents a refinement of USEPA's original AP-42 area-based total suspended particle (TSP) emission factor in Section 13.2.3 Heavy Construction Operations. In addition to the USEPA, this methodology is also supported by the South Coast Air Quality Management District and the Western Regional Air Partnership (WRAP) which is funded by the USEPA and is administered jointly by the Western Governor's Association and the National Tribal Environmental Council. The emission factor is assumed to encompass a variety of non-residential construction activities including building construction (commercial, industrial, institutional, governmental), public works, and travel on unpaved roads. The USEPA National Emission Inventory documentation assumes that the emission factors are uncontrolled and recommends a control efficiency of 50% for PM10 and PM2.5 in PM nonattainment areas.

New Road Construction Emission Factor 0

0 ton PM10/acre-month Source: MRI 1996; USE

The emission factor for new road construction is based on the worst-case conditions emission factor from the MRI 1996 study described above (0.42 tons PM10/acre-month). It is assumed that road construction involves extensive earthmoving and heavy construction vehicle travel resulting in emissions that are higher than other general construction projects. The 0.42 ton PM10/acre-month emission factor for road construction is referenced in recent procedures documents for the USEPA National Emission Inventory (USEPA 2001; USEPA 2006).

PM2.5 Multiplier **0.10**

PM2.5 emissions are estimated by applying a particle size multiplier of 0.10 to PM10 emissions. This methodology is consistent with the procedures documents for the National Emission Inventory (USEPA 2006).

Control Efficiency for PM10 and PM2.5 **0.50**

The USEPA National Emission Inventory documentation recommends a control efficiency of 50% for PM10 and PM2.5 in PM nonattainment areas. Wetting controls will be applied during project construction (USEPA 2006).

References:

USEPA 2001. *Procedures Document for National Emissions Inventory, Criteria Air Pollutants, 1985-1999.* USEPA-454/R-01-006. Office of Air Quality Planning and Standards, United States Environmental Protection Agency. March 2001.

USEPA 2006. *Documentation for the Final 2002 Nonpoint Sector (Feb 06 version) National Emission Inventory for Criteria and Hazardous Air Pollutants.* Prepared for: Emissions Inventory and Analysis Group (C339-02) Air Quality Assessment Division Office of Air Quality Planning and Standards, United States Environmental Protection Agency. July 2006.

MRI 1996. *Improvement of Specific Emission Factors (BACM Project No. 1).* Midwest Research Institute (MRI). Prepared for the California South Coast Air Quality Management District, March 29, 1996.

CALCULATION SHEET-SUMMARY OF EMISSIONS

Construction Emissions for Criteria Pollutants (tons per year)									
Emission Source	VOC	CO	NOx	PM-10	PM-2.5	SO2	CO2	CO2 Equivalents	Total CO2
Combustion Emissions	1.03	4.31	9.84	0.86	0.83	1.31	949.83	3085.89	4035.72
Construction Site-Fugitive PM-10	1.00	NA	NA	40.50	4.05	NA	NA	NA	NA
Construction Workers Commuter & Trucking	3.00	5.38	1.11	0.02	0.02	NA	245.83	421.07	666.91
Total emissions-CONSTRUCTION	**5.03**	**9.69**	**10.95**	**41.37**	**4.90**	**1.31**	**1196**	**3507**	**4,702.63**
De minimis Threshold (1)	100	100	100	60	100	100	NA	NA	25,000

1. El Paso County is in attainment for all NAQQS

Carbon Equivalents	Conversion Factor
N2O or NOx	311
Methane or VOCs	25

Source: USEPA 2010 Reference, Tables and Conversions, Inventory of U.S. Greenhouse Gas Emissions and Sinks; http://www.epa.gov/climatechange/emissions/usinventoryreport.html