

**JOINT READINESS TRAINING CENTER
AND
FORT POLK, LOUISIANA
EXPANSION OF RESTRICTED AREA
COMPLEX Airspace R-3803**

Environmental Assessment



March 2019



Prepared for:

Joint Readiness Training Center and Fort Polk, Louisiana
and

U.S. Army Environmental Command, Texas

Prepared by:

Potomac-Hudson Engineering, Inc.

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FINAL FINDING OF NO SIGNIFICANT IMPACT**JOINT READINESS TRAINING CENTER AND FORT POLK, LOUISIANA****EXPANSION OF R-3803 RESTRICTED AREA COMPLEX AIRSPACE**

1. The findings and conclusions reached in this document are based on a thorough review of the impacts and analysis conducted and disclosed in the Environmental Assessment (EA) attached to this document. The EA, including its data, analysis, and conclusions, are incorporated in this Final FNSI by reference.
2. **Purpose and Need for the Proposed Action:** The purpose of the Proposed Action is to enable the Army to conduct the necessary type, level, duration, and intensity of live-fire and other military training exercises for the combat units assigned to Fort Polk and the Rotational Training Units at the Joint Readiness Training Center (JRTC). To be operationally effective in the combat environment, Soldiers must acquire and sustain the skills and experience to operate and maintain weapons. They must also train as they fight, incorporating into training the same munitions and equipment used in combat.

Expansion of the R-3803 Restricted Area (RA) complex airspace (R-3803) overlying recently acquired land is required to better achieve combined arms teamwork and synchronization per recent Army doctrine. This includes allowing Combined Arms Live Fire Exercises (CALFEX) training, and utilization of current ranges for larger weapon systems with higher trajectories fired into the existing Peason Ridge impact areas.

3. **Proposed Action and Alternatives:** The Proposed Action is to request the Federal Aviation Administration (FAA) establish new RA overlying recently acquired land to conduct future training activities. The Army carried forward four RA design alternatives along with a No Action Alternative for full analysis in this EA (see Table 1).

Table 1. Alternatives Considered

Alternative	Description
No Action Alternative	No changes to RA would occur.
Alternative 1 – Establish Lower Altitude RA	Restrict airspace in R-3803C and R-3803D, from the surface up to but not including 18,000 feet MSL, excluding that area from surface to and including 2,000 feet MSL. Activated by NOTAM.
Alternative 2 – Establish Lower Altitude RA, Excluding the Airspace Above the Exclusion Area	Restrict airspace in R-3803C and R-3803D, from the surface up to but not including 18,000 feet MSL, except airspace above the exclusion area. Activated by NOTAM.
Alternative 3 – Establish Lower and High Altitudes (<i>Preferred Alternative</i>)	Restrict airspace in R-3803C and R-3803D, from the surface up to but not including 18,000 feet MSL, and in R-3803-E and R-3803F from 18,000 feet MSL up to but not including 35,000 feet MSL, excluding that area from surface to and including 2,000 feet MSL. Activated by NOTAM.

Table 1. Alternatives Considered

Alternative	Description
Alternative 4 – Establish Lower and High Altitudes, Excluding Airspace Above the Exclusion Area	Restrict airspace in R-3803C and R-3803D, from the surface up to but not including 18,000 feet MSL, and in R-3803E from 18,000 feet MSL up to but not including 35,000 feet MSL. Activated by NOTAM.

¹ Polygon R-3803D has an area in the southwest corner that extends from the surface to and including 2,000 feet MSL, the excluded area is referred to as the “exclusion area” within the EA.

MSL = mean sea level; NOTAM = Notices to Airmen; RA = Restricted Area (airspace)

4. **Environmental Consequences:** Potential impacts to the natural and human environment were considered and analyzed for the Proposed Action and alternatives. Based on the analysis of baseline conditions, proposed activities, potential environmental effects, and continued environmental stewardship, no significant adverse effects to the environment would be expected under the implementation of any one of the alternatives (see Table 2).

Table 2. Comparison Summary of Potential Effects¹

RESOURCE	ALTERNATIVES					CUMULATIVE EFFECTS
	No Action Alternative	Proposed Action 1	Proposed Action 2	Proposed Action 3	Proposed Action 4	
Airspace	Minor	Minor	Moderate	Minor	Moderate	Minor to Moderate
Noise	Negligible	Moderate	Minor	Moderate	Minor	Minor to Moderate

¹Refer to Section 3.1 of the EA for a discussion of impact ratings.

5. **Proposed Impact Reduction Measures:** As demonstrated in Table 2, impacts resulting from the Proposed Action would be less than significant. Various measures have been identified within the EA analysis that could be undertaken by Fort Polk to minimize adverse effects. This includes continued implementation of existing operational and management controls (Table 3), and the adoption and implementation of proposed operational and management mitigations (Table 4). No other mitigation measures would be required.

Table 3. Summary of Fort Polk Existing Protection Measures

Concern	Primary Resource(s) Affected	Existing Control/Description
Noise	Noise Environment	<ul style="list-style-type: none"> Management Control: Fort Polk would continue to maintain the 24-hour hotline to receive noise complaints associated with military training operations. Management Control: Fort Polk would continue to operate a noise abatement program, designed to increase pilot awareness of noise issues and encourage practices that reduce aircraft noise in sensitive areas (such as the exclusion area).

Table 3. Summary of Fort Polk Existing Protection Measures

Concern	Primary Resource(s) Affected	Existing Control/Description
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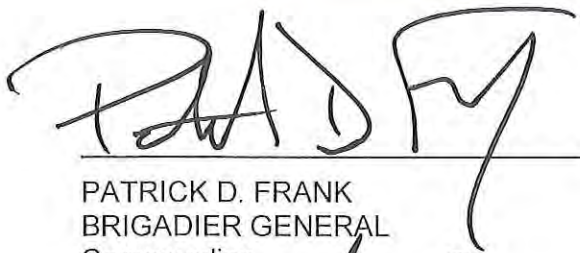
Table 4. Summary of Proposed Mitigations for RA Expansion

Concern & Related Resource Significant Thresholds	Description of Proposed Mitigation	Mitigative Effect	Alternative
Airspace Use: Infringement upon current private airspace	<ul style="list-style-type: none"> <u>Operational Control:</u> Fort Polk is in the process of establishing a firebreak that could be used by pilots as a visual reference for the edges of the proposed RA. 	Firebreaks will exist providing a visual boundary between the newly acquired lands and private landholdings within the exclusion area which would allow aircraft to visually identify the edge of private property.	1 through 4

RA = restricted area (airspace)

6. **Public Comment:** The EA and Draft FNSI were made available for public review from September 02, 2016 through October 03, 2016. No public comments were received. Additional information regarding this decision may be obtained by contacting the JRTC and Fort Polk Public Affairs Office as listed below.
7. **Conclusions:** I have carefully reviewed the attached EA and the potential environmental consequences of each of the alternative actions. Based on this review, I have determined that selection of an alternative in support of the Proposed Action will have no significant impacts on the environment. Therefore, preparation of an environmental impact statement is not required.
8. **Decision:** In light of the preceding conclusions, I have decided to implement Proposed Action Alternative 3. This will allow for the establishment of additional restricted airspace as described in this EA.

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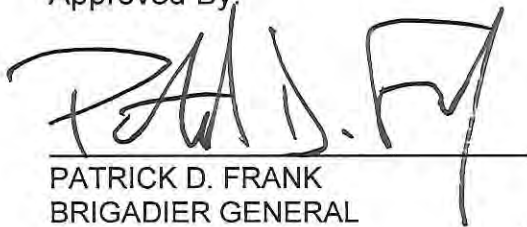


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Date: 17 Mar 19

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Environmental Assessment
Joint Readiness Training Center and Fort Polk, Louisiana
Expansion of Restricted Airspace Area Complex Airspace R-3803
DEPARTMENT OF DEFENSE (U.S. ARMY)

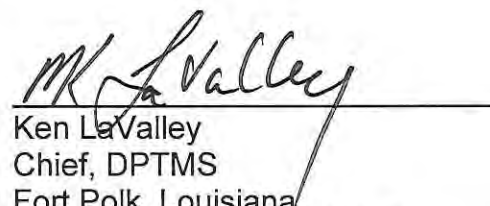
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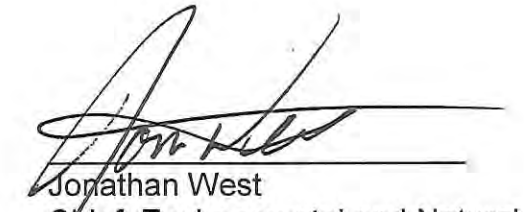

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1 Purpose, Need, and Scope

1.1 Background

1.1.1 Army Mission

The mission of the United States (U.S.) Army is to “fight and win our nation’s wars” by providing prompt, sustained land dominance across the full range of military operations. Supporting the Army’s mission has increasingly included supporting a broader spectrum of operations to include high intensity conflict, persistent low-level conflict, anti-terrorism operations and peacekeeping, stability and support operations. Rapidly delivering highly trained, adaptive, and professional forces is critical to achieving the Army’s mission and supporting the nation’s strategic and national defense mission and objectives.

The mission of the U.S. Army is to “fight and win our nation’s wars” by providing prompt, sustained land dominance across the full range of military operations.

The Army is responsible for preparing the land forces necessary to effectively execute war efforts except as otherwise assigned. It is also responsible for maintaining the capability in conjunction with other armed forces of preserving the peace and security, and providing for the defense of the U.S., the Territories, Commonwealths, and possessions and any areas occupied by the U.S. It is responsible for supporting the national policies, implementing the national objectives, and overcoming any nations responsible for aggressive acts that imperil the peace and security of the U.S.

1.1.2 Fort Polk Mission

Fort Polk is home to the Joint Readiness Training Center (JRTC) Operations Group; 1-509th IN (ABN); 3rd Battalion, 353d (Training) Regiment; 3rd Brigade Patriots, 10th Mountain Division; 1st Battalion, 5th Aviation Regiment; 46th Engineer Battalion; 519th Military Police Battalion; and the 115th Combat Support Hospital (changes to the 32d Field Hospital in March 2019). Fort Polk supports the JRTC’s advanced-level joint training for U.S. Army, Air Force, Navy, and Marine Units under conditions that simulate low-and mid-intensity conflicts.

The primary mission of Fort Polk is to support and train home-stationed units while providing superior training to support the JRTC.

Fort Polk is a modern Installation that provides for well-being and quality of life for Soldiers, civilians, retirees, and their families. In addition, the Installation is one of the Army’s 15 Power Projection Platforms (PPP), from which active duty and reserve component forces are trained, mobilized, validated, and deployed by air, rail, and sea to support global contingency operations.

1.1.3 Joint Readiness Training Center Mission

The JRTC and Fort Polk train Brigade Combat Teams to conduct large scale combat operations on the decisive action battlefield against a near-peer threat with multi-domain capabilities. Fort Polk enables assigned FORSCOM units to build Readiness in support of globally deployable missions; while facilitating a high quality of life for Soldiers and Army Families.

The JRTC allows the Army to train and develop highly proficient and cohesive units capable of conducting operations across the full spectrum of conflict. The JRTC accomplishes its mission by providing superior training to the home station tenants and deployable combat units, while supporting 11 annual JRTC rotations. The JRTC is focused on improving unit readiness by providing an advanced level of training, as well as doctrine-based feedback for America's light infantry forces to develop Leaders and Soldiers and to prepare them for the challenges of full spectrum operations. JRTC conducts thorough, realistic, multi-echelon, joint and combined arms training so that Leaders can deal with complex situations and to create flexible, skilled Soldiers. Each JRTC rotation is comprised of different Army, Air Force, Navy and Marine units to receive advanced level joint training under unique, realistic, and constantly evolving battlefield scenarios.

The primary mission of the JRTC is to provide a demanding and realistic **Decisive Action Battlefield** enabling IBCTs throughout the Army to build combat readiness.

1.2 Location and Land Ownership

The JRTC and Fort Polk is located in west-central Louisiana in Natchitoches, Sabine and Vernon Parishes near the communities of Leesville and DeRidder, and about 15 miles east of the Texas-Louisiana border. Fort Polk is comprised of DoD and U.S. Forest Service (USFS) permitted lands totaling approximately 243,964 acres. DoD owned lands are divided into two primary land masses; Main Post and Peason Ridge. USFS permitted lands are divided into three separate land masses; the Intensive Use Area (IUA), the Limited Use Area (LUA) and the Special Limited Use Area (SLUA).

Peason Ridge is comprised of approximately 78,841 acres in Vernon, Sabine, and Natchitoches Parishes, within the southern boundary. Peason Ridge is used to support both Army maneuver and live-fire training, but is not utilized for long-term housing of Army personnel or civilians, which occurs on the Main Post. In February, 2010 Fort Polk completed the JRTC and Fort Polk Land Acquisition Program (including purchase and lease) Final Environmental Impact Statement (FEIS), February 2010 (2010 Land Acquisition FEIS). The expansion of Fort Polk, up to 100,000 acres, was analyzed and the Installation received the authorization to actively pursue the land acquisition program. In fiscal year 2012, the U.S. Army Corps of Engineers (USACE) began closing on some of these new properties. To date approximately 42,500 acres of new training lands have been acquired and is reflected in the new acreage amount for Peason Ridge. Fort Polk utilizes an area of USFS lands north of Peason Ridge (i.e., the SLUA) known as "Horse's Head", due to its configuration. The SLUA consists of approximately 12,380 acres and is available for limited training by the JRTC and Fort Polk. No live-fire activities are conducted in this area.

Figure 1-1 illustrates the current boundary of Fort Polk, including those lands recently acquired. The Army has leased a parcel of land known as the "yellow brick road" to support the transport and convoys of units to and from Main Post to Peason Ridge. Airfield deployment/redeployment activities associated with JRTC rotations or mobilization take place on the Aerial Point of Departure (APOD) at the Alexandria Airport.

This site can accept and support (landing, loading, and refueling) any combination of size and number of Air Force or civilian transport aircraft required under any operational scenario at Fort Polk.

