

Technical Memorandum regarding potential safety impacts from implementing the interim relocation of two F-16 FTUs to either Holloman AFB, NM or JBSA-Lackland (Kelly Field, TX)

During the preparation of the Environmental Assessment (EA) for the interim relocation of two Formal Training Units (FTUs) from Hill Air Force Base (AFB) to either Holloman AFB or JBSA-Lackland (Kelly Field), an analysis of potential safety impacts was conducted. Based on that analysis it was determined that no significant safety impacts would occur and the analysis is provided in this Technical Memorandum rather than in the EA.

1.0 SAFETY

Affected Environment at Holloman AFB and JBSA-Lackland (Kelly Field)

This section addresses ground, flight, and weapons safety associated with operations conducted by the 49 WG at Holloman AFB and the 149 FW at JBSA-Lackland (Kelly Field). Ground safety considers occupational safety issues associated with operations and maintenance activities that support base operations, including fire response. Ground safety also considers issues related to ground obstructions within operations areas, anti-terrorism/force protection (AT/FP) concerns, and weapons safety. Weapons safety discusses the management and use of ordnance or munitions associated with installation operations and training activities conducted in various elements of training airspace. Flight safety considers aircraft flight risks.

1.1 AIRFIELDS AND LOCAL ENVIRONS

The ROI for safety concerns includes the Holloman AFB and JBSA-Lackland (Kelly Field) airfields as well as the local environs utilized to accomplish the training associated with the two additional F-16 squadrons.

1.1.1 Ground Safety

Ground safety includes ground and industrial operations, operational and occupational safety hazards, motor vehicle use, off-duty military and maritime activities, and fire (AFI 91-204, *Safety Investigations and Reports*). Ground mishaps can occur on the ground or in the water; on or off an installation; and may involve Air Force personnel, contractors, and property losses. Ground mishaps can occur in a work environment (including administrative, supply, custodial, and maintenance for Air Force functions) from the use of equipment or materials.

Day-to-day construction operations on an Air Force installation must be performed in accordance with applicable Air Force safety regulations; published Air Force Technical Orders; and Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) requirements. Construction and demolition activities on-installation must have an appropriate safety plan for the job site to explain how tasks would be accomplished while ensuring job safety throughout the life of the project. Construction and demolition workers are also required to follow applicable Occupational Safety and Health Administration (OSHA) requirements as governed by the terms of the contract, which may incorporate Air Force regulations and technical orders, AFOSH standards, and OSHA standards.

1.1.2 Occupational Safety

AFI 91-203, *Air Force Consolidated Occupational Safety Instruction*, implements policies and regulations related to occupational safety, including Air Force Policy Directive (AFPD) 91-2, *Safety Programs*, and AFOSH 91-series safety standards, and provides record-keeping standards for safety incidents and

mishaps. The 49 WG and 149 FW conduct operations and maintenance activities in compliance with applicable Air Force and OSHA safety regulations and requirements.

Holloman AFB

The 49 WG Occupational Safety office is the lead office for occupational safety, health, and hazards at Holloman AFB. This office is currently at capacity with the level of incident reporting and response associated with the 49 WG's current operations. The 49 WG fire department responds to fires and crashes at Holloman AFB. The unit is sufficiently staffed and supported to respond to such incidents. The 49 WG tracks emergency events through the Automated Civil Engineer System – Fire Department database. The installation reported 46 total emergency responses in 2015, including 27 In-Flight Emergencies (IFE) and 19 Ground Emergencies. Through October of 2016, the 49 WG has recorded 98 emergency responses, including 62 IFEs and 36 Ground Emergencies (Mendez, 2016). Assuming a constant rate of incidents, this extrapolates to approximately 74 IFEs and 43 Ground Emergencies in 2016.

Hydrazine is a highly volatile chemical propellant that is required to operate an F-16s emergency power unit. F-16 aircraft carry a small quantity of hydrazine in an impact-resistant, sealed cartridge. In 2013, a hydrazine facility was constructed at Holloman AFB to support the beddown of the F-16 FTU, providing areas for hydrazine storage and servicing for the additional F-16 squadrons.

The F-16 aircraft's use of hydrazine requires specific responses to safety incidents as compared to other aircraft. As a result, safety staff at Holloman AFB have seen an increase in emergency responses since the beddown of the F-16 FTU. During potential hydrazine releases, the installation fire department responds to cordon the area while the installation hydrazine response team addresses management and/or mitigation of the spill incident.

JBSA-Lackland (Kelly Field)

The 149 FW Fire Department provides fire and crash response at JBSA-Lackland (Kelly Field). The unit has a sufficient number of trained and qualified personnel, and possesses all equipment necessary to respond to aircraft accidents and structure fires. There are no response-equipment shortfalls. The facilities slated to be used by the two additional F-16 squadrons do not currently have any documented fire safety deficiencies.

Hydrazine is delivered to JBSA-Lackland (Kelly Field) supply warehouse via an authorized HAZMAT truck. From there it is taken to the Hydrazine Building (1150). The 149 FW Fuel Shop stores approximately 116 gallons of hydrazine. JBSA-Lackland (Kelly Field) has two Hydrazine areas located on taxiways C and E. In the event of hydrazine leak or activation, the aircraft is required to taxi off the runway onto Taxiway C or Taxiway E. The Incident Commander, usually the Senior Fire Officer, is responsible for establishing a safe cordon distance for personnel, and the 149 FW, in coordination with base CE, provides containment and cleanup of the incident (JBSA Instruction 13-204). The MXS Hydrazine Team responds in conjunction with the Fire Department to respond to hydrazine incidents.

1.1.3 Anti-terrorism/Force Protection

AT/FP is a security program designed to protect active duty personnel, civilian employees, family members, facilities, and equipment in locations and situations on military installations. The program involves the planned and integrated application of anti-terrorism measures, physical and operations security, and personal protective services. It is supported by intelligence, counterintelligence, and other security programs.

In response to terrorist attacks, DoD and the Air Force have disseminated several regulations to ensure that force protection standards are incorporated into the planning, programming, and budgeting for the design and construction of MILCON facilities. Unified Facilities Criteria (UFC) 04-010-01, *DoD Minimum Anti-terrorism Standards for Buildings* (published in 2003 and most recently updated in 2013), establishes minimum standoff distances that must be maintained between several categories of structures and areas that are relatively accessible to terrorists. The intent of this siting and design guidance is to improve security, minimize fatalities, and limit damage to facilities in the event of a terrorist attack.

Like most military installations, Holloman AFB and JBSA-Lackland (Kelly Field) were developed before AT/FP considerations became a critical concern and are not yet in full compliance with present AT/FP standards. New structures are designed to meet AT/FP standards. As older facilities undergo significant renovations and modifications, these design standards are incorporated into the plans.

1.1.4 Weapons and Explosives Safety

Air Force installations control, maintain, and store ordnance and munitions required for mission performance in accordance with Air Force and Defense Department Explosive Safety Board (DDESB) safety procedures. Air Force and DDESB safety procedures require safeguards on weapons systems and ordnance to prevent accidental releases. Trained and qualified personnel carry out munitions maintenance and aircraft loading. Storage facilities are approved for the specific ordnance involved. Munitions maintenance is carried out by trained and qualified personnel using Air Force-approved technical data for each specific type of ordnance.