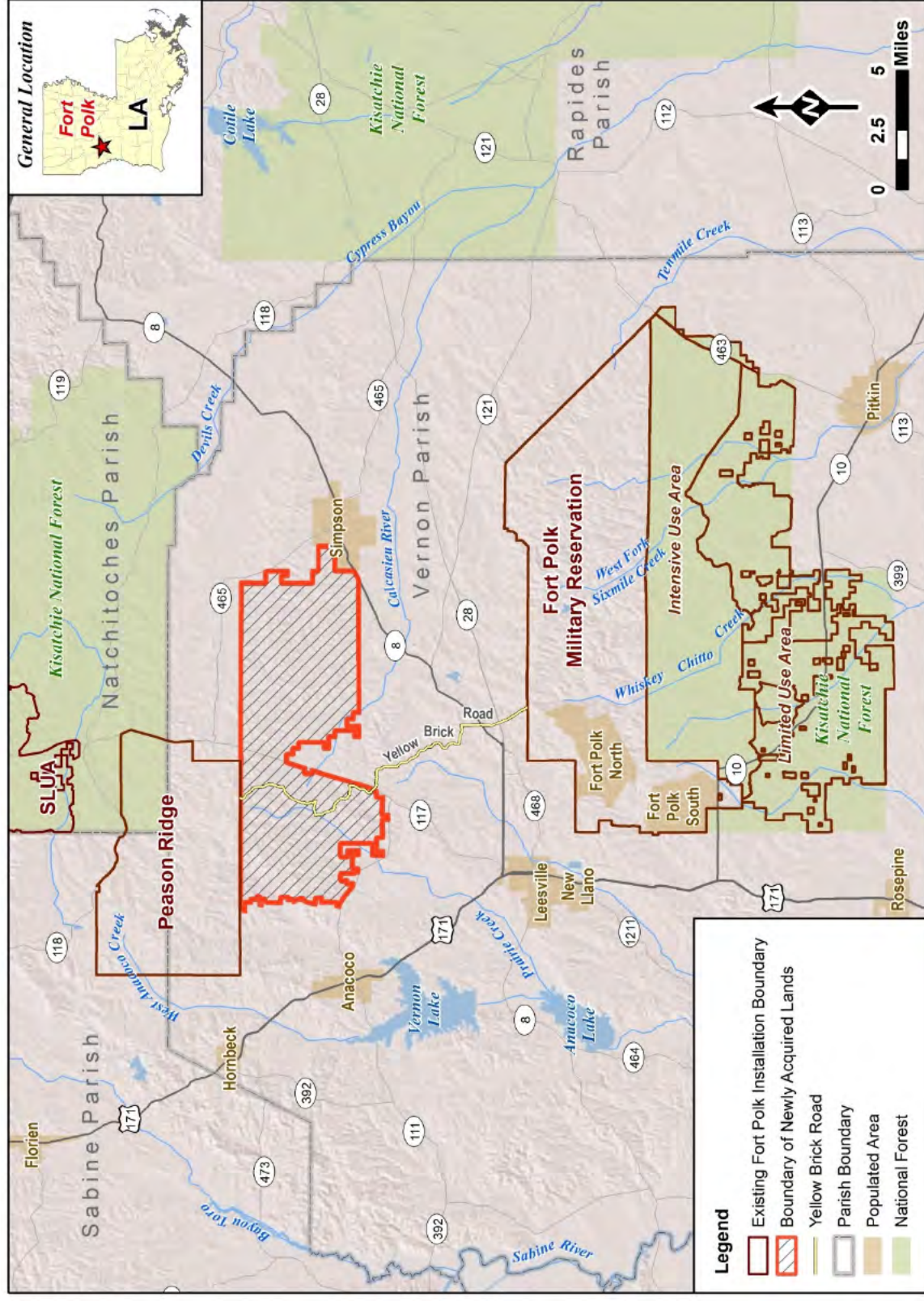


Figure 1-1. Location Map

1.3 Purpose and Need for the Proposed Action

Many Army units deploy abroad to support the full spectrum of potential operations, from waging the nation's wars to supporting peace and stability. While at home station, it is critical that they retain or develop those skills necessary to deploy and execute their respective missions. Effective training, carried out to a high doctrinal standard, is the cornerstone of operational success. High quality training prepares Soldiers for conditions and situations expected in combat, and it is essential to ensuring the success of the nation's strategic defense objectives, national security, and the safety of those who serve.

Training exercises are major resources for keeping the Army ready to accomplish its missions. The majority of Soldier training and all collective training take place in units. In units, Soldiers build on basic tasks to attain skills not taught in initial entry training. Unit collective training develops effective combined arms teams consisting of fully integrated combat, combat support, combat service support, and Joint Special Operations Forces elements.

Fort Polk recently acquired land adjacent to Peason Ridge to develop additional maneuver and live-fire training areas. To conduct future training activities, the Army's Proposed Action is to request the Federal Aviation Administration (FAA) establish new restricted area (RA) airspace overlying recently acquired land. Fort Polk is one of two Army CTCs with increasing and enduring requirements for realistic force-on-force and force-on-target exercises. In the future, the JRTC and Fort Polk proposes to conduct Combined Arms Live Fire Exercises (CALFEX) on the newly acquired training lands. The Proposed Action would also enhance the utilization of current ranges for larger weapon systems with higher trajectories. Although Fort Polk is not ready to develop infrastructure on the new training lands, training activities were addressed at a programmatic level in the (2010 Land Acquisition FEIS). Training infrastructure development would be analyzed in project-specific National Environmental Policy Act (NEPA) documents once proposed locations and details are further developed.

1.3.1 Purpose of the Proposed Action

The Proposed Action would enable the Army to conduct the necessary type, level, duration, and intensity of live-fire and other military training exercises for the combat units assigned to Fort Polk and the Rotational Training Units (RTUs) at JRTC. To be operationally effective in the combat environment, Soldiers must acquire and sustain the skills and experience to operate and maintain weapons. They must also train as they fight, incorporating into training the same munitions and equipment used in combat. Units must conduct live-fire training exercises to ensure they have rehearsed battle procedures and are prepared for wartime operations. Larger units, company- and battalion-level, and brigade-level must conduct CALFEXs to ensure proper integration of units in combat scenarios. These operations include offensive, defensive, stability, and support operations in particular battalion-level and brigade-level CALFEXs. Units undertaking these exercises will attain and maintain their combat readiness.

1.3.2 Need for the Proposed Action

The JRTC and Fort Polk must be prepared to execute the full spectrum of military operations in complex terrain. To achieve and maintain the combat skills appropriate for each Soldier in the force, training must replicate, as closely as possible, the conditions that would arise in expected combat situations. To ensure that Soldiers develop these skills and experience, the Army has developed standardized training requirements. It is imperative that every Soldier and unit meets each of its requirements. These standards are derived from the Army Doctrine Reference Publication (ADRP) 3-0, *Operations* (Army 2017), which augments the unified land operations doctrine established in Army Doctrine Publication (ADP) 3-0. Army doctrine requires combined arms teamwork and synchronization. Units must train for wartime combined arms operations. Combined arms proficiency results from regular practice of combat missions and tasks in the live domain. It starts with developing individual skills. Individual skills, when combined and practiced, build unit proficiency from platoon through brigade task force. Expansion of the R-3803 Restricted Area (RA) complex airspace (R-3803) overlying recently acquired land is required to better achieve combined arms teamwork and synchronization per recent Army doctrine.

1.4 Decisions to be Made

This EA considers the direct, indirect, and cumulative effects of the Proposed Action and the No Action Alternative. It was prepared in accordance with the NEPA of 1969 (42 United States Code [USC] 4321 et seq.), Council on Environmental Quality (CEQ) Regulations 40 Code of Federal Regulations (CFR) Parts 1500-1508 (*Regulations for Implementing The Procedural Provisions of NEPA*), 32 CFR Part 651 (*Environmental Analysis of Army Action*), the *NEPA Analysis Guidance Manual*, and FAA NEPA implementing regulations (FAA Order 1050.1F *Environmental Impacts: Policies and Procedures*).

The Senior Commander has authority over the range and training land on the installation, and is therefore the decision-maker for this EA. This EA would inform the decision-maker of the potential environmental consequences of the No Action Alternative as well the Proposed Action Alternatives. The Senior Commander will make a decision after considering technical, economic, environmental, and social impacts, as well as each Proposed Action's ability to meet the purpose and need and associated objectives.

The decision to be made is whether to implement an alternative to achieve the Proposed Action or to implement the No Action Alternative. If the EA process concludes that the Proposed Action and viable alternatives would not result in significant environmental impacts to the human or natural environment, the Army would choose an alternative to implement and issue a Finding of No Significant Impact (FNSI). If, however, at any time prior to issuing the final FNSI it is determined that significant impacts would be likely to occur, then the Army would issue a Notice of Intent (NOI) to prepare an EIS.

1.5 Scope of Environmental Analysis (Issues of Concern)

This EA describes the Proposed Action and evaluates reasonable alternative courses of action for achieving the purpose and need. It provides an assessment of existing

environmental conditions within the study area and discloses the potential direct, indirect, and cumulative impacts of the Proposed Action and alternatives on the human, natural, and cultural environment.

Chapter 3 provides a description of the affected environment and an analysis of the potential impacts (direct, indirect, and cumulative) to environmental, cultural, and socioeconomic resources. Impacts to the following Valued Environmental Components (VECs) were identified as potential issues of concern during the Army scoping process and will be analyzed for the Proposed Action as well as the No Action Alternative:

- Airspace
- Noise

Chapter 3, Section 3.1 provides justification of VECs which were dismissed from detailed consideration.

In addition, because the FAA is a cooperating agency and the analysis will provide FAA with information for their rulemaking process, environmental impacts have been cross-walked with corresponding Environmental Impact Categories in FAA Order 1050.1F and prepared in accordance with FAA Joint Order (JO) 7400.2L, effective April 3, 2014, *Procedures for Handling Airspace Matters* (see Section 1.7 for additional information).

1.6 Public and Agency Involvement

To facilitate the analysis and decision making process, the Army maintains a policy of open communication with interested parties and invites public participation. Public participation opportunities with respect to the Proposed Action and this EA are guided by CEQ regulations published in 32 CFR Parts 1500-1508, and the requirements of 32 CFR Part 651. The Army solicits public comment regarding Proposed Action through a public scoping process. The scoping process, which is defined by 40 CFR 1501.7, *Scoping*, as “an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a Proposed Action”, assists the Army in determining the appropriate scope of the EA and in identifying issues of concern and viable alternatives to the Proposed Action.

The Army conducted a 30-day public scoping period beginning on November 22, 2015 and ending on December 21, 2015 during which time, input and comments were solicited from members of the public and other agencies. One scoping meeting was held on December 8, 2015 in Leesville, LA. A scoping notice was placed in the following newspapers to notify the public of the meeting: Beauregard Daily News-DeRidder; The Guardian-Fort Polk; Leesville Daily Leader-Leesville; and The Town Talk-Alexandria. The primary issue raised by the public was whether proposed changes to airspace would adversely affect surrounding airspace and flight paths utilized by the local aviation community (refer to Section 3.2.2 regarding a discussion of potential airspace impacts). In addition, scoping letters were mailed on November 20, 2015 to interested parties describing the Proposed Action and requesting input into the scoping process (see Appendix A). This included government-to government consultation with the following Native American Tribes (Thlopthlocco Tribal Town of Oklahoma, Alabama-Coushatta Tribe of Texas, Caddo Nation of Oklahoma, Jena Band of Choctaw, Chitimacha Tribe of

Louisiana, Mississippi Band of Choctaw Indians, Tunica-Biloxi Tribe of Louisiana, Choctaw Nation of Oklahoma, Coushatta Tribe of Louisiana, and the Alabama-Quassarte Tribal Town). No comments were submitted during the public scoping period.

A Notice of Availability (NOA) for the EA and Draft FNSI was placed in the same four newspapers as the scoping notice (mentioned above) announcing a 30-day public review and comment period. In addition, the EA has been sent to four (4) local libraries: Beauregard Parish Library-DeRidder; Vernon Parish Library-Leesville; Rapides Parish Library-Alexandria; and Sabine Parish Library-Many. The JRTC and Fort Polk has also made the EA available online at http://www.jrtc-polk.army.mil/environmental_compliance/NEPA.html. No comments were received during the 30-day public review period of the EA and Draft FNSI.

1.7 Cooperating Agency Status

Establishing new RA is a Federal rulemaking action that must be approved and implemented by the FAA. Rulemaking actions require environmental analysis pursuant to FAA's own NEPA implementing regulations (FAA Order 1050.1F). To ensure that the environmental review process for the RA proposal meets both Army and FAA NEPA requirements, the FAA has agreed to act as a cooperating agency in the preparation of this EA. If the Army EA process results in a FNSI, the Army will forward the airspace proposal and the Final EA/FNSI to the FAA. The FAA will then publish a Notice of Proposed Rulemaking in the Federal Register and initiate a 45-day public comment period. Based on an evaluation of the Army airspace proposal, the Final EA/FNSI, and comments received in response to the Notice of Proposed Rulemaking, FAA Headquarters will approve or deny the proposed rule. If approved, the FAA will issue its own NEPA decision document and publish the Final Rule in the Federal Register.

The Army formally requested the FAA serve in the capacity of an official Cooperating Agency on August 29, 2014. The FAA agreed to serve as a cooperating agency for this EA.

The FAA is responsible for managing navigable airspace for public safety. Additionally, it is responsible for ensuring efficient use of airspace for commercial air traffic, general aviation, and national defense, including special use airspace utilized by the DoD. The FAA has established several policies including:

- Order 1050.1F, *Environmental Impacts: Policies and Procedures* (July 16, 2015); and
- JO 7400.2L, *Procedures for Handling Airspace Matters* (July 24, 2014).

FAA Order 1050.1F provides the FAA with policies and procedures to ensure agency compliance with NEPA (42 USC §§ 4321, et seq.) and implementing regulations issued by the CEQ (40 CFR Parts 1500-1508).

The Desk Reference of FAA Order 1050.1F identifies 16 impact categories that should be considered during the NEPA process. This EA addresses each resource area to determine if they should be considered as prescribed by FAA Order 1050.1F. The sections where each of these resources are discussed in this EA, or the rationale for excluding a detailed discussion of a specific resource, are provided in Table 1-1. FAA JO

7400.2L, Chapter 32, provides guidance to air traffic personnel to assist in applying the requirements in FAA Order 1050.1F to air traffic actions.

To eliminate unnecessary duplication of effort between the FAA and DoD, a Memorandum of Understanding (MOU) between the FAA and DoD was signed on October 4, 2005 to “provide for the issuance of environmental documents for the development, designation, modification, and use of Special Use Airspace (SUA)” (https://www.faa.gov/air_traffic/publications [see Order JO 7400.2L]). The MOU describes the guidelines for compliance with NEPA and CEQ Regulations (40 CFR Parts 1500-1508). This MOU promotes early coordination between FAA and DoD during the environmental review process associated with the establishment, designation, modification of SUA, and permits the application of “lead agency” and “cooperating agency” procedures, and provides for the issuance of environmental documents for the development, designation, modification, and use of SUA.

Table 1-1. FAA Order 1050.1F, Impact Categories to be Considered

FAA Resource	Location in EA	Rationale for Exclusion
Air Quality	N/A	Proposed expansion of the R-3803 RA complex would not result in an increase of training operations. Operations would be spread out over a larger area which is completely within National Ambient Air Quality Standards attainment and exempt from the General Conformity Rule.
Biological Resources (including fish, wildlife, and plants)	N/A	The Proposed Action involves changes to airspace ranging from surface up to but not including 35,000 feet MSL. The change of airspace would not affect biological resources. Training infrastructure development would be analyzed in project-specific NEPA documents once proposed locations and details are further developed.
Climate	N/A	Proposed expansion of the R-3803 RA complex would not result in an increase of training operations; therefore, increased levels of greenhouse gas are not anticipated. No effects on climate are anticipated.
Coastal Resources	N/A	Fort Polk is landlocked and not located within designated coastal zone areas of Louisiana. As Fort Polk is not located within a Coastal Zone as regulated under the Coastal Zone Management Act of 1972, this resource was eliminated from further consideration.
Department of Transportation Act: Section 4(f)	N/A	According to FAA Order 1050.1F Desk Reference, Section 5.1, military training is exempt from Section 4(f).

Table 1-1. FAA Order 1050.1F, Impact Categories to be Considered

FAA Resource	Location in EA	Rationale for Exclusion
Farmlands	N/A	The Proposed Action involves changes to airspace over Army lands. The Farmland Protection Policy Act (FPPA) states “(b) Acquisition or use of farmland by a Federal agency for national defense purposes is exempted by section 1547 (b) of the Act, 7 USC 4208(b)”. As the newly acquired land has been converted to military use, it is not part of the inventory of farmland to be considered under the FPPA.
Hazardous Materials, Solid Waste, and Pollution Prevention	N/A	There would be no hazardous materials, or solid waste generated under the Proposed Action; therefore, this resource was eliminated from further consideration.
Historical, Architectural, Archaeological, and Cultural Resources	N/A	There would be no construction or ground disturbance associated with the Proposed Action; therefore, this resource was eliminated from further consideration. Training infrastructure development would be analyzed in project-specific NEPA documents once proposed locations and details are further developed.
Land Use	N/A	The proposed expansion of the R-3803 RA complex would occur over existing military lands, and would therefore, be compatible to military land uses directly beneath. Section 3.3 discussions potential effects of noise.
Natural Resources and Energy Supply	N/A	The Proposed Action would not result in increased consumption of energy resources, and would not change the availability of or access to energy resources in the Region of Influence. Therefore, this resource was eliminated from further consideration.
Noise and Compatible Land Use	Section 3.3	N/A
Socioeconomic Impacts, Environmental Justice, and Children’s Environmental Health and Safety Risks	N/A	The Proposed Action would not result in any changes to local population, income and revenue, or housing. The Proposed Action would also not create environmental health and safety risks that would disproportionately affect children. Therefore, these resource areas are eliminated from further consideration.
Visual Effects (including light emissions)	N/A	The Proposed Action would not add new permanent light sources or change the visual landscape; therefore, this resource was eliminated from further consideration.

Table 1-1. FAA Order 1050.1F, Impact Categories to be Considered

FAA Resource	Location in EA	Rationale for Exclusion
Water Resources (Wetlands, Floodplains, Surface waters, Groundwater, and Wild and Scenic Rivers).	N/A	The Proposed Action would not result in contact or runoff to any water feature, to include Wild and Scenic Rivers, or would not result in contact or direct impacts to wetlands; therefore, this resource has been eliminated from further consideration. Training infrastructure development would be analyzed in project-specific NEPA documents once proposed locations and details are further developed.
Construction Impacts	N/A	No construction activities are proposed as part of the Proposed Action; therefore, this resource was eliminated from further consideration.
Secondary (Induced) Impacts	N/A	The Proposed Action would not result in any changes to land use, land and resource access, housing and public services, or transportation and traffic. Therefore, the Proposed Action would not create induced effects upon any resource area. Training infrastructure development would be analyzed in project-specific NEPA documents once proposed locations and details are further developed.

DoD=Department of Defense; FAA=Federal Aviation Administration; FPPA=Farmland Policy Protection Act; NEPA=National Environmental Policy Act; RA=Restricted Area (airspace) USC=U.S. Code

2 Description of the Proposed Action and Alternatives

Chapter 2 describes the Proposed Action and the alternatives. To address the purpose and need, four alternatives are fully analyzed in this EA, along with the No Action Alternative. Consideration of the No Action Alternative is mandated in the CEQ 40 CFR Parts 1500-1508 and *Environmental Analysis of Army Actions* 32 CFR Part 651.34. This EA addresses the resulting environmental impacts of each alternative of the Proposed Action.

2.1 Proposed Action

The Proposed Action is to establish new RA over acquired land. The proposed RA would enable the Army to conduct the necessary type, level, duration, and intensity of live-fire and other military training exercises for the combat units assigned to Fort Polk and the rotational training units (RTUs) at the JRTC. The JRTC and Fort Polk would conduct battalion-level and brigade-level CALFEX on newly acquired training lands. CALFEX is a costly, resource-intensive exercise in which combined arms teams, or task forces, maneuver and employ supporting weapon systems. It is the most realistic measure of combined arms combat readiness and should be an integral part of every unit's training program. Section 2.1.1 provides additional details on CALFEX training and justification for an expansion of the R-3803 RA complex airspace to support such training activities.

The Proposed Action is required to ensure safe live artillery fire training while protecting the public from both air and ground maneuvers using advanced weapon systems, as well as manned flight, electronic jamming, lasers, flares, smoke, powerful simulators, and high explosive activities. Because of advances in weapon systems, modern forces are required to cover more ground in dispersed areas of operation and operate over greater distances than ever before. The increase of maneuver area is necessary to satisfy the training needs of the new air-to-air and air-to-ground combat teaming. The additional RA would consist of a lateral and vertical increase of the current RA within the R-3803 complex. Implementing the Proposed Action would enhance the use of current ranges and impact areas for larger weapon systems with higher trajectories including Hellfire missiles that require up to 35,000 feet Above Ground Level (AGL) and an extended lateral distance from targets.

The Proposed Action meets the need to safely train Soldiers in the most realistic environment possible, while segregating the public from hazardous military operations. Implementing the Proposed Action would establish a safety buffer for live-fire ammunitions, increase the current air battle-space environment, and provide the Army with ability to realistically train current and future multi-service combat forces in preparation for deployment for global conflicts. Additional RA within the Warrior Military Operations Area (MOA) would not only facilitate home station unit training but also provide the realistic training of RTUs.

Use of non-firing maneuver areas, in conjunction with live-firing ranges would assist in promoting realism as well as adding tactical training not possible on live-fire ranges alone. As mentioned earlier, Fort Polk is not ready to develop infrastructure on the new training lands. Training activities were addressed at a programmatic level in the 2010 Land

Acquisition FEIS. Training infrastructure development would be analyzed in project-specific NEPA documents once proposed locations and details are further developed.

2.1.1 CALFEX Training Space Requirements

The training objective of a CALFEX is to accomplish a designated combat mission (attack, defend, movement to contact) with live ammunition, a realistic target array, and required support and sustainment unit assets. Standards are found in applicable Combined Arms Training Strategies (CATS) for the selected mission, as modified by local conditions and the commander's guidance. CALFEX is designed to test the unit's and leader's ability to take knowledge learned from crew gunnery tables and apply it to tactical combat scenarios at the section, platoon, and company team levels, to include combined arms sections and platoons.

Optimally, a CALFEX range maneuver area would be 5 to 10 kilometers (km) deep, 3 to 5 km wide (possibly smaller for a defensive scenario), with multiple terrain features, and would allow for some cross and flanking fires. The target array should be capable of portraying a mechanized infantry company or tank company in the offense or a mechanized infantry company with at least one platoon forward in the defense. For safety purposes, Surface Danger Zones (SDZs) are established to protect personnel and equipment. The SDZ is a depiction of the mathematically predicted area a projectile will impact upon return to earth, either by direct fire or ricochet. The SDZ is the area extending from a PAA to a distance downrange based on the projectiles fired. The SDZ required for a CALFEX could extend up to 25 km deep and 15 km wide (this can be smaller if cross fires are limited and the terrain provides a backstop). Appropriate sites should be available for the tactical operation center (TOC), battalion trains (BTs), after action review (AAR) site, and company team assembly areas (AAs). The CALFEX range should be supported by suitable areas for a forward arming and refueling point (FARP), if attack helicopters are included, as well as mortar and PAAs.

Implementing CALFEX on the new land would require a safety buffer for live-fire ammunitions. The additional RA would consist of a lateral and vertical increase of the current RA, R-3803. Implementing the Proposed Action would also enhance the use of current ranges for larger weapon systems with higher trajectories. PAAs needed for the CALFEX on the newly acquired land would produce SDZs and a corresponding vertical hazard that expands beyond the existing boundaries of R-3803. Figure 2-1 illustrates the need for RA based on the height of the munitions utilized during a CALFEX. Table 2-1 describes the vertical hazards by ammunition type utilized during CALFEX.

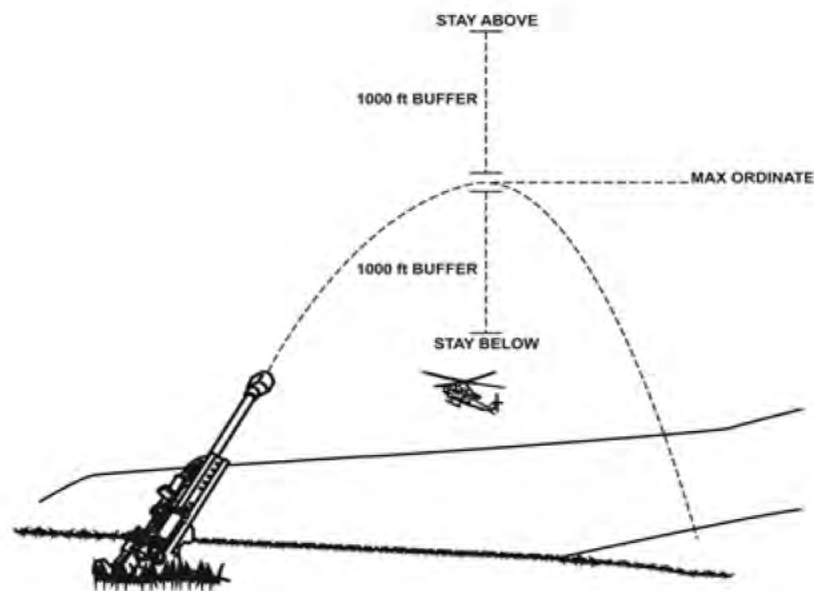


Figure 2-1. Munitions Height

Table 2-1. Munitions Utilized during a CALFEX

Ammunition	Ricochet Vertical Hazard meters (feet) AGL
12-gauge	136 (446)
9mm	93 (305)
5.56mm (EPR)	295 (968)
5.56mm	325 (1,066)
.7.62mm	706 (2,316)
300 Winchester Magnum	350 (1,148)
.50 caliber	904 (2,966)
40mm grenade	216 (709)
TOW	1,832 (6,010)
Javelin	660 (2,165)
105mm Tank	1,090 (3,576)
120mm Tank	1,080 (3,543)
25mm	4,792 (15,722)
Max Ordinate Elevation meters (feet) AGL	
60mm Mortar	2,300 (7,546)
81mm Mortar	2,500 (8,202)
120mm Mortar	3,900 (12,795)
105mm Howitzer	8,000 (26,247) [high angle]

Table 2-1. Munitions Utilized during a CALFEX

155mm Howitzer	10,500 (34,449) (high angle)
Aviation (Army)	
.50 caliber	800 feet AGL -5 to -30 Dive
30mm	1,000 feet AGL -5 to -30 Dive
2.75 Rocket (Inert)	1,000 feet AGL -5 to -30 Dive
Aviation (Air Force)	
20mm	1,000 feet AGL -5 to -50 Dive
30mm	1,500 feet AGL 0 to -50 Dive
2.75 Rocket (Inert)	1,300 feet AGL -2 to -7 Dive
25mm AC 130 Gunship	8,000-1,0000 feet AGL Orbit
40mm AC 130 Gunship	8,000-10,000 feet AGL Orbit
105mm AC 130 Gunship	8,000-10,000 feet AGL Orbit

AGL=Above Ground Level; EPR=Enhanced Performance Round;
mm=millimeter; TOW= Tube-launched, Optically tracked, Wire-guided

Another essential component of the CALFEX is Army Aviation. Aircraft maneuvering in current boundaries of R-3803 are extremely limited. The additional RA would also allow rotational aircraft to arm weapons sooner for ordinance delivery missions in R-3803 ranges and fighter aircraft to arm weapons sooner when running south to north into the impact area within R-3803. The proposed new RA would allow aircraft strafing and bombing runs in 15 miles of alignment airspace within the requested boundaries.

The current size of R-3803 restricts laser use at Peason Ridge. The proposed new RA would allow use of combat lasers on targets and for participating aircraft to maneuver within the current Approach Control airspace and contain hazardous combat laser energy (not eye-safe) within RA, while segregating the public from hazardous military operations.

2.1.1.1 Essential training components of the CALFEX

The following items are essential CALFEX training components.

- *Dismounted Infantry:* For dismounted maneuver and dismounted infantry, the requirements for over-watching fires must be considered. For example, hazards of 120 millimeter (mm) target practice cone stabilized discarding sabot tracer (TPCSDS-T), 25mm armor-piercing discarding sabot with tracer (APDS-T), antitank guided missile (ATGM), grenades, claymores, MK19, M203, and firing port weapons must be given special consideration. When exercising ATGM weapon systems, the low allocation and high cost of training and service ammunition may be overcome by using the corresponding Multiple Integrated Laser Engagement System (MILES) Combat Vehicle System (CVS)/Precision Gunnery System (PGS) equipment.
- *Armor and Mechanized Infantry:* An element of the maneuver equation is the extent to which cross fires and over watching fires can be used. Cross fires are often limited on training ranges, precluding attacks on the flanks of objectives and into the flanks of target arrays. Long-range, high-velocity rounds such as tank cannon projectiles, 25mm, and missiles are most restricted in this regard. The doctrinal application of the cross-fire control technique seeks to attack targets from the flank.

- *Army Aviation:* The use of aviation requires additional SDZ applications, as outlined in AR 385-63, *Range Safety*, Chapter 13. Aviation units may fire from the flanks of ground maneuver units, or between them, but not from their rear (no overhead fire). When ATGMs or aerial rockets are to be fired, the back blast area must be considered. If helicopters are to maneuver down range from the ground element, their safety must be considered. If Joint Air Attack Team (JAAT) operations are planned, the fire support officer (FSO), forward air controller (FAC), and air battle captain (ABC) exercise the necessary command and control measures. While the aviation systems involved are entirely out of the sphere of control of the maneuver company team commander, the event may be integrated into the scenario without interfering with the flow of the exercise. This is a valid training objective for Army aviation units, close air support (CAS) pilots, and battalion fire support elements.
- *Field Artillery Training Requirements:* Artillery training is an integral aspect of the Army's readiness program, and Training Circular (TC) 3-09.8, *Fire Support and Field Artillery Certification and Qualification* (TC 3-09.8, US Army 2019 (supersedes Field Manual 3-09.8)) is the cornerstone of the Army's artillery program. This FM provides prescriptive guidelines and rationale for standardized gunnery training and describes operation and training strategies to achieve the high standards set forth in Army doctrine. The CALFEX offers the FA commander an opportunity to observe and evaluate his subordinate battalion fire support elements and fire support teams (FISTs). If necessary, the PAAs that support the CALFEX range must be identified, and the sequence of events may have to allow for FA registration fires.
- *Mortars Training Requirements.* Mortar training is an integral aspect of Soldier and unit readiness. The mortar's role in overall task force operations is also important. CALFEX train Soldiers and commanders on the integration of battlefield units to obtain a single cohesive force. When supporting live fire exercises (LFXs), mortar PAAs must be planned to avoid firing over the heads of troops. To increase the training benefit for mortar crews, the exercise should be planned to cause mortars to displace and provide continuous support. Many of the safety considerations discussed for PAAs are applicable to mortars.
- *Close Air Support:* When employed, the sorties should be allocated to the battalion task force and controlled by the unit's FAC. Aircraft fly within the constraints of local range regulations, and an airspace coordination area should be established to allow surface fires while CAS is employed.
- *Air Defense Artillery:* Missile systems (such as Stinger, Redeye) may be maneuvered on the range in accordance with the unit's task organization; however, the availability of missiles is normally too low to facilitate live-fire as well as SDZ sizes. Also, air defense artillery (ADA) missile systems are more difficult to integrate into CALFEX. Therefore, it may be more effective to employ gun systems (e.g., Avenger, Bradley Fire Support Team).
- *Engineers:* Minefields, demolitions, and other obstacles should be planned in support of a defensive exercise. On some facilities, the actual emplacement of obstacles may be restricted for various reasons. If the obstacle is to be simulated, it must be emplaced (as much as the situation will allow) on an adjacent training area. Obstacles that are planned, resourced, and emplaced should be granted obstacle effect by increasing target engagement times and decreasing the array according to the type of obstacle. If demolition is authorized on the range, the required safety precautions must be strictly enforced.

2.1.1.2 Restricted Area Requirements

The RA is required to ensure safe live artillery fire training while protecting the public from both air and ground maneuvers using advanced weapon systems as well as manned and unmanned flight, electronic jamming, lasers, flares, smoke, powerful simulators, and high explosive pyrotechnic activities against progressive and spontaneous enemy tactics. Because of advances in weapon systems, modern forces are required to cover more ground in dispersed areas of operation and operate over greater distances than ever before. The increase in RA is necessary to satisfy the training needs of the new air-to-air and air-to-ground combat teaming.

The Army is requesting that FAA reclassify a portion of the Warrior 1 MOA as RA consisting of four discrete polygons of airspace (two at lower altitude [R-3803C&D] and two at higher altitude [R-3803E&F]) to be used for managing the airspace as it is needed. The RA would overlie the lands recently acquired for training (Figure 2-2). The RA would be activated by Notices to Airmen (NOTAM) with activation of higher altitude polygons occurring with at least 24 hour advance notice. Figure 2-3 provides a vertical perspective (north south view) of the proposed higher and lower altitudes.