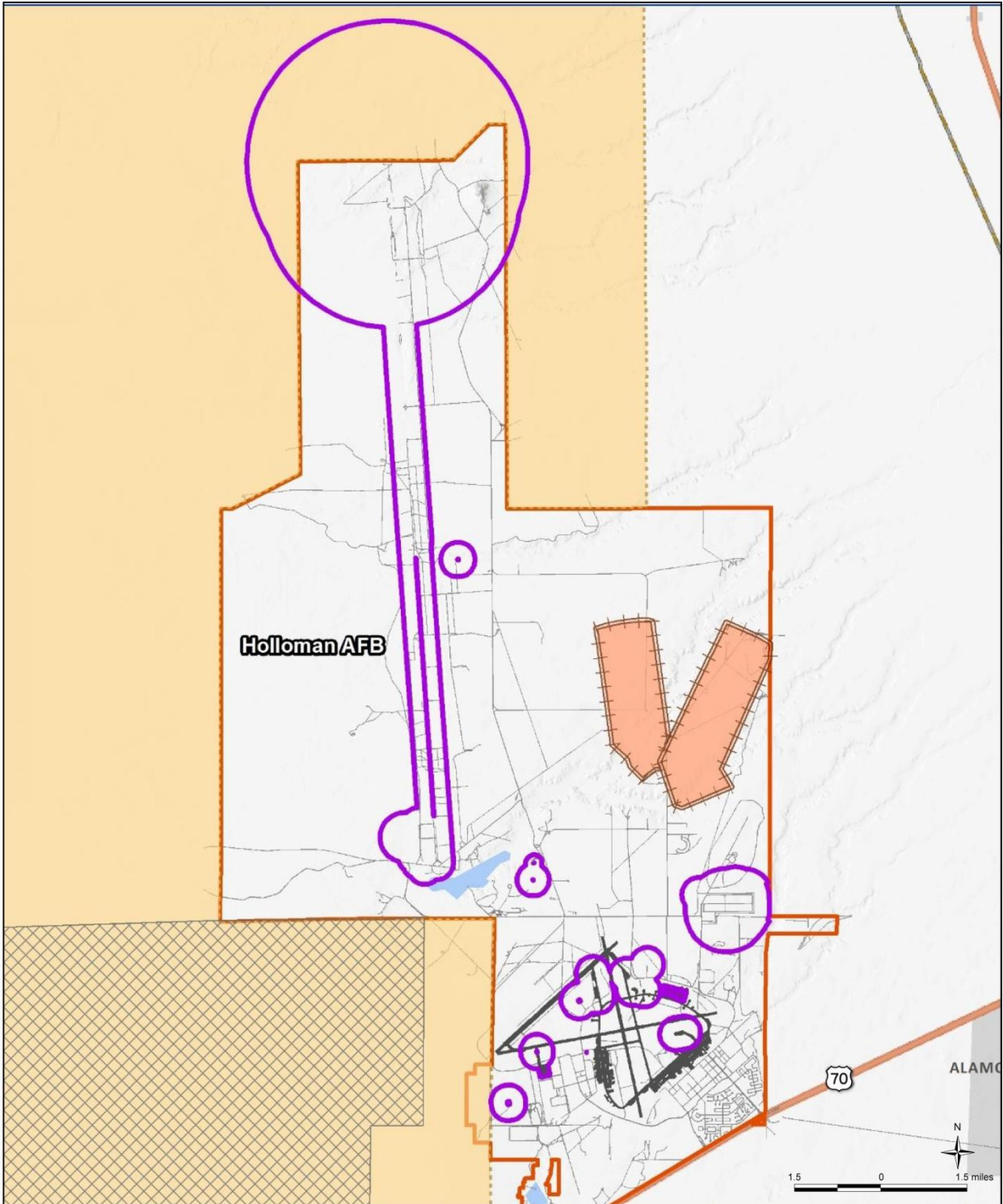
Holloman AFB

Both live and inert munitions are stored and handled at Holloman AFB, with inert training ordnance composing the majority of training materials. Ample storage facilities exist and facilities are fully certified for the ordnance they store. In the past, some storage magazines near the Munitions Storage Area (MSA) fenceline in the northern portion of the installation were limited to storing less than their designed net explosive weights due to quantity-distance (Q-D) arc concerns. These restrictions have not impacted operations at Holloman AFB because sufficient storage is available in other magazines within the MSA.

The Holloman AFB Common Installation Picture (CIP) outlines Explosive Safety Quantity Distance (ESQD) arcs for live ordnance storage facilities at the installation (Figure 3-3). Currently, a conservation easement is in place on the areas where the MSA ESQD arc overlaps with private property east of the installation (Morey and Sweet, 2016). MSA floor space is currently adequate for existing mission operations at the installation. Surface Danger Zones (SDZs) associated with the small arms range on the installation do not extend beyond the installation fenceline.

JBSA-Lackland (Kelly Field)

The 149 FW is currently working on a proposal with state and federal entities for an expanded MSA that would meet storage and build-up requirements for three F-16 squadrons. The 149 FW currently has the munitions build-up capability for one additional F-16 squadron with the expansion capability for two more F-16 squadrons. Building 957 is currently utilized for munitions build-up and the 840 area would be brought on line to handle any overage requirements. Building 957 can also be expanded to handle more build-up requirements (Figure 3-4) (Lopez, 2016b). Currently, the 149 FW has an EOD team assigned to its squadron.



F-16 FTU HOLLAMAN007

LEGEND

Installation Boundary	Small Arms Range Danger Zone
White Sands Missile Range	Airfield Surface
White Sands National Monument	Roads
Explosive Safety Quantity Distance	U.S. Highway

ESQD Arcs and SDZs at Holloman AFB

Figure 3-3



F-16 FTU/KELLY/009

- LEGEND**
- JBSA-Lackland (Kelly Field) Boundary
 - Military Quantity Distance Arc
 - F-16 Support Facilities
 - Building
 - Airfield Surface
 - Roads

ESQD Arcs JBSA-Lackland (Kelly Field)
Figure 3-4

1.1.5 Airfield Flight Safety

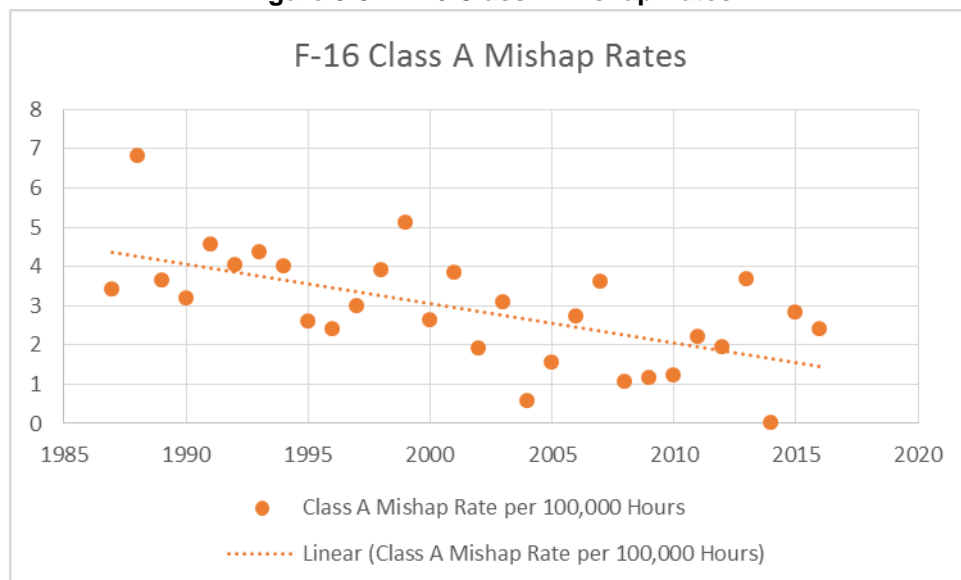
The potential for aircraft accidents is the primary safety concern related to flight operations at Holloman AFB and JBSA-Lackland (Kelly Field) and their immediate surroundings. Such accidents may occur due to weather-related accidents, mechanical failure, pilot error, mid-air collisions, controlled flight into terrain, or bird/animal aircraft collisions.

1.1.6 Aircraft Mishaps

The Air Force defines five major categories of aircraft mishaps: Classes A, B, C, D, and E; these include High Accident Potential (HAP). Class A mishaps are those resulting in a loss of life, permanent total disability, a total cost in excess of \$1 million, or total destruction of an aircraft. Class B mishaps result in total costs of between \$200,000 and \$1 million, and result in permanent partial disability or inpatient hospitalization of three or more personnel. Class C mishaps involve reportable damage between \$20,000 and \$200,000; an injury resulting in any loss of time from work beyond the day or shift on which it occurred, or occupational illness that causes loss of time from work at any time; or an occupational injury or illness resulting in permanent change of job. A Class D mishap is a direct mishap cost totaling \$20,000 but less than \$50,000 or any mishap resulting in a recordable injury or illness not otherwise classified as a Class A, B, or C mishap. Class E HAP events are any hazardous occurrence that has a high potential for becoming a mishap.