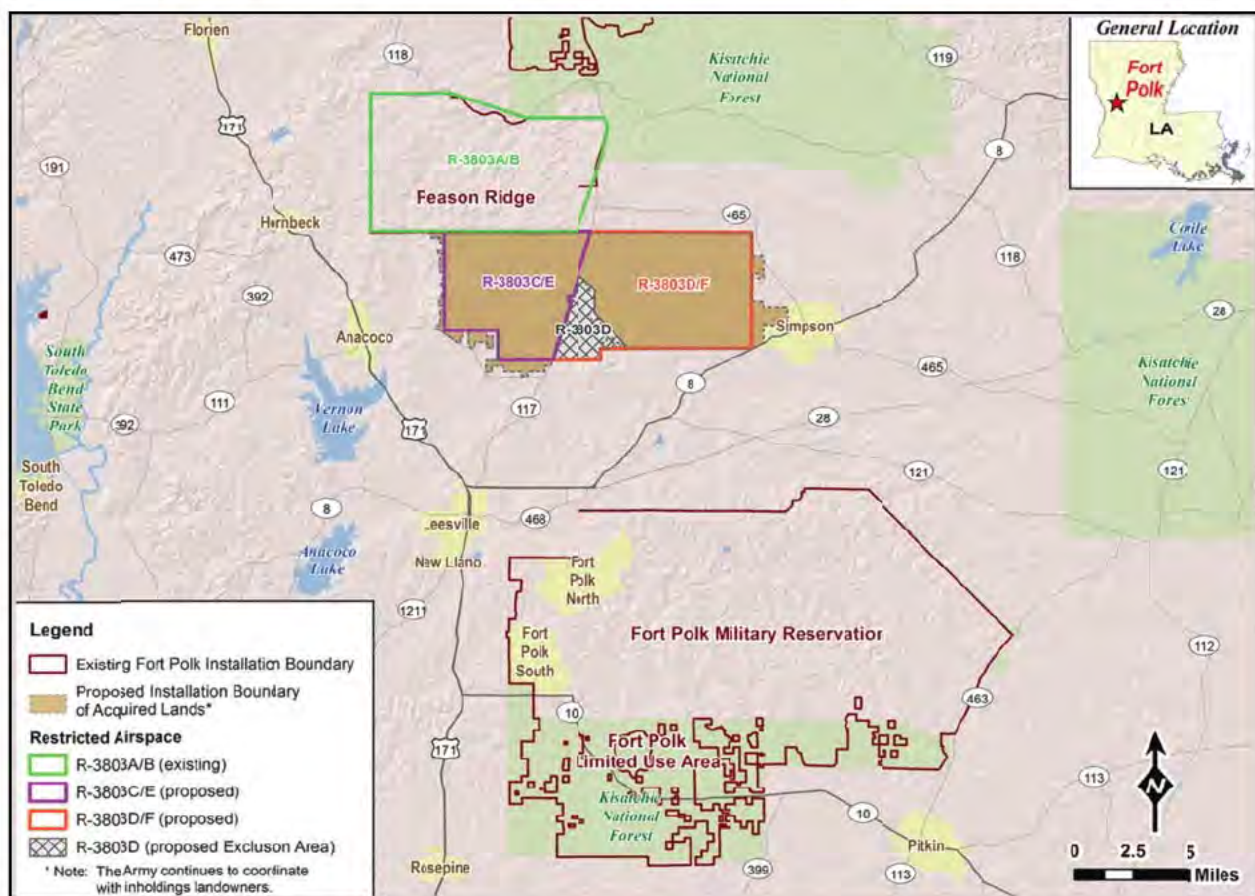


Figure 2-2. Proposed RA Airspace

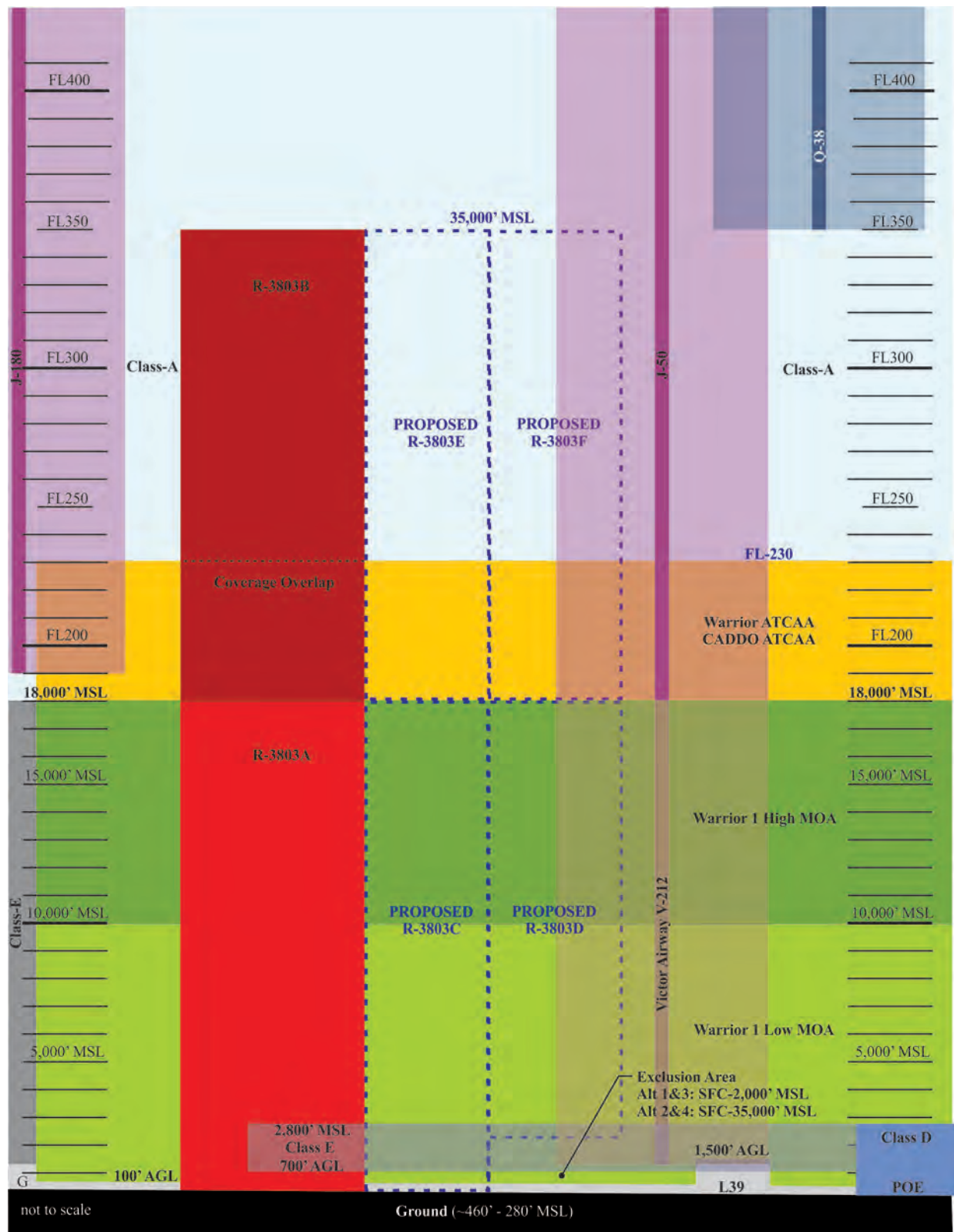


Figure 2-3. Vertical View of Proposed RA

The Controlling Agency for the RA would be the FAA, via the Houston Air Route Traffic Control Center (ARTCC). The four proposed RA polygons illustrated in Figure 2-2 are further described in Table 2-2.

Table 2-2. Proposed Airspace Designations

	R-3803C (lower altitude)	R-3803D (lower altitude)	R-3803E (higher altitude)	R-3803F (higher altitude)
Designated Altitudes	Surface to but not including 18,000 feet MSL.	Surface to but not including 18,000 feet MSL.	18,000 feet MSL up to but not including 35,000 feet MSL.	18,000 feet MSL up to but not including 35,000 feet MSL.
Expected Usage	18.0 hours per day, 320 days per year	18.0 hours per day, 320 days per year	8.0 hours per day, 20 days per year	8.0 hours per day, 20 days per year
Expected Times of Use (typical)	0400-1000 1200-1800 2000-0200	0400-1000 1200-1800 2000-0200	2200-0600	2200-0600

MSL=Mean Sea Level

R-3803D has an excluded area of airspace extending from the surface, to and including, 2,000 feet mean sea level (MSL) referred to as the “exclusion area” which would not be classified as RA. The cutout of non-RA built into this area would allow aerial access to privately owned land and the Army has determined a separation of surface to and including 2,000 feet MSL would be adequate to segregate military training activities occurring above, if the expanded RA request is approved. The airspace in the remainder of R-3803D and R-3803C extends to the surface.

2.2 Screening Criteria

Screening criteria were used to assess whether an alternative was “reasonable” and would be carried forward for evaluation in this EA. Viable alternatives were identified based on their potential to meet the basic premise of the underlying purpose and need. In general, to satisfy the purpose and need, alternatives must provide RA of sufficient vertical and horizontal dimensions to contain potentially hazardous training operations. Viable alternatives must accommodate realistic combat training operations and address specific training deficiencies in a manner that complies with Army doctrine and technical standards for training. Specific training elements considered in alternative viability included:

- CALFEX should be located outside of the maneuver box¹;
- CALFEX should be executed with maximum training value;

¹ The “maneuver box” refers to maneuver training footprint requirements necessary for units to train in field maneuver practices in preparation for combat. When a unit conducts this type of training they exclude other units and activities from the same training areas.

- SDZs or other restrictions should be contained within Installation boundaries and should not negatively impact Rotational Maneuver Area;
- Site locations should allow for the use and operation of existing training facilities and infrastructure.

2.3 Alternatives Considered

The Proposed Action is to request FAA establish new RA overlying recently acquired land to conduct future training activities. The Proposed Action would convert portions of the existing MOA to RA. The Army considered four RA design alternatives along with a No Action Alternative to be carried forward for full analysis in this EA.

The Army considered the screening criteria in Section 2.2 to assess the viability of a range of reasonable potential alternatives. As noted previously, polygon R-3803D has an excluded area in the southwest corner that extends from the surface to and including 2,000 feet MSL which would not be classified as RA. To simplify the alternatives discussion, the excluded area will heretofore be referred to as “the exclusion area”. Table 2-3 describes the alternatives that were considered for analysis in the EA.

Table 2-3. Alternatives Considered

Alternative	Description
No Action Alternative	No changes to RA would occur.
Alternative 1 – Establish Lower Altitude RA	Restrict airspace in R-3803C and R-3803D, from the surface up to but not including 18,000 feet MSL, excluding that area from surface to and including 2,000 feet MSL. Activated by NOTAM.
Alternative 2 – Establish Lower Altitude RA, Excluding the Airspace Above the Exclusion Area	Restrict airspace in R-3803C and R-3803D, from the surface up to but not including 18,000 feet MSL, except airspace above the exclusion area. Activated by NOTAM.
Alternative 3 – Establish Lower and High Altitudes (<i>Preferred Alternative</i>)	Restrict airspace in R-3803C and R-3803D, from the surface up to but not including 18,000 feet MSL, and in R-3803-E and R-3803F from 18,000 feet MSL up to but not including 35,000 feet MSL, excluding that area from surface to and including 2,000 feet MSL. Activated by NOTAM.
Alternative 4 – Establish Lower and High Altitudes, Excluding the Airspace Above the Exclusion Area	Restrict airspace in R-3803C and R-3803D, from the surface up to but not including 18,000 feet MSL, and in R-3803E from 18,000 feet MSL up to but not including 35,000 feet MSL. Activated by NOTAM.

MSL = mean sea level; NOTAM = Notices to Airmen; RA = Restricted Area (airspace)

2.3.1 No Action Alternative

The No Action Alternative is required by NEPA regulations to encompass baseline conditions and serves as a benchmark against which the environmental impacts of the

Proposed Action Alternatives can be compared. Under this alternative, no changes to RA would occur. The current configuration of the Warrior MOAs and RAs would remain the same. Training at Fort Polk would continue to train using the Warrior MOAs and RAs. Selection of the No Action Alternative would not allow the full spectrum of CALFEX to be integrated into newly acquired lands.

2.3.2 Proposed Action Alternative 1 – Establish Lower Altitude Restricted Area

Under Proposed Action Alternative 1, the Army would request that FAA reclassify a portion of the Warrior 1 MOA as RA to support future ground-to-air training requirements. The RA would include polygons R-3803C, and R-3803D with a published altitude of surface up to but not including 18,000 feet above MSL, *including the airspace above the exclusion area*, when activated. The RA would be activated by NOTAM and the general duration of use would occur for about 320 days per year. Figure 2-2 depicts the proposed RA boundary relative to Peason Ridge. The Controlling Agency would be the FAA Houston ARTCC, and the Using Agency would be the Senior Commander, JRTC and Fort Polk, Louisiana. The SUA reclassification and rulemaking proposal would overlie land recently acquired for training.

The reclassification would provide an increased ground-to-air and air-to-ground battlespace environment similar to the existing SUA at Peason Ridge. Many of the same weapon systems currently used on Fort Polk and Peason Ridge would be used on the new training lands. Reclassifying airspace to RA is required to allow the use of many of these weapon systems as described in Section 2.1.1. Similarity in airspace classification would also increase operating capabilities and support joint battlefield training in R-3803.

Activation would occur only when needed in order to support operations that pose a hazard to commercial and general aviation such as aviation gunnery and laser training. Training activities needing RA activation would be scheduled in advance with a notification to the Houston ARTCC to activate the RA during specific times announced via NOTAM.

Activities supporting activation of an RA would occur below 18,000 feet MSL. These activities include using lower angle indirect fire capabilities that require 18,000 AGL; 60mm, 81mm and 120mm mortars that require 12,000 AGL; and .50 caliber machine gun ranges producing a vertical hazard that exceeds 3,500 feet AGL. Ground and air-to-ground activities would occur continuously, day and night, in support of joint battlefield training in the R-3803 complex.

During a CALFEX training, the RA would be used by any of the following type of aircraft: F-16, F-15, C-130, A-10, MH/UH-60, CH-47, AC/MC-130, H-72, AH-64, OH-58, and unmanned aerial systems (UAS's) for anywhere from 35-55 sorties per day. Depending on the mission, the following exercises may contain from 1 to 8 aircraft: Basic Surface Attack (BSA); Surface Attack Tactics (SATs); Suppression/Destruction of Enemy Air Defense (SEAD/DEAD); CAS; and Laser Operations. After maneuver and climb, aircraft would enter R-3803 airspace to deliver their weapons on currently existing targets.

2.3.3 Proposed Action Alternative 2 – Establish Lower Altitude Restricted Area, Excluding the Airspace Above the Exclusion Area

Under Proposed Action Alternative 2, the Army would request that FAA reclassify a portion of the Warrior 1 MOA as RA. The RA would include polygons R-3803C, and R-3803D with a published altitude of surface up to but not including 18,000 feet above MSL, *except the airspace above the exclusion area*, when activated. The Controlling Agency would be the FAA Houston ARTCC, and the Using Agency would be the Senior Commander at JRTC and Fort Polk, Louisiana. The SUA reclassification and rulemaking proposal would overlie land recently acquired for training. Activities that would occur under Alternative 2 are identical to those discussed in Alternative 1. Figure 2-2 depicts the proposed RA boundary relative to Peason Ridge.

2.3.4 Proposed Action Alternative 3 – Establish Lower and High Altitudes (Preferred Alternative)

The Army has chosen Proposed Action 3 as their Preferred Alternative. Under Proposed Action Alternative 3, the Army would request that FAA reclassify a portion of the Warrior 1 MOA as RA. The RA would include a combination of polygons R-3803C and R-3803D with a published altitude of surface up to but not including 18,000 feet above MSL, and polygons R-3803E and R-3803F with a published altitude from 18,000 feet MSL to but not including 35,000 feet above MSL, *including the airspace above the exclusion area*, when activated. The Controlling Agency would be the FAA Houston ARTCC, and the Using Agency would be the Senior Commander, JRTC and Fort Polk, Louisiana. The SUA reclassification and rulemaking proposal would overlie land recently acquired for training.

Activities that would occur in lower altitude polygons R-3803C and R-3803D under Alternative 3 are identical to those discussed in Alternative 1. Access to higher altitude RA defined in polygons R-3803E and R-3803F would allow additional training activities that produce vertical hazard exceeding 18,000 feet MSL. Some of these activities include laser operations (Training/Combat), 105mm and 155mm Howitzer detonated with higher charges, and Hellfire missiles. Figure 2-2 depicts the proposed RA boundary relative to Peason Ridge.