The U.S. military calculates Class A mishap rates per 100,000 flying hours for each type of aircraft in the inventory. In evaluating this information, it should be emphasized that data presented are only statistically predictive. The actual causes of mishaps are due to many factors, not simply the amount of flying time of the aircraft. Figure 3-5 reflects cumulative Class A mishap rates for F-16 aircraft over the last 30 years. As demonstrated in the linear trendline, mishap rates tend to decline over time as pilots, technicians, and maintainers gain experience with a specific aircraft.

Figure 3-5. F-16 Class A Mishap Rates



Source: Air Force Safety Center, 2016.

Holloman AFB

Data for F-16 flights and mishaps at Holloman AFB are relatively limited as F-16 training units have only been in place since 2014. Since the introduction of the F-16 in 2014, there have been a total of 10,782 sorties and 6 flight or flight related mishaps. Of these, two occurred within the Holloman AFB terminal area. One of these mishaps was related to an aborted take-off, while the other involved a landing gear collapse during touchdown (Leader, 2016). Assuming an average duration of 1.3 hours per sortie, F-16s from Holloman AFB have logged approximately 14,020 flight hours. Based on these data, F-16s at the installation have had a mishap rate of 42.8 per 100,000 flight hours. This compares to an enterprise-wide BASH/flight-related mishap rate of approximately 55.3 per 100,000 flight hours.

JBSA-Lackland (Kelly Field)

Historical data from JBSA-Lackland (Kelly Field) from the past 6 years calculate to show a mishap rate for all aircraft of 17.77 per 100,000 flight hours. There have been no Class A or Class B mishaps. Table 3-3 outlines the data for Class C, D, and E mishaps for the last 6 years.

Table 3-3. FY 16 Aviation Flight Mishaps at Kelly Field

	2011	2012	2013	2014	2015	2016
Class C	0	1	0	1	0	2
Class D	0	2	0	1	2	0
Class E	11	13	3	11	0	0
Total	11	16	3	13	2	2

Source: JBSA, 2016f.

1.1.7 Accident Potential Zones

Accident potential calculations are based on where most accidents have occurred in the past at military airfields. Such analysis focuses on determining where within the airfield and immediate surroundings an accident would likely occur and then estimating the size of the impact area likely to result from any single accident.

In accordance with DoD Instruction 4165.57, *Air Installations Compatible Use Zones*, Holloman AFB and JBSA-Lackland (Kelly Field) have established three zones to facilitate compatible land use and safety in and around the airfield environment: Clear Zone (CZ), Accident Potential Zone (APZ) I, and APZ II. The dimensions of these zones at both installations are based on Air Installation Compatible Use Zone (AICUZ) guidelines for safety zones around a Class B runway. The CZ is an area 3,000 feet wide by 3,000 feet long for Class B runways, and is located at the immediate end of the runway. The accident potential in this area is so high that structures are prohibited. For safety reasons, the military is authorized to purchase the land for these areas if not already part of the installation (Air Force Civil Engineer Support Agency, USACE, and Naval Facilities Engineering Command, 2008 pg. 12).

APZ I consists of an area 3,000 feet wide by 5,000 feet long adjacent to each CZ. The potential for aircraft accidents is statistically lower within APZ I than within the CZ; however, it is still substantial. APZ I has land use compatibility guidelines that allow a variety of land uses that do not encourage concentrations of people, including industrial, manufacturing, transportation, utilities, open space, and agricultural uses (Air Force Civil Engineer Support Agency, USACE, and Naval Facilities Engineering Command, 2008 pg. 304-313).

APZ II consists of an area 3,000 feet wide by 7,000 feet long adjacent to each APZ I. APZ II possesses a lower statistical potential for aircraft accidents than the CZ or APZ I; however, there is still a considerable risk of aircraft accidents. Compatible land uses include those of APZ I, as well as low density residential,

and other uses with low intensity or scale of operation. High density functions are not considered compatible (Air Force Civil Engineer Support Agency, USACE, and Naval Facilities Engineering Command, 2008 pg. 304-313).

There are additional requirements that outline specifications for imaginary surfaces on and around the runway. Imaginary surfaces are horizontal specifications that identify an encroachment-free area along and on either side of the runway.

Holloman AFB

Holloman AFB has established CZs and APZs for its three runways in accordance with DoD Instruction 4165.57 (Figure 3-6). All land within the CZ is contained within the boundary of Holloman AFB (Holloman AFB, 2004 pg. 17). A small portion of APZ I for Runway 07/25 extends beyond the installation boundary into the WSMR and White Sands National Monument. Land within APZ II for Runway 25 and a small portion of the APZ II for Runway 22 are within the boundary of White Sands National Monument (Holloman AFB, 2004 pg. 17). The APZs that extend east of the installation boundary from Runway 07/25 lay over private and New Mexico State Trust lands. The APZs that extend south of the installation from Runway 16/34 are over unoccupied Bureau of Land Management (BLM) property.

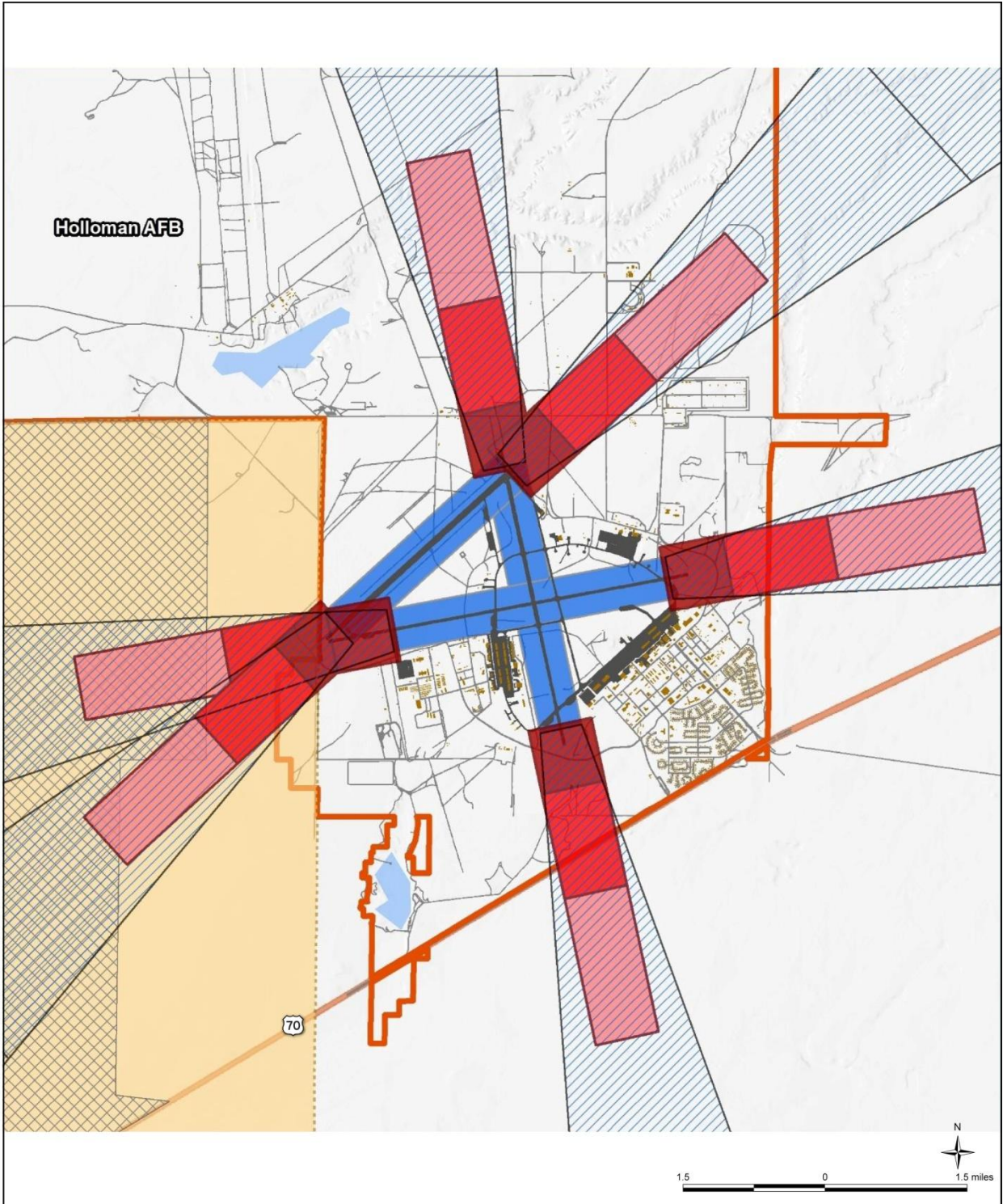
JBSA-Lackland (Kelly Field)

CZs and APZs have been established around the airfield at JBSA-Lackland (Kelly Field) based on AICUZ standards for a Class B runway. The dimensions for these zones are the same as those established at Holloman AFB. These zones are shown in Figure 3-7. The 149 FW currently operates under one airfield exemption for a section of the F-16 apron (Pohoski, 2016).

1.1.8 Wildlife Strike Hazards

Bird-aircraft strikes constitute a safety concern for the Air Force since they can result in damage to aircraft or injury to aircrews or, in the event of off-installation aircraft crashes, local civilian populations. Birds are not the only wildlife problem for aircraft. Deer, coyotes, and other animals wandering onto runways can obstruct departing and landing aircraft. Since birds constitute the most numerous reported aircraft strikes and management techniques for both bird and wildlife strikes are similar, this analysis focuses on the potential for bird strikes. Aircraft may encounter birds at altitudes up to 30,000 feet MSL or higher; however, most birds fly close to the ground. Approximately 96 percent of reported bird strikes occur below 3,000 feet AGL (Air Force Safety Center, 2014a). Historic information across the Air Force indicates that 16 aircraft have been destroyed and 29 fatalities have occurred from bird/wildlife aircraft strikes since 1973 (Air Force Safety Center, 2014b).

In accordance with AFI 91-202, *U.S. Air Force Mishap Prevention Program*, each flying unit in the Air Force is required to develop a BASH plan to reduce bird/wildlife strike hazards relative to airport flight operations. The intent of each plan is to reduce BASH issues at airfields through heightened awareness, avoidance, monitoring, and active control of problematic bird and animal population movements. BASH plan procedures include monitoring the airfield for bird and other wildlife activity, issuing bird hazard warnings, evasion procedures when potentially hazardous bird/wildlife activities are reported, and submitting BASH incident reports.

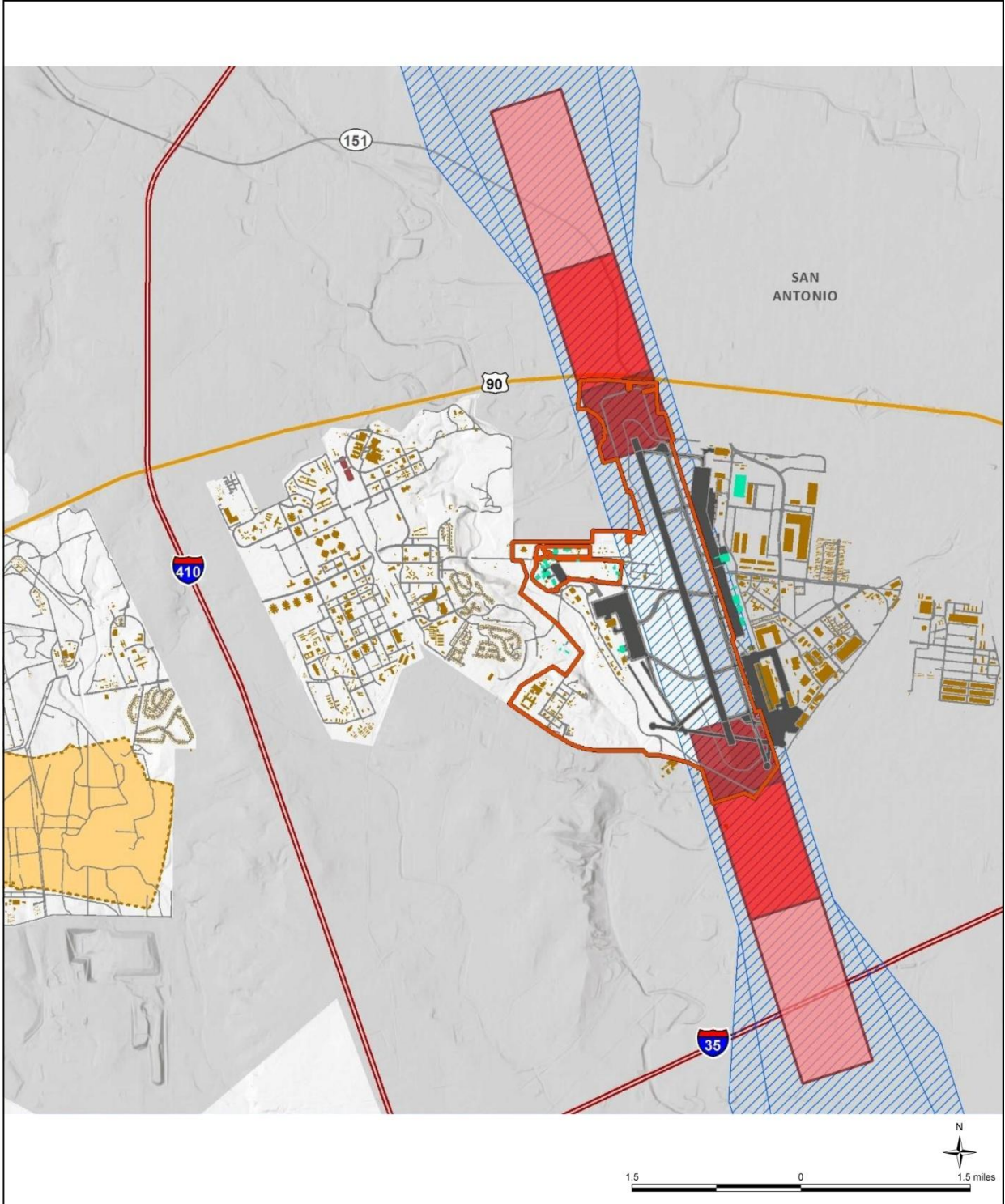


F-16 FTU HOLLAMAN/08

Installation Boundary	Airfield Imaginary Surface Area (Primary Surface)	Airfield Surface
White Sands Missile Range	APZ II	Road
White Sands National Monument	APZ I	Building
Airfield Imaginary Surface Area	Clear Zone	U.S. Highway



Accident Potential Zones at Holloman AFB
Figure 3-6



F-16 FTU/KELLY/010

LEGEND	
JBSA-Lackland (Kelly Field)	Clear Zone
Ground Range	Imaginary Surface
APZ II	F-16 Support Facilities
APZ I	Building
	Airfield Surface
	Road
	U.S. Highway
	Interstate Highway
	State Highway

Accident Potential Zones at JBSA-Lackland (Kelly Field)

Figure 3-7

Migratory waterfowl (e.g., ducks, geese, and sandhill cranes) are particularly hazardous to low-flying aircraft due to their size and propensity for migrating in large flocks at a variety of elevations and times of day. There are two normal migratory seasons, fall and spring, and waterfowl are usually only a hazard during migratory seasons. These birds typically migrate at night and generally fly between 1,000 to 2,500 above ground level.

While any bird-aircraft strike has the potential to be serious, many result in little or no damage to the aircraft; only a minute portion results in a Class A mishap. During the years 1985 through 2004, the Air Force BASH Team documented 59,156 bird strikes worldwide. Of these, 25 resulted in Class A mishaps where the aircraft was destroyed. These occurrences constituted approximately 0.025 percent of all reported bird-aircraft strikes (Air Force Safety Center, 2014b and 2014c).