2.3.5 Proposed Action Alternative 4 – Establish Lower and High Altitudes, Excluding the Airspace Above the Exclusion Area

Under Proposed Action Alternative 4, the Army would request that FAA reclassify a portion of the Warrior 1 MOA as RA. The RA would include a combination of polygons R-3803C and R-3803D with a published altitude of surface up to but not including 18,000 feet above MSL, and polygons R-3803E and R-3803F with a published altitude from 18,000 feet MSL to but not including 35,000 feet above MSL, *except the airspace above the exclusion area*, when activated. The Controlling Agency would be the FAA Houston ARTCC, and the Using Agency would be the Senior Commander, JRTC and Fort Polk, Louisiana. The SUA reclassification and rulemaking proposal would overlie land recently acquired for training.

Activities that would occur in lower altitude polygons R-3803C and R-3803D under Alternative 4 are identical to those discussed in Alternative 1. Access to higher altitude RA defined in polygons R-3803E and R-3803F would allow additional training activities that produce vertical hazard exceeding 18,000 feet MSL. As in Alternative 3, some of these activities include laser operations (Training/Combat), 105mm and 155mm Howitzer detonated with higher charges, Hellfire missiles, and other training. Figure 2-2 depicts the proposed RA boundary relative to Peason Ridge.

2.4 Alternatives Considered but Dismissed

2.4.1 Establishment of RA Elsewhere on Fort Polk Lands or Use of Existing RA

Fort Polk considered establishment of additional RA elsewhere within Fort Polk's boundaries and the use of existing RA to meet training objectives. A suitable area within Fort Polk lands compatible for proposed training activities and establishment of restricted airspace does not exist. The proximity of the Main Post to Peason Ridge and the existing R-3803 and R-3804 complexes would restrict the ability of the new air-to-ground combat teaming and live-fire activities into the Peason Ridge impact areas, an integral component of CALFEX. This would also interfere with the maneuver box.

2.4.2 Conduct Training at Other Active installations

An alternative considered but dismissed was to conduct training at other military installations. This alternative would not be practical. Other installations would not be able to accommodate this type of training and training levels along with the training requirements of their own supported and home-stationed units. In addition, such an action would result in lost training time for Soldiers and inefficient use of appropriations (funds) for training due to increased costs that would result from extensive logistics and transportation.

2.4.3 Conduct Simulated Training

Another alternative considered but dismissed was to provide Soldiers with simulated training opportunities. This alternative, however, would not prepare Soldiers for deployment as technology has not advanced sufficiently to enable simulations alone to provide Soldiers and units adequate training to meet doctrinal training readiness standards.

3 Affected Environment and Environmental Consequences

This chapter describes the impact assessment methodology, the affected environment (existing conditions), and the environmental consequences for the No Action and Proposed Action Alternatives. The description of baseline data sources and impact assessment methodologies are discussed in Sections 3.1.1 and 3.1.2, respectively.

Various resources were determined not to be affected by the Proposed Action Alternatives; therefore, a detailed analysis of these topics is not presented in this chapter. A discussion of VECs carried through for further analysis within this EA and justification for those VECs dismissed from further analysis are presented in Section 1.7 (regarding FAA impact categories to be considered) and in Section 3.1.3 (regarding Army level of VEC analysis).

3.1 Impact Assessment Methodology

3.1.1 Description of Baseline and Data Sources

The following types of data were used to characterize the affected environment discussion within the EA:

- Geographical Information System (GIS) data.
- FAA Sectional Mapping.
- Previous NEPA documentation.
- Interviews with Subject Matter Experts (SMEs).
- Agency consultation.

3.1.2 Approach for Analyzing Impacts

Context and intensity are taken into consideration in determining a potential impact's significance, as defined in 40 CFR Part 1508.27. The intensity of a potential impact refers to the impact's severity and includes consideration of beneficial and adverse impacts, the level of controversy associated with a project's impacts on human health, whether the action establishes a precedent for future actions with significant effects, the level of uncertainty about project impacts, or whether the action threatens to violate Federal, state, or local law requirements imposed for protection of the environment. The severity of environmental impacts is characterized by the following definitions:

- **None/Negligible** – The impact is known or maybe can occur but is unmeasurable.
- **Minor** – A minor impact would either be isolated and localized or not measurable on a wider scale.
- **Moderate** – Moderate impacts to a resource would be measurable on a wide scale (e.g., outside the footprint of disturbance or on a landscape level). If moderate impacts are adverse, they would not exceed limits of applicable local, state, or Federal regulations.
- **Significant** – A significant impact may exceed limits of applicable local, state, or Federal regulations or would untenably alter the function or character of the resource. The threshold of significance would be a significant impact. These impacts would be considered significant unless mitigable to a less-than-significant level.
- **Beneficial** – Impacts would benefit the resource/issue.

Impacts that range from none to moderate are considered less than significant.

To maintain a consistent evaluation of impacts in the EA and in accordance with the Army NEPA Regulations, significance thresholds were established for each resource (see Table 3.1-1). Although some thresholds have been designated based on legal or regulatory limits or requirements, others reflect discretionary judgment on the part of the Army in accomplishing its primary mission of military readiness, while also fulfilling their conservation stewardship responsibilities.

Quantitative and qualitative analyses have been used, as appropriate, in determining whether, and the extent to which, a threshold would be exceeded. Based on the results of these analyses, this EA identifies whether a particular potential impact would be adverse or beneficial, and to what extent.

A region of influence (ROI) was determined for each resource area, based on the potential impacts to the affected resource. For example, the ROI may focus on the specific location of an alternative, the installation and surrounding area, or may include the entire watershed. Table 3.1-1 presents resource-specific ROIs and the relevant factors in evaluating the context and intensity of a potential impact to determine if the impacts may be significant. The ROI was generally limited to the installation for the following VECs: biological resources, wetlands, soils, land use, and hazardous and solid wastes, as these VECs are directly connected to specific existing conditions and activities within the installation. For the remaining VECs, the ROI was generally expanded to include larger geographic areas (e.g., airsheds for air quality, watersheds for surface waters, and noise zones for characterization and assessment of the noise environment).

3.1.3 Level of VEC Analysis

In compliance with the NEPA and CEQ regulations, the description of the affected environment focuses on those VECs and conditions potentially subject to effects from implementing the Proposed Action. CEQ regulations encourage NEPA analyses to be as concise and focused as possible. This is in accordance with CEQ regulations at 40 CFR Part 1500.1(b) and 1500.4(b): "...NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail....prepare analytic rather than encyclopedic analyses."

Table 3.1-1 presents each VEC and corresponding ROIs and thresholds of significance. The table also identifies those VECs that are dismissed from further analysis or are fully analyzed in this EA, and the rationale for dismissing or analyzing each VEC. In conducting this analysis, a qualified SME reviewed the potential direct and indirect effects of the No Action Alternative and the Proposed Action Alternatives relative to each VEC. The SME carefully analyzed and considered the existing conditions of each VEC within the Proposed Action's ROI. Through this analysis, it was determined that, for several VECs, negligible adverse effects would occur.

Table 3.1-1. VEC Assessment Criteria and Level of Assessment

VEC	Spatial Boundary	Thresholds of Concern Proposed Action Would Cause or Result in ^{1,2}	Dismissed from Further Analysis?	Rationale for Level of Assessment
Airspace	Airspace components above and within the vicinity of the Fort Polk installation boundary relevant to training and operational purposes.	A significant impact to airspace would occur if the Proposed Action violates FAA regulations, undermines the safety of either civil or commercial aviation, or infringes upon current private and commercial airspace, flight activity and flight corridors.	No	The Proposed Action would include rulemaking with the FAA to restrict existing commercial airspace over recently acquired lands. If established, the RA has the potential to affect private and commercial flight activity. Therefore, this VEC is carried forward for further analysis (see Section 3.2).
Land Use	Installation boundary or ROI.	Concern that land use conflicts will occur. Examples include: Preclusion of implementation of or conflicts with <i>Fort Polk Integrated Natural Resources Management Plan</i> , or <i>JRTC and Fort Polk Real Property Master Plan</i> .	Yes	The proposed expansion of the R-3803 RA complex would occur over existing military lands, and would therefore, be compatible to military land uses directly beneath. If selected, the Army would restrict airspace within the exclusion area to minimize conflicts with private land uses. The Army would analyze the potential for land use conflicts to off-post lands from Training infrastructure development and related future training activities in follow-on, site specific NEPA. Section 3.2 discusses potential effects private airspace use within the exclusion area and Section 3.3 discusses potential effects of noise to surrounding land uses.
Geology and Soils	Geology within sub-watersheds of the installation boundary. Soils within the ROI.	<ul style="list-style-type: none"> Reduction in access to or availability of publicly or privately owned mineral resources. Soil loss or compaction to the extent that natural reestablishment of native vegetation within two growing seasons is precluded unless substantial rehabilitation efforts are undertaken. 	Yes	The Proposed Action Alternatives involve reclassification of airspace to RA; no disturbance geology or soils would occur. The Army would analyze the potential for impacts to geology and soils from future range construction projects and training activities in follow-on, site-specific NEPA. As a result, this VEC is dismissed from further analysis.

Table 3.1-1. VEC Assessment Criteria and Level of Assessment

VEC	Spatial Boundary	Thresholds of Concern Proposed Action Would Cause or Result in ^{1,2}	Dismissed from Further Analysis?	Rationale for Level of Assessment
Water Resources: Groundwater, Surface Water Quality, Streams, Wetlands, and Other Surface Water Resources	Aquifer within the ROI (groundwater). Sub-watershed, USACE jurisdictional "Waters of the U.S.," or state-designated stream segment within the installation boundary.	<ul style="list-style-type: none"> • Degradation of aquifer quality; • Violation of drinking water standards. • Sedimentation into streams. • Discharge into streams. • Wetlands or other "waters of the U.S." within footprint or adjacent (within a distance to be concerned about sedimentation) within the watershed. • State scenic stream within footprint or adjacent (within a distance to be concerned about sedimentation) within the watershed. • Net loss of wetlands (bogs, baygalls, hillside seeps, or riparian zones) within installation boundary (unmitigated) due to direct or indirect effects (e.g., sedimentation). 	Yes	The Proposed Action Alternatives involve changes to airspace ranging from surface up to but not including 35,000 feet MSL. This change would not directly or indirectly cause adverse impacts to water resources. The Army would analyze the potential water resource impacts from future range construction projects and training activities in follow-on, site-specific NEPA. As a result, this VEC is dismissed from further analysis.
Biological Resources: Forest Conditions, Native Plant Species and Communities, Nonnative and Invasive plant species	Installation boundary.	<ul style="list-style-type: none"> • Permanent conversion or net loss of forest lands at landscape scale of > 5 percent relative to baseline. • Permanent net loss of Red-cockaded woodpecker (RCW) foraging habitat from land base to level below that required for achieving long-term RCW population recovery objectives. • Permanent loss or degradation of designated rare/sensitive plant sites; • Introduction or increased prevalence of undesirable nonnative species. 	Yes	The Proposed Action Alternatives involve changes to airspace ranging from surface up to but not including 35,000 feet MSL. The change of airspace would not affect native plant species and communities, nor would the airspace change cause introduction or spread of nonnative and invasive plant species. The Army would analyze the impacts to plant communities from future range construction projects and training activities in follow-on, site specific NEPA. As a result, this VEC is dismissed from further analysis.

Table 3.1-1. VEC Assessment Criteria and Level of Assessment

VEC	Spatial Boundary	Thresholds of Concern Proposed Action Would Cause or Result in ^{1,2}	Dismissed from Further Analysis?	Rationale for Level of Assessment
Biological Resources: Wildlife and Aquatic Life	Installation boundary. Species home range, local habitat, or migratory range intersecting the Installation boundary.	<ul style="list-style-type: none"> Long-term loss or impairment of a substantial portion of local habitat (species-dependent.); Biologically significant decline in Migratory Bird Treaty Act population. 	Yes	The Proposed Action Alternatives involve changes to airspace ranging from surface up to but not including 35,000 feet MSL. The change of airspace would not affect wildlife and aquatic life. The Army would analyze the potential species impacts from future range construction projects and training activities in follow-on, site specific NEPA. As a result, this VEC is dismissed from further analysis.
Biological Resources: Rare, Threatened, and Endangered Species	Home range or protected habitat within the Installation boundary.	<ul style="list-style-type: none"> Reduction of RCW foraging habitat for one or more clusters/groups. Reduction in Habitat Management Unit acreage. Alleviation of time for biologist to manage the species. Direct mortality or other unpermitted "take" of threatened or endangered species. 	Yes	The Proposed Action Alternatives involve changes to airspace ranging from surface up to but not including 35,000 feet MSL. The change of airspace would not affect protected species. The Army would analyze the potential protected species impacts from future range construction projects and training activities in follow-on, site specific NEPA. As a result, this VEC is dismissed from further analysis.
Cultural Resources	Site-specific.	<ul style="list-style-type: none"> Irretrievable or irreversible damage to a prehistoric or historic site that is listed or is eligible/potentially eligible for listing on the National Register of Historic Places. 	Yes	The Proposed Action Alternatives involve changes to airspace ranging from surface up to but not including 35,000 feet MSL. The change of airspace would not adversely affect cultural resources. Fort Polk continues to inventory cultural resources within the newly acquired lands and coordination with the State Historic Preservation Officer is continuing. These resources are afforded protection per the Integrated Cultural Resource Management Plan. The Army would analyze the potential adverse effects to cultural resources from future range construction projects and training activities in follow-on, site specific NEPA. As a result, this VEC is dismissed from further analysis.

Table 3.1-1. VEC Assessment Criteria and Level of Assessment

VEC	Spatial Boundary	Thresholds of Concern Proposed Action Would Cause or Result in ^{1,2}	Dismissed from Further Analysis?	Rationale for Level of Assessment
Noise	Land use zones within the ROI and Installation boundary.	<ul style="list-style-type: none"> Exceedance of noise limit guidelines published in AR200-1, Chapter 7 (1997). Exceedance of existing 65 dBA contour by 17 percent AIA. 	No	The Proposed Action Alternatives involve changes to airspace ranging from surface up to but not including 35,000 feet MSL. This would allow military aircraft operations within new airspace, potentially including operations above private landholdings within the exclusion area. Therefore, the potential exists for increase in noise levels to populations outside of the installation. As a result, this VEC is carried forward for further analysis (see Section 3.3).
Air Quality	Airshed (AQCR 106)(AQCR 22) or Installation boundary (Title V)	<ul style="list-style-type: none"> Violation of National Ambient Air Quality Standards (NAAQS). 	Yes	The Proposed Action Alternatives involve changes to airspace ranging from surface up to but not including 35,000 feet MSL. No net increase in aircraft or vehicle, emissions would occur; training would be spread out over a larger area including the newly acquired lands and airspace above those lands. Fort Polk, including Peason Ridge and the newly acquired lands are within the Shreveport-Texarkana-Tyler Interstate Air Quality Control Region (40 CFR Part 81.94). This area attains the NAAQS standards for all criteria pollutants. The General Conformity Rule only applies to criteria pollutants in the ROI which are in nonattainment or maintenance for the NAAQS. Therefore, <i>de minimis</i> levels for the project area are not applicable. Implementation of the Proposed Action Alternatives would have negligible impacts on air quality. Therefore, no further analysis is required.

Table 3.1-1. VEC Assessment Criteria and Level of Assessment

VEC	Spatial Boundary	Thresholds of Concern Proposed Action Would Cause or Result in ^{1,2}	Dismissed from Further Analysis?	Rationale for Level of Assessment
Social Conditions: Public Access and Recreational Use, Public Services, Public Safety and Protection of Children, Environmental Justice	Installation boundary or ROI.	<ul style="list-style-type: none"> • Long-term substantial loss or displacement of recreational opportunities/resources relative to baseline. • Substantial degradation of recreational value. • Exceedance of Rational Threshold Value (RTV) for population and assessment of baseline social services. • Need for increase in large-scale facilities (e.g., new school or hospital); • Public safety hazard from military operations. • Public health hazard from exposure to hazardous waste or hazardous materials. • Disproportionate environmental health or safety risk to children. • Disproportionate environmental economic, social, or health impacts on minority or low income populations (EO 12898). 	Yes	The Proposed Action Alternatives involve changes to airspace over ranging from surface up to but not including 35,000 feet MSL. The Proposed Action would not impact public access, recreation, public service or public safety. No low-income or minority populations greater than 50 percent that of Vernon Parish or with populations meaningfully greater than that of Vernon Parish (i.e., greater than 120 percent) have been identified near the newly acquired lands. The Proposed Action would also not disproportionately affect the environmental health or safety of children populations. Overall impacts to Socioeconomics and Environmental Justice would be negligible and further analysis has been dismissed from further analysis.
Economics	ROI.	<ul style="list-style-type: none"> • Accidence of RTV for socioeconomic indicators (i.e., modeled population, personal income, employment, or business activity exceeds the difference between the maximum and average historical level over the past 19 years). 	Yes	The Proposed Action Alternatives involve changes to airspace over ranging from surface up to but not including 35,000 feet MSL. The Proposed Action would not impact sales volume, income, employment, or the local tax base. Overall economic impacts would be negligible and further analysis has been dismissed from further analysis.