Holloman AFB

Holloman AFB maintains a BASH plan in accordance with Air Force regulations. This document was last updated in November 2015. BASH concerns are minimal at Holloman AFB and its local environs due to low populations of resident and migratory species and their distribution patterns. Holloman AFB is located within a minor migration corridor in the Central Flyway and their most common species of migratory birds are mallard (*Anas platyrhynchos*), northern pintail (*A. acuta*), blue-winged teal (*A. discors*), northern shoveler (*A. clypeata*), and Wilson's phalarope (*Phalaropus tricolor*). Lake Holloman, Pond G, and the Holloman AFB Wetlands Complex are close to the migratory flyway and contribute to BASH concerns (Holloman AFB, 2015b). The floodplains in the wetlands complex provide some of the only permanent water in the vicinity, attracting waterfowl and migratory shorebirds. Local flying procedures avoid direct overflight of these areas. The Holloman AFB Natural Resources Officer notifies Air Traffic Control when specific hazards exist (Leader, 2016). The installation depredate coyotes and rabbits observed in the vicinity of the airfield to minimize ground collisions with wildlife.

As of November 2016, Holloman AFB had recorded six BASH-related mishaps during F-16 operations. One of these was detected in flight during a low level operation over 30 miles from the installation airfield, while mishap locations for the remaining five could not be determined. These occurred over 10,782 sorties or approximately 14,020 flight hours with an overall BASH mishap rate of approximately 42.8 per 100,000 flight hours (Leader, 2016).

JBSA-Lackland (Kelly Field)

At JBSA-Lackland (Kelly Field), waterfowl species are a significant BASH risk. Furthermore, birds that exhibit social/flocking behaviors present a significant hazard. Large soaring birds present a risk as well because Leon Creek, west of JBSA-Lackland (Kelly Field) is an attractive feature for those birds. The highest risk for bird strikes occurs between March 1 and November 30. Spring migration occurs March through May bringing a variety of species, including Swainson's hawk (*Buteo swainsoni*) and cattle egret (*Bubulcus ibis*). Fall migration occurs September through November and brings barn swallow (*Hirundo rustica*), cliff swallow (*Petrochelidon pyrrhonota*), and cave swallow (*P. fulva*). December through February has shown the least amount of bird/wildlife activity. The BASH Plan highlights common bird species in the area, and outlines procedures to depredate, disperse, and discourage these species from coming near the airfield (JBSA, 2015a annex C-F).

JBSA-Lackland (Kelly Field) implements a variety of procedures to reduce the possibility of a bird/wildlife strike. Among these, operational changes to avoid known hazardous bird concentrations are based on Bird Avoidance Models, Avian Hazard Avoidance Systems, as well as real time observations. The installation has also established a Bird Hazard Working Group to consolidate efforts to reduce bird aircraft strikes. The unit has documented detailed procedures to monitor and react to heightened risk of bird-

strikes, and when risk increases, limits are placed on low altitude flight and some types of training (e.g., multiple approaches, closed pattern work) in the airport environment. Special briefings are provided to pilots whenever the potential exists for greater bird-strike sightings within the airspace (JBASA, 2015a Annex D).

From FY11 through FY16, JBASA-Lackland (Kelly Field)-based F-16 aircraft experienced 56 BASH incidents, which resulted in four Class C strikes, two Class D strikes, and one Class E strikes (Table 3-4).

Table 3-4. Total BASH Strikes at JBASA-Lackland (Kelly Field) since 2011

	2011	2012	2013	2014	2015	2016
Class C	0	0	0	1	1	2
Class D	0	1	0	1	1	0
Class E	0	0	0	0	0	1
No Damage/Other	9	0	4	0	0	0
Total	9	1	4	2	2	3

Source: JBASA, 2015a.

1.1.9 Training Airspace and Ranges

The affected environment or ROI for flight safety in training airspace and ranges includes the airspace that supports aircraft operations for Holloman AFB and JBASA-Lackland (Kelly Field) aircraft and includes the MOAs, ATCAAs, and restricted areas used by aircraft for flight training activities.

1.1.9.1 Flight Safety

Flight safety is an important consideration throughout the F-16 operational area, including off-installation airspace and ranges. Mishaps tend to occur more frequently around airfields and in low-altitude flight regimes, but it is impossible to predict the precise location of an aircraft accident. Major considerations in any accident are loss of life and damage to property. The aircrew's ability to exit from a malfunctioning aircraft depends on the nature of the malfunction or emergency. The probability of an aircraft crashing into a populated area is extremely low, but must nonetheless be considered.

Holloman AFB

Holloman AFB flight operations use restricted airspace associated with WSMR (including R5107B, 5107C/H, R5107C/J, R5107D, R5107E, R5107F/G, R5111A/B, R-5111C/D), the McGregor Range of Fort Bliss (R5103A, R5103B, and R5103C), and large overland MOAs, ATCAAs, and MTRs. Available airspace areas include Beak A-C, Talon Low/High East and West, Pecos, Valentine, Cato/Smitty, and Bronco MOAs. Existing training ranges that support air-to-ground training include the Oscura and Red Rio Ranges at WSMR and the Centennial Range at McGregor Range. Holloman AFB aircraft operations require ongoing efforts to optimize access to and use of surrounding airspace and ranges in conjunction with other military activities.

The following auxiliary and outlying airfields are available for Holloman AFB air operations:

- Biggs Army Airfield (Fort Bliss)
- Roswell Army Airfield
- Alamogordo Army Airfield
- Spaceport America

Holloman AFB F-16 aircraft have been involved in two flight-related Class A mishaps. In November 2015, an F-16 crashed in a rural, unpopulated area of BLM property. The pilot safely ejected but the mishap resulted in total wreckage of the aircraft and inadvertent release of hydrazine. In February 2017, a

Holloman AFB F-16 was involved in a live fire ordinance incident that resulted in a fatality. Several factors limit the likelihood of an accident beyond the airfield and immediate environs and the potential exposure of civilian populations to safety risks. The immediate surrounding areas have relatively low population densities and aircraft pilots are instructed to avoid direct overflight of population centers at very low altitudes. Additionally, aircraft spend the vast majority of their time over unpopulated areas, limiting the risk of a mishap affecting civilian populations. Secondary effects of an aircraft crash include the potential for fire or environmental contamination. Again, because the extent of these secondary effects is situationally dependent, they are difficult to quantify.

Overflight terrain for Holloman AFB's F-16 squadrons is varied. Should a mishap occur in highly vegetated areas during a period of hot, dry weather, it would create a higher risk of extensive fires than a mishap in more barren and rocky areas. Hydrocarbons and other contaminants can be released during mishaps. Petroleum and other oils and lubricants not consumed in a fire could contaminate soil and water. As discussed in Section 3.4.1.1, the use of hydrazine in F-16s creates special considerations for environmental and safety considerations.

JBSA-Lackland (Kelly Field)

The F-16 FTU squadrons are expected to use Crystal, Rio Pecos, Brady, Kingsville 3/4, W-228, Texon, Randolph, Brownwood, W-147 C/D/E, and Hood MOAs. Non-live ground impact training would occur on the Yankee/Dixie bombing range in the R-6312 airspace complex. For live ordnance delivery and training, the F-16 FTU would utilize the Fort Hood live drop range.

The 149 FW does not utilize any auxiliary fields. Emergency landing fields (Pohoski, 2016) include:

- Local – Randolph AFB and San Antonio International Airport
- XTAL MOA – Laredo Airport or Laughlin AFB
- King 3 MOA/R-6312 – Orange Grove Naval Auxiliary Field
- Brady MOA – Robert Grey Army Airfield
- W-228 – Corpus Christi Naval Air Station.

1.1.10 Wildlife Strike Hazards

Holloman AFB

F-16s at Holloman AFB use Red Rio, Oscura, and Centennial ranges for training. They also use a number of Instrument Routes (IRs) and Visual Routes (VRs) for low-level training. The Beak and Talon MOAs and various restricted areas are used for high and low altitude training. The Pecos and Valentine MOAs may be, but are not typically, used for Holloman AFB F-16 low altitude training. Birds of prey can present bird-aircraft strike hazards in any of these areas, especially the Guadalupe Mountains, the Black Range, and the Sacramento Mountains.

A number of permanent water bodies are located beneath WSMR airspace and along low-level routes. The largest of these is Malpais Springs, a 600- to 700-acre wetland area within WSMR approximately 20 miles north of Holloman AFB. Additional bodies of water include several reservoirs and lakes and the Rio Grande and Pecos Rivers. Several wildlife refuges are located in the region as well. All of these regional water bodies provide seasonal habitat for up to 100,000 waterfowl and the sandhill crane (*Grus canadensis*) (Holloman AFB, 2015b pg. 3).

Activities of F-16s in the MOAs do not have a high potential for BASH-related mishaps. F-16s spend an estimated 87 percent of training time at altitudes above 2,000 AGL while over 90 percent of bird/wildlife

strikes occur below 2,000 AGL (Air Force Safety Center, 2014c). F-16 aircrews operating in Holloman AFB airspace are required to continue to follow the applicable procedures outlined in the Holloman AFB BASH Plan. Special briefings are provided to pilots whenever the potential exists for greater BASH within the airspace.

JBSA-Lackland (Kelly Field)

The 149 FW F-16s use the Barry M. Goldwater – East Range (when the unit deploys to the Tucson area) and Yankee Range and their associated airspace as well as Brady, Brownwood, Hood, Kingsville, Laughlin, and Sells MOAs. A number of restricted areas are also utilized. The greatest risk when flying at low altitudes in practice ranges comes from vultures and soaring raptors. The incidence of birds increases during hunting and migration season when food availability increases. The installation investigates when there is dense vulture activity and removes carrion when possible to disperse large numbers of vultures.

A number of the ranges and MOAs are above riparian habitats, which serve as nesting places and migration routes for migrating birds and water fowl. These habitats attract birds that present BASH risk. Because F-16s generally train at altitudes higher than 2,000 AGL, most activities in the MOAs do not present a major BASH risk. F-16 aircrews at JBSA-Lackland (Kelly Field) receive regular updates on BASH conditions through the Bird Avoidance Models and Avian Hazard Avoidance Systems as well as from air traffic controllers in the area.

1.1.11 Chaff and Flares

Chaff and flares are the principal defensive countermeasures dispensed by military aircraft to avoid detection or attack by the enemy's air defense systems and prevent targeting by certain weapons. F-16 aircraft utilize RR-188 training chaff, each bundle of which consists of approximately 5 to 5.6 million fibers. When dispensed, these fibers form a cloud that reflects radar signals and temporarily obscures the aircraft from radar detection. In rare cases, chaff may not untangle and can fall to the ground fully intact.

Flares ejected from aircraft provide high-temperature heat sources that mislead heat-sensitive or heatseeking targeting systems and burn for 3 to 4 seconds at a temperature in excess of 2,000 degrees Fahrenheit (°F), simulating jet exhaust. Each flare falls approximately 400 feet while burning. The magnesium flare pellet is completely consumed and three approximately 2-inch by 2-inch plastic or nylon pieces, one 4-inch by 11-inch aluminum coated Mylar wrapping material, and one or two 2-inch by 2-inch felt spacers fall to the ground.

Holloman AFB

RR-188 training chaff is authorized for use over WSMR subject to an FAA permit and the range's authorization. Holloman AFB restricts flare use during very high or extreme fire danger. Flares may be dropped from a minimum altitude of 2,000 AGL within WSMR airspace. The minimum release altitude over the Red Rio and Oscura Ranges is 500 feet AGL (Holloman AFB, 2011a pg. 2-17).

Frequent training is necessary to master the timing of deployment and the capabilities of defensive countermeasure equipment by ground crews to ensure safe and efficient handling of chaff and flares. The deployment of defensive countermeasures in WSMR and Fort Bliss restricted airspace is governed by a series of regulations based on safety, environmental considerations, and countermeasure limitations. These regulations establish procedures governing the use of chaff and flares over ranges, other government-owned and controlled lands, and nongovernment-owned or controlled areas.

JBSA-Lackland (Kelly Field)

The 149 FW only uses chaff in W-228 located in the Gulf of Mexico. Due to its location, there is little risk associated with using chaff in W-228. Flares are utilized in local MOAs and R-6312. Current National Guard Bureau (NGB) restrictions do not allow flares below 1,000 AGL at NGB ranges. The range also incorporates fire hazard restrictions with limited flare use at lower altitudes when required. Local MOAs restrict the use of flares to above 6,000 AGL and create little or no risk during flare use. Although the Brady MOA extends flare use to below 500 AGL, the 149 FW limits its flare use to above 5,000 AGL.

1.1.12 Ground and Explosive Safety

F-16 aircrews at Holloman AFB and JBSA-Lackland (Kelly Field) train on air-to-ground ranges. Air Force safety standards require safeguards on weapons systems and ordnance to ensure against inadvertent releases. Munitions mounted on an aircraft, as well as the guns, are equipped with mechanisms that preclude release or firing without activation of an electronic arming circuit.

Impact and detonation of live ordnance results in blast and overpressure in the immediate vicinity of the target and shrapnel and fragmentation extending far beyond the location of the detonation. When a training (inert) air-to-ground weapon impacts on or near the target, it may skid or bounce for some distance from the point of impact, coming to rest at some distance from that point. AFI 13-212V1 prohibits weapons employment unless a footprint has been applied to the target for the specific delivery platform, weapon, and parameters of use. The U.S. military has developed a multi-service tool called the Weapon Danger Zone (WDZ) Tool that creates probable weapons impact footprints and defines the minimum land required to safely employ a given munition under certain parameters and conditions. The WDZ Tool helps minimize risk to military and civilian populations and safely utilize air-to-ground munitions.

Holloman AFB

F-16 units at Holloman AFB conduct air-to-ground training within WSMR and Fort Bliss restricted airspace in accordance with the requirements and restrictions in place at each range. Flight profiles for these training operations are designed to keep munitions within designated safety footprints. The Oscura and Red Rio Ranges at WSMR support air gunnery, live, and inert bomb training. Centennial Range at the McGregor Range supports air gunnery and inert bomb training. Current annual F-16 air-to-ground munitions use associated with Holloman AFB F-16 units is provided in Table 3-5.

Table 3-5. Current F-16 Annual Air-to-Ground Munitions Use, Holloman AFB

Munitions Type	Total Rounds
BDU-33 (25 lb)	3,456
Inert GBU-12 and GBU-38 (500 lb)	576
MK-82 (500 lb)	630
20 millimeter rounds	204,800

JBSA-Lackland (Kelly Field)

The F-16s in the 149 FW at JBSA-Lackland (Kelly Field) currently deploy to Tucson to utilize the BMGR – East and associated airspace in Arizona for live munitions training when the unit deploys to the Tucson area. The Yankee Range in south Texas is also used for air-to-ground munitions delivery training. Current annual F-16 practice and heavyweight ordnance use associated with the JBSA-Lackland unit is provided in Table 3-6.

Table 3-6. Current F-16 Annual Air-to-Ground Munitions Use, JBSA-Lackland (Kelly Field)

Munitions Type	Total Rounds
BDU-33 (25 pound)	642
MK-82 (500 pound)	77
MK-84/84I (line/inert 2,000 pound)	28
GBU-10I (inert, 2,000 pound)	14
GBU-31I (inert, 2,000 pound)	14
GBU-12/12I (inert/live, 500 pound)	192
GBU-38/38I (inert/live, 500 pound)	67
20 millimeter	172,040

1.2 SAFETY

Environment Consequences at Holloman AFB and JBSA-Lackland (Kelly Field)

Any increase in safety risks would be considered an adverse effect on safety. A proposed action could have a significant effect with respect to safety if the following were to occur:

- Substantially increase risks associated with the safety of construction personnel, contractors, or the local community
- Substantially hinder the ability to respond to an emergency
- Introduce a new health or safety risk for which the installation is not prepared or does not have adequate management and response plans in place.