Table 3.1-1. VEC Assessment Criteria and Level of Assessment

VEC	Spatial Boundary	Thresholds of Concern Proposed Action Would Cause or Result in ^{1,2}	Dismissed from Further Analysis?	Rationale for Level of Assessment
Transportation and Infrastructure	ROI or Installation boundary.	<ul style="list-style-type: none"> • Decrease in Level-of-Service (LOS) of key installation arteries and collectors below the acceptable LOSD. • Road failure resulting in rutting, cracking, or other pavement problems that require substantial maintenance or rehabilitation activities. • Violation of an FAA regulation that undermines the safety of commercial passengers or personnel at Alexandria International Airport/England Industrial Airport. • Impairment of installation's ability to meet federally mandated or Army objectives for waste minimization and pollution prevention. • Accidence of existing facility or system capacity for hazardous waste/hazardous material management, storage, disposal, or emergency response; water supply and sewage treatment; or utility services. 	Yes	<p>The Proposed Action Alternatives involve changes to airspace ranging from surface up to but not including 35,000 feet MSL. No changes would occur to traffic or transportation. The Proposed Action Alternatives would not require the construction of new roadways or trails. Furthermore, implementation of the Proposed Action Alternatives would not increase the level of traffic within or surrounding Fort Polk. Training could cause road closures within the newly acquired lands; however, these closures would not affect public roadways or traffic flow. Utility and facility requirements for the Proposed Action Alternatives are not anticipated as no new construction of new range facilities and associated utility usage in follow-on NEPA. Therefore, these VECs have been dismissed from further consideration.</p>

Table 3.1-1. VEC Assessment Criteria and Level of Assessment

VEC	Spatial Boundary	Thresholds of Concern Proposed Action Would Cause or Result in ^{1,2}	Dismissed from Further Analysis?	Rationale for Level of Assessment
General Compliance	Installation boundary or limits of affected environmental media.	<ul style="list-style-type: none"> Violations of federal or state environmental rules, regulations, or permits held by the installation. 	Yes	The Proposed Action Alternatives involve changes to airspace ranging from surface up to but not including 35,000 feet MSL. No violations of federal or state environmental rules, regulations or permits held by fort Polk would occur. The Proposed Action would include rulemaking with the FAA to restrict existing commercial airspace over recently acquired lands.

[1]. Although some thresholds have been so designated based on legal or regulatory limits or requirements, others reflect discretionary judgment and BMPs on the part of the Army in accomplishing their primary missions of military readiness and management of these lands (including multiple use and access), respectively, while also fulfilling their conservation stewardship responsibilities. Quantitative/qualitative analysis may be used, if appropriate, in determining whether, and the extent to which, a threshold is exceeded.

[2]. Thresholds listed are for potential effects of the alternative prior to or without mitigation.

AIA=Associates in Acoustics; Db=decibel; DoD=Department of Defense; FAA=Federal Aviation Administration; LOS=level of service; NAAQS= National Ambient Air Quality Standards; NEPA=National Environmental Policy Act; RA=restricted area (airspace); RCW= Red-cockaded woodpecker; ROI=Region of Influence; RTV= Rational Threshold Value; USACE=U.S. Army Corps of Engineers; VEC=Valued Environmental Component

3.1.4 Cumulative Effects

CEQ regulations implementing NEPA defines a “cumulative impact” as follows:

Cumulative impact is the impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

U.S. Environmental Protection Agency (USEPA) guidance to reviewers of cumulative impacts analyses further adds:

...the concept of cumulative impacts takes into account all disturbances since cumulative impacts result in the compounding of the effects of all actions over time. Thus, the cumulative impacts of an action can be viewed as the total effects on a resource, ecosystem, or human community of that action and all other activities affecting that resource no matter what entity (Federal, non-Federal, or private) is taking the action (USEPA, 1999).

For the purposes of this EA, cumulative impacts result from the incremental impacts of the action when added to other past, present, and reasonably foreseeable actions regardless of who undertakes such actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time. For the purposes of the cumulative impacts analysis, the Proposed Action's ROI is limited to Fort Polk and adjacent lands (including communities around the installation). This ROI includes areas where the Proposed Action's effects would most likely contribute to cumulative environmental effects.

The Army considered a wide range of past, present, and reasonably foreseeable future actions in the ROI that could contribute to cumulative environmental effects. The Army considered past, present, or foreseeable future actions regardless of whether the actions are similar in nature to the Proposed Action or outside the jurisdiction of the Army.

Cumulative effects are addressed within each resource section following the discussion of environmental consequences for each alternative. This analytical approach provides a more complete understanding of resource conditions that implementation of the Proposed Action might magnify, amplify, or otherwise exacerbate or cause beneficial or adverse effects (i.e., synergistic or countervailing effects) to resources on a regional or temporal scale.

Section 3.1.4.1 discusses projects and activities considered as part of the cumulative impact analysis. Projects considered for this analysis include those activities occurring within Peason Ridge, the newly acquired training lands, and activities off-post adjacent to the installation boundary. No major projects or activities within the Fort Polk Main Post were identified which could cumulative and adversely contribute to significant adverse environmental effects from implementation of the Proposed Action Alternatives.

3.1.4.1 Fort Polk Projects (Past, Present, and Reasonably Foreseeable)

Overall funding for military construction and range development projects has been cut in today's fiscal environment. While the Army will evaluate specific training infrastructure

and locations within the new range area in future NEPA analyses, it is known that training activities would be conducted on the new ranges in a similar fashion to existing training activities at Peason Ridge. This may include artillery and mortar fire from new PAAs established in the new range area to existing impact areas on Peason Ridge. It will likely include additional CAS, BSA, SEAD/DEAD, SAT, medical evacuation (MEDEVAC), laser operations, electronic warfare (E-War), explosive ordinance disposal (EOD), flare drop, smoke, landing zone (LZ) and drop zone (DZ) use, FARP and UAS operations. Development of infrastructure to support these activities would have the potential to adversely impact VEC areas identified in Table 3.1-1, however, impacts would be regulated and reduced by compliance with existing federal regulations (e.g., Clean Water Act, Clean Air Act, National Historic Preservation Act, Endangered Species Act), permitting requirements (e.g., Section 401, air permits), and managed by existing Fort Polk management plans (e.g., hazardous waste, noise, natural and cultural resources).

Projects on the newly acquired lands have consisted primarily of general training area preparation and maintenance, including land clearing, trail improvements, establishment of borrow pits, timber harvesting, prescribed burns, establishment of fire breaks, and minor infrastructure improvements (e.g., shed construction). Training on the newly acquired lands consists of foot maneuvers and vehicle use of existing roads and trails. No live fire is currently conducted; however as previously stated, potential future range construction projects and subsequent live-fire training are likely to occur on the newly acquired lands and would be evaluated in follow-on, site-specific NEPA analyses.

Ongoing training at Peason Ridge includes intensive maneuver and live-fire training. The Main Post and Peason Ridge are connected by the “yellow brick road”, which provides a corridor for convoy operations between the two training areas.

No other major projects or activities have been identified that would cumulatively alter the noise or airspace environments on the newly acquired lands or Peason Ridge.

3.1.4.2 Other Agency (DoD and non-DoD) and Other Public/Private Actions (Past, Present, and Reasonably Foreseeable)

Commercial and private aviators transit the airspace near the Proposed Action and utilize local airports as described in Section 3.2. Land use surrounding the newly acquired training areas is predominately rural with small inclusions of sparsely populated residential development, and ongoing activity includes timber management and agriculture. Land use within the exclusion area includes private rural residential development.

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3.2 Airspace

3.2.1 Affected Environment

3.2.1.1 Overview

Airspace is the four-dimensional area (space and time) that overlies a nation and which falls under its jurisdiction. Airspace consists of both controlled and uncontrolled areas. Controlled airspace and the constructs that manage it are known as the National Airspace System (NAS). This system is "...a common network of U.S. airspace; air navigation facilities, equipment and services, airports or landing areas; aeronautical charts, information and services; rules, regulations and procedures; technical information; and manpower and material" (FAA, 2015b). Navigable airspace is that above the minimum altitudes of flight prescribed by regulations under Title 49, Subtitle VII, Part A, *Air Commerce and Safety*, and includes airspace needed to ensure the safety of aircraft launch, recovery, and transit of the NAS (49 USC 40102). Congress has charged the FAA with the responsibility of developing plans and policies for the use of navigable airspace and assigning, by regulation or order, the use of the airspace necessary to ensure efficient use and the safety of aircraft (49 USC 40103(b)). The FAA also regulates military operations in the NAS through the implementation of FAA JO 7400.2L, *Procedures for Handling Airspace Matters* and FAA JO 7610.4T, *Special Aircraft Operations by Federal State Law Enforcement Military Organizations and Special Activities*. The latter was jointly developed by the DoD and FAA to establish policy, criteria, and specific procedures for air traffic control (ATC) planning, coordination, and services during defense activities and special military operations. The use of airspace and airfields by Army organizations is also defined in AR 95-2 *Air Traffic Control, Airfield/Heliport, and Airspace Operations*.

Airspace Management is defined as the direction, control and handling of flight operations in the navigable airspace that overlies the geopolitical borders of the U.S. and its territories.

Different classifications of airspace are defined by different types of altitude measurements. The classifications commonly referred to throughout this section are:

- Above Ground Level (AGL) - This measurement is the distance above the earth and is used at lower elevations in Class-G airspace (defined later within this section), approach/departure situations, or any condition that typically resides in the area between surface and 1,200 feet AGL (or occasionally higher).
- Mean Sea Level (MSL) - This measurement is defined as the altitude of the aircraft above MSL as defined by altimeter instrumentation.
- Flight Level (FL) - FL is for airspace higher than 18,000 feet above MSL up to and including FL600. To obtain FL, the altimeter is set at the International Standard Atmosphere (ISA) and described by dropping the last two digits. FL600 is comparable to 60,000 feet above MSL at the ISA setting.

Controlled airspace is defined as a limited section of airspace of defined dimensions within which ATC is provided to Instrument Flight Rules (IFR) and to Visual Flight Rules (VFR) traffic. IFR and VFR are the two modes of flying that can generally be described as follows:

- IFR refers to a method of air travel that relies on instrumentation rather than visual reference, and which is always under the direction of ATC to provide proper separation of aircraft. As aircraft launch at one airport, traverse the sky, and then land at a different airport, every movement is directed by the ATC of authority for each given area. Control is transferred from one ATC to another as aircraft cross jurisdictional lines defined on Sectional Maps prepared by the FAA.
- VFR refers to a method of air travel that relies primarily on visual reference (dead reckoning) for location and see and avoid techniques for safe separation of aircraft while in Class-G or Class-E Airspace or as granted by ATC within their defined areas of control. VFR flying is inherently subject to weather conditions.

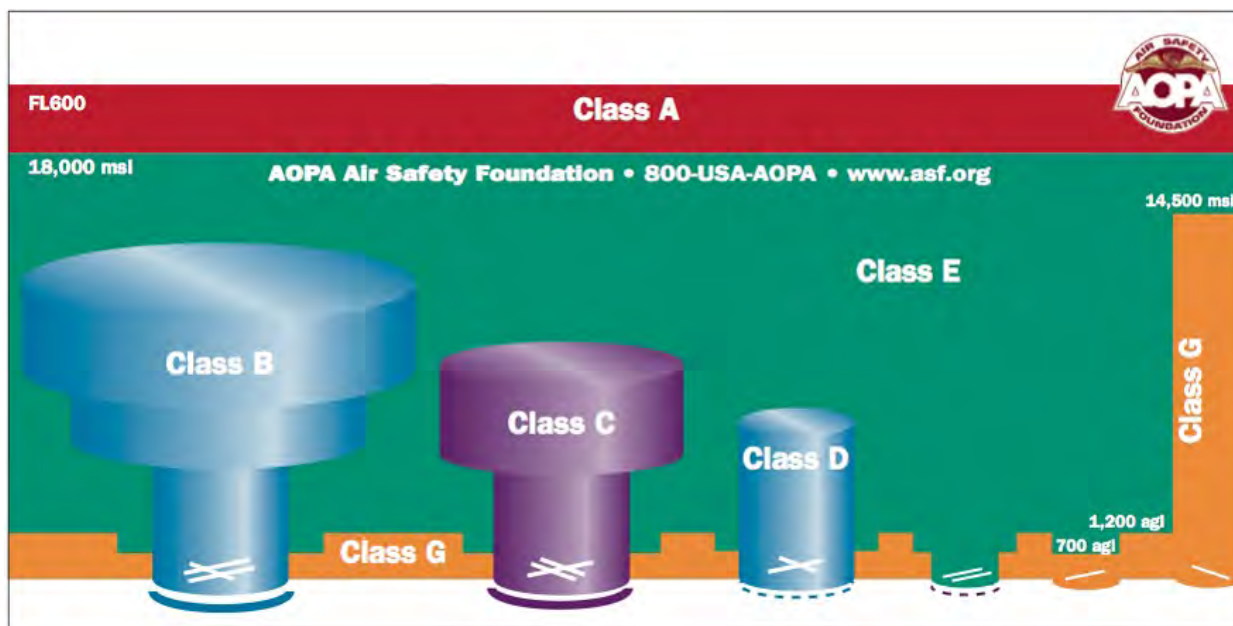
Figure 3.2-1 shows the sectional map with the ROI and the proposed airspace modifications associated with Proposed Action Alternatives. Controlled airspace has a set of classifications indicated on Sectional Maps to include classes A through E and G (there is no Class-F). The following text further describes these airspace classifications and Figure 3.2-2 provides a vertical depiction:

Sectional Maps represent airspace features and conditions relative to ground features as a mechanism to control the private, public and commercial use of the airspace to reduce the likelihood of accidents (Figure 3.2-1).

- **Class-A** airspace refers to the region between above 18,000 feet MSL and FL600 over the contiguous U.S. All traffic in this airspace follows IFR. The airspace is dominated by commercial traffic using jet routes between above 18,000 feet MSL and FL450.
- **Class-B** airspace is typically associated with larger airports as a control mechanism for the large number of sorties and types of aircraft. It is typically configured in multiple layers resembling an upside down layer cake. The first layer (inner circle) is typically from surface to 10,000 feet above MSL. This circle could be in the range of 10 nautical miles (NM) to 20 NM in diameter. The next circle typically extends from 1,200 feet AGL to 10,000 feet above MSL and might be 30 NM in diameter. The outer circle lies outside of the second and may extend from 2,500 feet AGL to 10,000 feet MSL. This largest circle could be as large as 40 NM. Each airport is potentially different in terms of area coverage and elevations defined on sectional maps. Aircraft must be equipped with specialized electronics that allow ATC to track their altitude, heading and speed. They are also required to maintain radio communication while in the airspace and are given direction as to altitude, heading, and airspeed at all times.
- **Class-C** airspace is associated with medium-sized airports and is the most common class for airports with control towers, radar approach control, and a certain number of IFR operations. While each is specifically tailored to the needs of the airport, a typical Class-C configuration consists of an inner circle of 5 NM extending from surface to 4,000 feet above MSL and an outer circle of 10 NM extending from 1,200 feet AGL to 4,000 feet above MSL. Again, each airport is potentially different in terms of area coverage and elevations defined on Sectional Maps. Aircraft must have an operable radar beacon transponder with automatic altitude reporting equipment and are required to maintain radio communication while in the airspace. They are given direction as to altitude, heading, and airspeed at all times.



- **Class-D** airspace is associated with smaller airports that have an operational control tower. They typically have a single circle of 5 to 10 NM that extends from surface to 2,500 feet above AGL. Aircraft may not operate below 2,500 feet above AGL within 4 NM of Class-D airspace at an indicated airspeed of more than 200 knots. Pilots must establish and maintain two-way radio communication with ATC for separation services. It is not uncommon for these airfields to have set hours of operation for ATC. Outside of these times, the area reverts to uncontrolled airfield status requiring pilots to fly VFR using “see and avoid” techniques and make radio addresses for all actions.
- **Class-E** airspace is any controlled airspace which is not Class A, B, C, or D. It extends upward from either the surface (around airports) or a designated altitude (typically 1,200 feet AGL) to the overlying or adjacent controlled airspace. Class-E transitional airspace is also used by transiting aircraft to and from the terminal or an enroute environment normally beginning at 700 feet AGL up to 18,000 feet above MSL. Class-E airspace ensures that IFR traffic remains in controlled airspace when approaching aircraft within otherwise classified airspace or when flying on Victor airways (see Section 3.2.1.2.7, Federal Air Corridors, regarding definition of Victor airways). Federal airways have a width of four statute miles on either side of the airway centerline and occur between 700 feet AGL and 18,000 feet above AGL.
- **Class-G** airspace is otherwise uncontrolled airspace that has not been designated as Class A, B, C, D, or E. IFR aircraft do not operate in Class-G airspace with the possible exception of aligning an approach or departure on an IFR Flight Plan. This is done at their own risk, as ATC has no knowledge of VFR activity in these areas.



Source: AOPA Air Safety Foundation, <https://www.aopa.org/-/media/Files/AOPA/Home/Pilot%20Resources/ASI/various%20safety%20pdfs/airspace2011.pdf>.

Figure 3.2-2. Airspace Classification Diagram

There are also SUAs designed to ensure the separation of non-participating aircraft from potentially hazardous operations or conflict with military operations. These typically include RAs and MOAs. RAs are four-dimensional sections of airspace that are to be restricted from commercial or private traffic while activated, thereby allowing unfettered execution of military operations. Different sections and stratifications can be activated or deactivated depending on training requirements. Pilots are informed of their activation by NOTAM. MOAs are four-dimensional sections of airspace defined as having a high level of military use, in order to advise commercial and private traffic to either stay clear of this area or be vigilantly aware of that type of traffic when activated. Figures 3.2-3 and 3.2-4 show a vertical diagram of airspace classification within the ROI.

Figure 3.2-3 depicts a north-south cut looking east as defined on the Sectional Figure 3.2-1. Figure 3.2-4 depicts an east-west cut looking north as defined on the Sectional Figure 3.2-1.

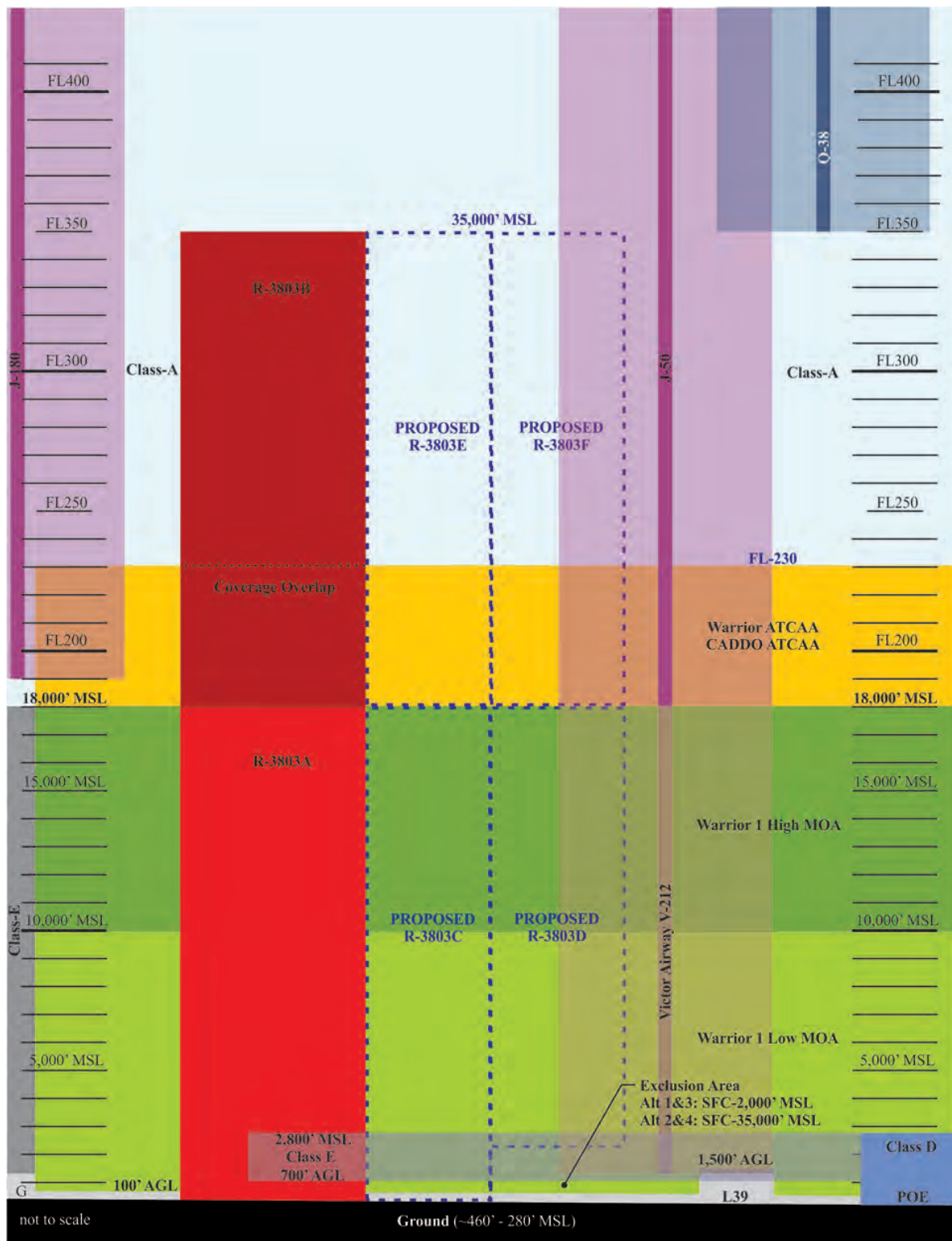


Figure 3.2-3. ROI Airspace Vertical Diagram-A

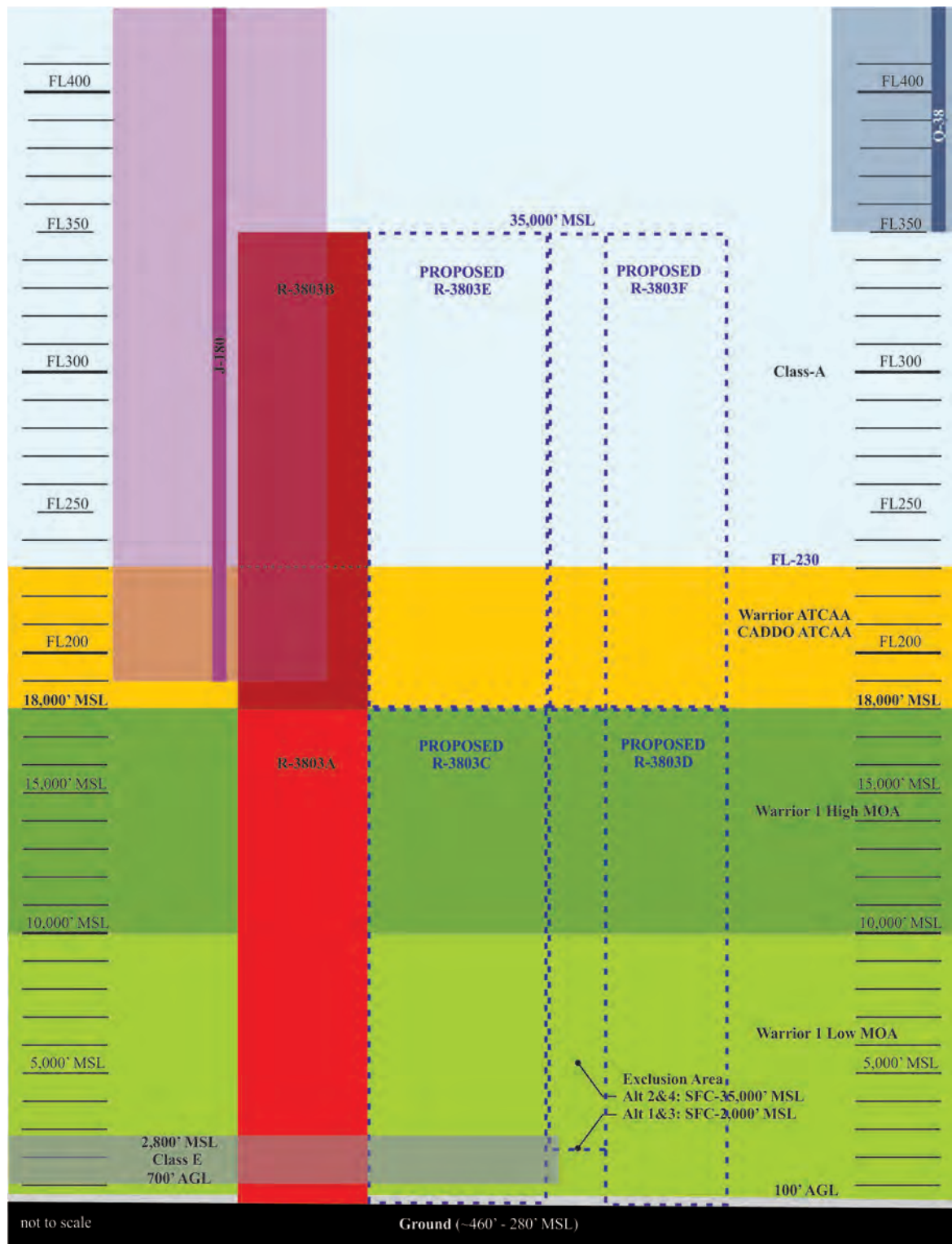


Figure 3.2-4. ROI Airspace Vertical Diagram-B

The ROI straddles portions of Louisiana and Texas. Two ROIs are considered within this EA; a 30-mile radius from the bottom right corner of the existing R-3803 (referred to as the immediate ROI), and an additional 20 miles out (50-mile radius, referred to as the extended ROI). The study radius center represents the center of mass of the existing RA and the proposed RAs providing a good representation of characterizing airspace activities that could be affected by the Proposed Action (refer to Figure 3.2-5).



The components of the immediate ROI include R-3803A & B, the Peason Ridge Flight Landing Strip (FLS), the Avelino DZ, Warrior 1 Low & High MOAs, the Claiborne MOA, Warrior Air Traffic Control Assigned Airspace (ATCAA), and the CADD0 ATCAA. Further out within the extended ROI but still of influence to airspace use at Peason Ridge are RAs R-3804A & B, R-3801A & B, Fort Polk Army Airfield (AAF), Self FLS, Warrior 2 & 3 Low & High MOAs, as well as both overlying ATCAAs. The ROI also contains six designated airways supporting larger airports in the region as well as through traffic (see Section 3.2.1.2.7, Federal Air Corridors). These include the Victor Airway 212 (V-212) and the V-114 below 18,000 feet above MSL and the Jet Route 50 (J50), J58, J180, and the Q Route 38 (Q38) above 18,000 feet above MSL (refer to Section 3.2.1.2.7 for a discussion of Victor Airways and Jet and Q Routes). The V-212 and J50 parallel the southern boundary of the proposed R-3803 C/D & E/F.

There are also several medium to small, commercial, private and civilian airports (see Section 3.2.1.2.9, Civilian Airfields) in this area that may have an effect on airspace and air traffic within the ROI, including the following for the immediate ROI (distance measurements are from the ROI radius center point):

- Leesville Airport (L39) public – approximately 14 miles south-southwest.
- Prairie Creek Airport (57LS) private – approximately 9 miles south-southwest.
- Cook Airport (not on Sectional) private – approximately 17 miles west-northwest.
- Hart Airport (3R4) public – approximately 23 miles northwest.
- Natchitoches Regional Airport (IER) public – approximately 29 miles north-northeast.
- Robinson Landing Strip (not on Sectional) private – approximately 29 miles north-northeast.
- Bayou Camitte Landing Strip (not on Sectional) private – approximately 22 miles northeast.
- Little River Landing Strip (not on Sectional) private – approximately 25 miles northeast.
- Little Eva Plantation Landing Strip (not on Sectional) private – approximately 24 miles northeast.
- Nichols Landing Strip (not on Sectional) private – approximately 23 miles east-southeast.
- Roland Airport (70LA) (not on Sectional) private – approximately 27 miles east-southeast.

And for the extended ROI:

- Ammons Airport (5LS9) private – approximately 34 miles west-northwest.
- Colfax Airport (not on Sectional) private – approximately 32 miles east-northeast.
- Alexandria International Airport (AEX) public – approximately 38 miles east.
- Chandler Airport (9LA6) private – approximately 34 miles east.
- Myers Number 2 Landing Strip (not on Sectional) private – approximately 37 miles east.
- Polluck Municipal Airport (L66) public – approximately 44 miles east-northeast.
- Esler Regional Airport (ESF) public – approximately 53 miles east.
- Pineville Municipal Airport (2L0) public – approximately 44 miles east.
- Grass Roots Airport (05LS) private – approximately 42 miles east.
- Woodworth Airport (1R4) public – approximately 43 miles east-southeast.
- Summerville Airstrip (LA35) private – approximately 47 miles east-southeast.
- Miller Landing Strip (not on Sectional) private – approximately 41 miles southeast.
- Jasmine Hill (not on Sectional) private – approximately 44 miles southeast.

- Andrus Landing Field (not on Sectional) private – approximately 45 miles southeast.
- James Landing Strip (not on Sectional) private – approximately 45 miles southeast.
- Murray Airport (not on Sectional) private – approximately 46 miles southeast.
- Oakdale Municipal Airport (not on Sectional) public – approximately 45 miles southeast.
- Allen Parish Airport (ACP) public – approximately 49 miles southeast.
- Dyer Airport (6LA4) private – approximately 50 miles southeast.
- BT and KH Ranch Airport (not on Sectional) private – approximately 47 miles south-southeast.
- Swamp Smith Airport (34LA) private – approximately 38 miles south.
- Beauregard Regional Airport (DRI) public – approximately 35 miles south.
- Beauregard Parish Airport (not on Sectional) public – approximately 33 miles south.
- Newton Municipal Airport (61R) public – approximately 45 miles southwest.
- Scrappin Valley Airport (4XS5) private – approximately 39 miles west-southwest.
- Pineland Municipal Airport (T24) public – approximately 48 miles west-southwest.

All airports have established imaginary surfaces, which are three-dimensional planes established in airspace surrounding airports for the protection of flight paths associated with launch/recovery (L/R). They exist primarily to prevent existing or proposed manmade objects and objects of natural growth or terrain from extending upward into navigable airspace. According to the provisions set forth in applicable criteria, an object is an “Obstruction to Air Navigation” if it is of greater height than any imaginary surface established under the regulation. The size and configuration of each imaginary surface is based on the classification of each runway. There are six imaginary surfaces surrounding runways on all sides which the FAA and DoD have specified for the purposes of determining obstructions to air navigation: Primary Surface, Transitional Slope, Approach-Departure Control Surface (ADCS) Slope, Inner Horizontal, Outer Horizontal, and the Conical Surface connecting the two.