1.2.1 Alternative 1 – Holloman AFB

1.2.1.1 Airfield and Local Environs

Ground Safety

No aspects of the Proposed Action for Holloman AFB are expected to create new or unique ground safety issues. Operations and Maintenance (O&M) procedures conducted by base personnel would not change from current conditions. All activities would continue to be conducted in accordance with applicable regulations, technical orders, and AFOSH standards.

Implementation of the Proposed Action at Holloman AFB would not require significant renovation or new construction. Because the relocation of the F-16 squadrons would make use of existing facilities, the Proposed Action would not significantly affect construction-related safety hazards.

Occupational Safety. The Occupational Safety office is adequately staffed to handle incident reporting and training. Holloman AFB staff would anticipate an approximate 20 percent increase in safety incidents with the addition of two F-16 squadrons, requiring a commensurate increase in staff to handle such incidents. Fire response equipment and personnel are located on base and in the surrounding communities. The installation fire department is party to mutual aid support agreements with the nearby communities, which would continue as they have under current conditions.

The addition of two F-16 squadrons may require minor alterations to the hydrazine plant to meet additional capacity requirements. Additional F-16 sorties associated with the Proposed Action would not

likely change the overall rate of hydrazine-related mishaps but could result in a greater overall number of mishap incidents. Therefore, the hydrazine response team would have to increase capacity to respond to additional incidents.

The additional operations at Holloman AFB associated with the operations of two additional F-16 squadrons would increase hold times for crossing the installation's three runways, possibly increasing response times to ground safety incidents (Dahman, 2016). Coordination among occupational safety and base fire personnel and airfield operations personnel would minimize associated impacts. Therefore, no significant impacts to occupational safety are anticipated.

Anti-terrorism/Force Protection. Implementation of the Proposed Action at Holloman AFB would not affect safety as it pertains to AT/FP concerns. No new construction or major renovations would occur. *Therefore, no significant impacts to AT/FP are anticipated.*

Weapons and Explosives Safety. Implementation of the Proposed Action at Holloman AFB would have minor impacts on weapons and explosives safety conditions at the installation. This action would not result in changes to the size and the configuration of the MSA or ESQD arcs. The current MSA has insufficient floor space to store live ordnance for two additional squadrons. Additionally, the GAF would begin vacating some facilities in 2017 and fully depart Holloman AFB by 2019. This phased departure would provide additional space for live ordnance, limiting potential impacts to safety as related to munitions storage (Morey and Sweet, 2016).

The explosives Movement Route from the Holloman AFB MSA to loading areas crosses Runways 34/16, resulting in longer hold and transport times. In addition, Weapons Safety personnel at the installation have reported that the transport distance is excessive. Additional F-16 aircraft and associated airfield operations would compound this issue, increasing risks associated with weapons transport. Weapons Safety personnel would coordinate with airfield operations in advance of new F-16 squadrons arriving, limiting the length of the Movement Route and minimizing explosives exposure risks associated with longer hold and transport times. *Therefore, no significant impacts to weapons and explosive safety are anticipated.*

Airfield Flight Safety

Aircraft Mishaps. The proposed F-16 squadrons would operate in an operational environment similar to the current operational environment. Therefore, Holloman AFB airfield safety conditions would be similar to existing conditions. Accident rates for the new F-16 squadrons are projected to be similar to historical trends so no significant increase in aircraft mishaps rates is anticipated from implementation of the Proposed Action at Holloman AFB.

The Proposed Action would result in an increase in overall F-16 sorties at the installation, likely resulting in a commensurate increase in flight/flight-related/BASH mishaps. The Air Force anticipates approximately 9,480 additional annual sorties with the addition of two F-16 squadrons. Assuming a rate of 42.8 mishaps per 100,000 flight hours and an average sortie duration of 1.3 hours, the Proposed Action would likely result in approximately 6 additional flight/flight-related mishaps per year. If mishap rates follow recent Air Force-wide averages, the Proposed Action would result in approximately five additional mishaps annually.

Accident Potential Zones. The size and configuration of CZs and APZs at the installation would not change as a result of the potential beddown of two additional F-16 squadrons. The increase in operations would result in a commensurate increase in accident potential in the AICUZ safety environs. Continued adherence to the guidance and regulations outlined in the installation's AICUZ would minimize potential

impacts to less than significant, assuming development in the off-base environs does not increase significantly. Therefore, the Proposed Action would not result in significant impacts to the accident potential at Holloman AFB and local environs as they pertain to AICUZ safety zones.

Wildlife Strike Hazards. Since future aircraft flight operations would remain similar to current operations at Holloman AFB, the overall potential for bird-aircraft or wildlife strikes is not anticipated to be significantly greater than at current rates (Leader, 2016). The overall increase in flight operations associated with the new F-16 squadrons (estimated at 9,480 additional annual sorties) would likely cause a commensurate increase in overall BASH-related mishap incidents. Assuming a rate of 42.8 mishaps per 100,000 flight hours and an average sortie duration of 1.3 hours, the Proposed Action would likely result in approximately five additional BASH mishaps per year.

New F-16 aircrews operating in Holloman AFB airspace would be required to continue to follow the applicable procedures outlined in the Holloman AFB BASH Plan. In addition, Holloman AFB personnel developed aggressive procedures designed to minimize the occurrence of BASH strikes and has documented detailed procedures to monitor and react to heightened risk of bird-strikes. When BASH risks increase, limits are placed on low altitude flight and some types of training (e.g., multiple approaches, closed pattern work) in the airport and airspace environments. Special briefings are provided to pilots whenever the potential exists for greater BASH incidents within the airspace. New F-16 pilots would be subject to these procedures; therefore, no significant impacts from BASH incidents are anticipated.

Ground Obstructions. None of the projects to support the Proposed Action would result in any ground obstructions at the airfield as defined in 14 CFR Part 77. Therefore, implementation of the Proposed Action would not affect ground obstructions.

Training Airspace and Ranges

Aircraft Mishaps. The beddown of two additional F-16 squadrons would not substantially change airspace use or training or substantially affect safety during away area operations. Safety actions, precautions, and response plans currently in place would continue for additional F-16 training. These actions include schedules to avoid MOA airspace during high general aviation use. *Therefore, no significant impacts from aircraft mishaps are anticipated.*

Wildlife Strike Hazards. The Proposed Action would result in minor impacts to safety as related to BASH. As described in Section 3.4.2.1, the potential for BASH strikes in training airspace is low because the vast majority of F-16 flight operations would occur at altitudes where BASH mishaps are very infrequent. Operations associated with the Proposed Action would be similar to F-16 training operations currently conducted within available airspace. However, BASH-related mishaps would likely increase commensurate with the additional sorties associated with the Proposed Action. These risks would be minimized through adherence to applicable procedures outlined in the Holloman AFB BASH Plan, including avoidance of areas during heightened migratory activity per the recommendations of installation Natural Resources personnel; *therefore, no significant impacts from wildlife strike hazards are anticipated.*

Chaff and Flare Use within Airspace. The Proposed Action would not significantly affect safety as related to defensive countermeasures. The proposed F-16 use of chaff and flares would occur consistent with current usage in available away areas with no anticipated changes. Training within high altitude airspace would include the use of RR188 training chaff and MJU-7 flares. During low altitude training operations, use of RR188 training chaff and MJU-7 flares would be conducted in accordance with fire restrictions. MJU-7 flares would not be deployed during periods of "Very High" or "Extreme" fire danger. During periods of "High" fire danger, aircraft would not flare below FL180 (18,000 feet). If fire danger is

less than “High,” the minimum altitude for flare release would be 2,000 AGL, minimizing the potential for flares to ignite vegetation or structures below the training airspace. Chaff would be deployed in accordance with Training Chaff Permit. Chaff is an inert material consisting of fine segments thinner than a human hair that disintegrates quickly, and it is unlikely that any chaff that reaches the ground surface would have an impact on humans or animals with which it comes in contact. Overall, there would be no significant effect on safety under the training airspace as related to chaff and flare use.

Air-to-Ground Operations. Implementation of the Proposed Action would essentially double the number of ground impact training operations conducted annually within WSMR-controlled airspace. Estimated annual air-to-ground munitions that would be used at the ranges (current mission plus new F-16 FTU mission) are presented in Table 4-1. These operations would be functionally similar to current ground impact training conducted by existing F-16 aircrews at Holloman AFB and would not increase risk associated with weapon points of impact or points of rest. Therefore, the Proposed Action would not significantly affect safety as related to air-to-ground operations.

Table 4-1. Estimated F-16 Annual Air-to-Ground Munitions Use, Holloman AFB

Munitions Type	Total Rounds
BDU-33 (25 pound)	5,715
GBU-12/38 (inert 500 pound)	860
MK-82 (500 pound)	1,200
20 millimeter	746,300

Mitigation Measures. No mitigation measures would be required.

1.2.2 Alternative 2 – JBSA-Lackland (Kelly Field)

1.2.2.1 Airfield and Local Environs

Ground Safety

Occupational Safety. The F-16 interim beddown would add two additional squadrons (45 aircraft) to the existing F-16 squadron already at JBSA-Lackland (Kelly Field). There are no anticipated increases to occupational incident rates with the addition of two squadrons (Lopez, 2016a).

JBSA-Lackland (Kelly Field) has the hydrazine capacity for two additional squadrons. Additional F-16 sorties associated with the Proposed Action would not likely change the overall rate of hydrazine-related mishaps but could result in a greater overall number of mishap incidents. JBSA-Lackland currently has the capabilities to respond to up to two F-16 incidents at the same time.

Implementation of the Proposed Action at JBSA-Lackland (Kelly Field) would not require significant renovation or new construction. Because the relocation of the F-16 squadrons would make use of existing facilities, the Proposed Action would not significantly affect construction-related safety hazards.

Anti-terrorism/Force Protection. The Proposed Action would include the installation of 4,500 lf of security fencing from facility 1470 to 1614. This fencing would replace existing portions of the fenceline. The fence would be a 6-foot-high chainlink fence with three strands of barbed wire along the top. This would result in increased security at affected areas of the installation, providing a beneficial impact to safety.

Weapons and Explosives Safety. The 149 FW currently has the expansion capability to support three squadrons of F-16s. Any storage requirements that exceed the 1.3 and 1.4 Net Explosive Weight (NEW)

of building 958 would be handled utilizing storage at JBSA-Medina Base Annex. Any 1.1 and 1.2 NEW munitions requirements would be stored at Medina Base Annex; stored munitions at JBSA-Medina Base Annex would be transported in its shipping configuration and built up at 149 FW facilities. The additional two F-16 squadrons would therefore have sufficient munitions storage on the installation (Lopez, 2016b). No significant impacts to weapons and explosives safety are anticipated.

Airfield Flight Safety

Aircraft Mishaps. The F-16 flight mishap rate would not be expected to increase as a result of an increase in F-16 squadrons at JBSA-Lackland (Kelly Field). The two new F-16 squadrons would be expected to fly 9,480 sorties. Assuming the average length of a sortie is 1.3 hours, the two squadrons would produce an additional 12,324 flight hours. At the 5-year mishap rate of 17.7/100,000, it is likely that there would be two additional aircraft mishaps each year for the 5 years the two squadrons would be at JBSA-Lackland (Kelly Field). Based on this extrapolation of historical data from the last 5 years, it is expected that those mishaps would be Class C, D, and E mishaps.

Accident Potential Zones. The size and configuration of CZs and APZs at the installation would not require revision as a result of the potential beddown of two additional F-16 squadrons. The increase in operations would result in a commensurate increase in accident potential in the AICUZ safety environs. However, continued adherence to the guidance and regulations outlined in the installation's AICUZ would minimize these potential impacts to less than significant, assuming development in the off-base environs does not increase significantly. Therefore, the Proposed Action would not result in significant impacts to the accident potential at JBSA-Lackland (Kelly Field) and local environs as they pertain to AICUZ safety zones.

Wildlife Strike Hazards. Aircraft safety and bird-aircraft strikes are not expected to measurably differ from baseline conditions for the Proposed Action. Safety actions that are in place for existing F-16 training would continue to be in place for the additional squadrons (Pohoski, 2016).

Because the F-16s would operate in the same airfield environment as the current F-16 squadron, the overall potential for BASH strikes would slightly increase due to the increase in the number of F-16s that would be on the airfield and in the air (Lopez, 2016a). These risks would be minimized through adherence to applicable procedures outlined in JBSA Plan 91-212, *BASH Plan*, including avoidance of areas during heightened migratory activity per the recommendations of installation Natural Resources personnel; therefore, no significant impacts from wildlife strike hazards are anticipated.

Ground Obstructions. None of the projects to support the Proposed Action would result in any ground obstructions at the airfield as defined in 14 CFR Part 77. Therefore, implementation of the Proposed Action would not affect ground obstructions.

Training Airspace and Ranges

Aircraft Mishaps. Similar to the Holloman AFB Alternative, the beddown of two additional F-16 squadrons would not substantially change airspace use or training or substantially affect safety during away area operations. Minor increases in mishap events would be expected, commensurate with additional operations in training airspace and ranges. Safety actions, precautions, and response plans currently in place would continue for additional F-16 training. Therefore, no significant impacts from aircraft mishaps are anticipated.

Wildlife Strike Hazards. The interim F-16 beddown at JBSA-Lackland (Kelly Field) would result in minor impacts to safety as related to BASH incidents, similar to the Holloman AFB Alternative. BASH-related

mishaps would likely increase commensurate with the additional sorties associated with the Proposed Action. These risks would be minimized through adherence to applicable procedures outlined in JBSA Plan 91-212, *BASH Plan*, including avoidance of areas during heightened migratory activity per the recommendations of installation Natural Resources personnel; therefore, no significant impacts from wildlife strike hazards are anticipated.

Chaff and Flare Use within Airspace. The proposed F-16 use of chaff and flares would occur consistent with current usage in available away areas with no anticipated changes. Therefore, the Proposed Action would not significantly affect safety as related to defensive countermeasures.

Air-to-Ground Operations. Non-live impact training would continue to occur on the Yankee/Dixie bombing range in the R-6312 airspace complex, and live ordnance delivery and training would continue to be conducted at the Fort Hood live drop range. Current F-16s at JBSA-Lackland (Kelly Field) are already utilizing the Yankee range for inert air-to-ground ordnance delivery training. Although it would increase the amount of munitions discharged at the range, the addition of two F-16 squadrons would likely have minimal impact on the range as it is already used for similar training. Live ordnance training at the Fort Hood live drop range would also increase existing use of the range. Estimated Air-to-Ground munitions use with the additional F-16 squadrons is listed in Table 4-2. Increased usage of the ranges likely would require further range clearance as ranges loaded with spent munitions can produce more shrapnel/fragmentation. In addition, increased range usage would result in more unspent munitions (duds) that can enhance the risk for range personnel that must navigate the impact area to perform maintenance on targets (DoD Instruction 3200.16, *Operational Range Clearance*). Therefore, the Proposed Action would not significantly affect safety as related to air-to-ground operations.

Table 4-2. Estimated F-16 Annual Air-to-Ground Munitions Use, JBSA-Lackland (Kelly Field)

Munitions Type	Total Rounds
BDU-33 (25 pound)	4,128
MK-82 (500 pound)	168
MK-84/84I (line/inert 2,000 pound)	56
GBU-10I (inert, 2,000 pound)	28
GBU-31I (inert, 2,000 pound)	28
GBU-12/12I (inert/live, 500 pound)	384
GBU-38/38I (inert/live, 500 pound)	134
20 millimeter	344,080

Mitigation Measures. No mitigation measures would be required.

1.2.3 No-Action Alternative

Under the No-Action Alternative, the interim relocation of two F-16 FTUs to Holloman AFB or JBSA-Lackland (Kelly Field) would not occur. No renovations or construction activities would occur and no increase in operational activities would occur; therefore, no significant impacts to safety would be anticipated.

Mitigation Measures. No mitigation measures would be required.