3.2.1.2.1 Polk Approach

Polk Approach is the primary airspace controlling agency within the ROI. They manage all air activity within a very large swath of airspace surrounding the installation (see Figure 3.2-6). This area extends from the western edge of the Warrior MOA to the Mississippi River and from near the bottom of the Warrior MOA up to the middle of the Jena and Hackett MOAs. Area of control extends from surface up to 10,000 feet above MSL. Above that the area reverts to either Houston Center (ZHU) or Fort Worth Center (ZFW) according to their standard demarcation. RA, MOAs and ATCAAs that extend above 10,000 feet above MSL are also controlled by Polk Approach when activated.

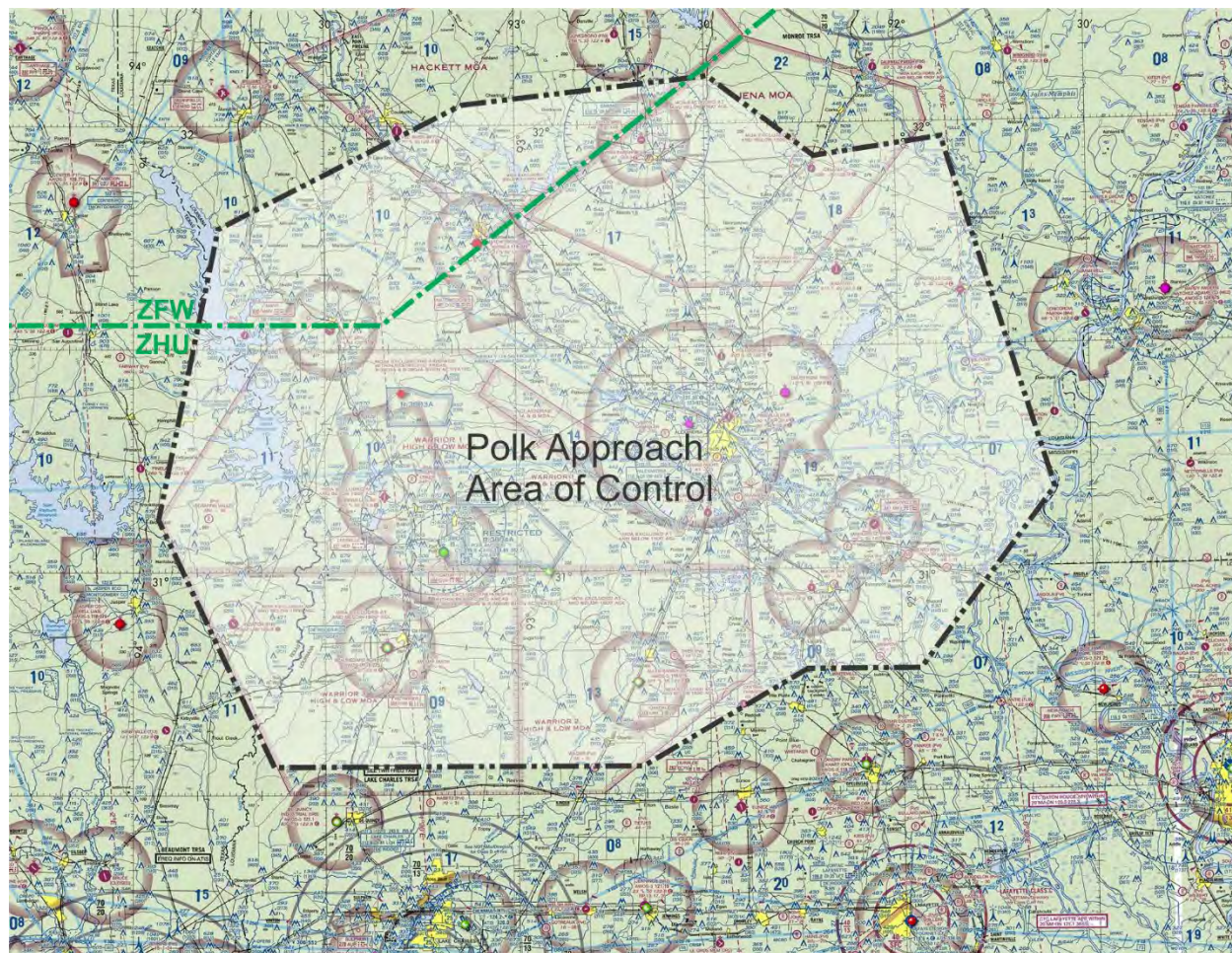


Figure 3.2-6. Sectional Showing Polk Approach Area of Responsibility.

It is an unusual condition that would allow a military function to permanently manage all flight activity (commercial, private, and military) normally managed by an ARTCC. It does however, provide unilateral control over a very complex swath of airspace which aids in separating non-participating aircraft from military activities.

3.2.1.2.2 Military Airfields

There are four military airfields in the ROI associated with activities conducted at Fort Polk. Polk AAF is the primary permanent airfield for the majority of air traffic and the only airfield with permanently stationed aircraft. Polk AAF air traffic is managed by Polk Air Traffic Control Tower otherwise known as Tower Control. The other three airfields are for training purposes only. They are controlled by G-3 and Talatha Radio provides flight following. Talatha Radio is a position within Polk Approach Control located on Polk AAF.

Military airfields have imaginary surfaces that effect airspace use akin to those described for private and public airports but which follow DoD criteria for size and configuration. An example description of an imaginary surface is for the Peason Ridge FLS, located directly adjacent to the proposed RA. The FLS requires a 150-foot wide rectangular primary

surface area centered over the runway and extending 500 feet beyond the end of the runway. Surrounding the primary surface is the maintained area, which extends the length of the primary surface extending an additional 60 feet outwards on either side. The maintained area aligns with the beginning of the clear zone. The clear zone is a trapezoidal area with a beginning width of 270 feet (same as end of maintained area), an end width of 500 feet and a length of 500 feet. This area must be free of obstructions and must be graded to within a +10 to -20 percent slope. Encompassing the primary surface, the maintained area, and the clear zone is the exclusion area. The exclusion area is 1,000 feet wide, centered on the runway, and extends 500 feet beyond the runway end, aligning with the end of the primary surface (300-foot overrun plus 200 feet). The first 700 feet of the exclusion area should be free of all buildings, trees, or obstacles not directly associated with the airfield. The remaining 300 feet (150 feet on each side) may only contain the features required to operate the airfield such as aprons, taxiways, navigational aids (NAVAIDS), aircraft, support equipment, etc. There is no transitional slope associated with a LZ. ADCSs at the runway ends are required. The ADCS is an imaginary plane that extends upward from the end of the clear zone and is also a trapezoidal configuration. It is 500 feet wide at the beginning and 2,500 feet at the minimal outer edge distance of 10,500 feet. It is preferred but not required that this surface extend out at the same width (2,500 feet) for another 21,500 feet (32,000 feet total). This surface rises at a rate of 35 horizontal to 1 vertical. No object, fixed or mobile, may penetrate this surface, including trees, buildings, towers, or vehicles. Refer to Figure 3.2-7 for an illustrative example of airfield clear zones and imaginary surfaces associated with Peason Ridge FLS.

Polk AAF (POE). This airfield is restricted to military use only and the airspace is controlled by Talatha Radio. This airfield has a single asphalt runway of orientation/designation 16-34 that is 100 feet wide by 4,109 feet in length. Runway 16 has a displaced threshold of 194 feet. It sits an average elevation of 329 feet above MSL. They are controlled by G-3 and Talatha Radio provides flight following. Talatha Radio is a position within Polk Approach Control located on Polk AAF. Otherwise the tower is manned Monday through Friday from 0700 to 2200 except for federally recognized holidays. The Class-D airspace is the center of Polk Army Airfield located on the western edge of R-3804B. It extends from surface up to 2,500 feet AGL within a 5.2 NM radius. This is surrounded by Class-E airspace encompassing Polk Approach Controls entire airspace. Civilian airports like Leesville, Many Hart, Oakdale Allen-Parish, Natchitoches, Pineville-Bulow Lake, Esler Field and Jena have a transitional Class-G uncontrolled airspace prior to entering Class-E airspace controlled by Polk Approach Control.

Polk AAF lies within the R-3804B allowing for better protected launch and recovery of UAS within RA. The recovery pattern however, often goes outside of the RA boundary into Class-D airspace which does require a certificate of authorization (COA). POE is a L/R site for RQ-7B Shadow and MQ-1C Gray Eagle UAS. There are several other permanently assigned aircraft (28 total) at the airfield supporting JRTC and home station units including 11 UH-60 Blackhawks (six are MEDEVAC), seven LUH-72 Lakota, and ten OH-58 Kiowa. There is also considerable transient

traffic for units attending and participating in JRTC. POE manages approximately 458 operations per day based on FY15 operations.

Self Flight Landing Strip. The Self FLS is an improved gravel strip located a few miles from POE, immediately east of the North Fort Polk cantonment. The runway is approximately 3,700 feet long by 116 feet wide with a single hammerhead turnaround. It is used primarily for JRTC training exercises including tactical assault L/R for C-130 and C-17. The primary use however, is rotary wing. There are no permanently assigned aircraft, there is no functioning ATC tower, although there is a mock tower used for observation and training exercises. The airspace surrounding the airfield is just inside the edge of the POE Class-D airspace and under control of Polk Control Tower when operational and uncontrolled when Polk Control Tower is closed. The area outside of the Class-D circle and within the R-3804B is controlled by Talatha Radio. However, being out of visual range from POE, VFR traffic regularly operates in the area without Talatha Radio or Polk Approach direct control. This airfield is located within RA and is controlled by Talatha Radio.

Geronimo FLS. This is an improved gravel assault strip located in the upper northeast corner of the R-3804A range. It is used for fixed wing and rotary training, drop zone for cargo and personnel including high-altitude low open (HALO) jumps from 10,000 feet above MSL and higher, and UAS L/R including RQ-7B Shadow and RQ-11 Raven. The runway is approximately 4,650 feet long by 117 feet wide with a single hammerhead turnaround. It is supported by a single gravel aircraft parking apron approximately 290 feet by 590 feet. The airfield is adjacent to a compound of training facilities. There is no control tower. Activity is managed by the Joint Aviation Control Center (JACC) Cell under the auspices of Polk Approach.

Peason Ridge FLS. This is an improved gravel strip located directly adjacent to the proposed RA in the upper northwest corner of Peason Ridge within the R-3803A and adjacent to the impact area (refer to Figure 3.2-7). The runway is approximately 4,100 feet long by 100 feet wide with a single hammerhead turnaround. The runway sits at orientation 14-32. There is a 320-foot by 400-foot gravel aircraft parking apron associated with the airfield located on the north side of the northwest end of the runway. There is an unmanned control tower, which is primarily just an open structure for observation with no permanent electronics. Airfield criteria require 300-foot long overruns, clear zones and imaginary surfaces for protection of aircraft and personnel as defined at the beginning of this section. With an implied 300-foot overrun on each end of this runway leaves 3,500 feet of effective runway length. There are several impediments of the clear zone and imaginary surfaces including fences, tree stands, shrubs, stumps, steep terrain, rock outcroppings, etc. The maintained area also has many shrubs and trees along its length although evidence of clearing is obvious. The southeast one third of the runway and the approach / departure slope is within Peason Ridge TA-6 and as such is within a temporary impact area. This area can be used for live-fire requiring personnel to surface clear the area after use. The airfield cannot be used

during live-fire exercises and is not used until it is verified that all munition remnants are cleared. The airfield surface is checked periodically to verify it remains undamaged.

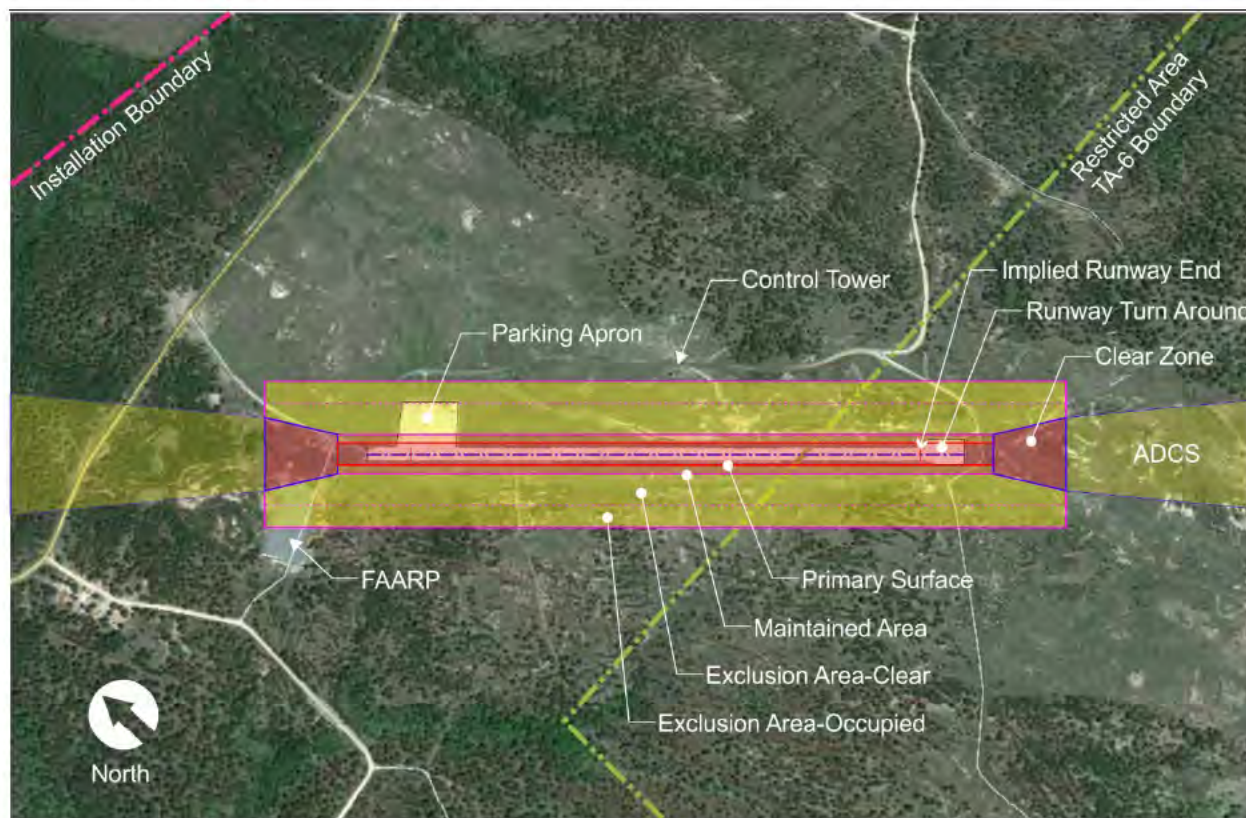


Figure 3.2-7. Peason Ridge Flight Landing Strip Clearance Surfaces.

3.2.1.2.3 Drop Zones

There is one functioning DZ at Peason Ridge referred to as the Avelino DZ (Figure 3.2-8). The Tiger DZ is no longer active although it remains on range maps. All usage of the DZ must be scheduled with Range Operations 24 hours in advance. NOTAMS are published indicating date, time, altitudes, type of training, and number of drops planned. The DZ is used for aerial drops of cargo and personnel by a variety of methods and from a variety of aircraft, both fixed and rotary wing. The DZ is characterized as follows:

Avelino DZ. This is a large rectangular DZ that is approximately 3,300 feet wide by 8,100 feet long (see Figure 3.2-8). This DZ overlies the Peason Ridge FLS with an orientation that is 153 degrees magnetic. That is approximately 13 degrees rotational difference from the Peason Ridge FLS. There are many obstructions, obstacles and hazards identified on the survey including buildings, fenced compounds, a control tower, other concrete observation towers, utility poles and lines, target vehicles (blown up cars/trucks), a concrete trench complex, terrain up to 40 foot elevation change, wild horses, creek beds, trees and shrubs.

A large portion of this DZ lies within TA-6, which has been designated a temporary impact area and is identified as the Restricted Area (ground). This area can be used for live-fire requiring personnel to surface clear the area after use. The DZ is not used during live-fire exercises and is not used until it is verified that all munition remnants are cleared. The orientation of this DZ requires a traffic pattern that would traverse the impact area requiring cease fires during flight operations. Other use of Peason Ridge FLS would not be possible during DZ operations. Due to the many hazards, this DZ is rated only for daytime use.

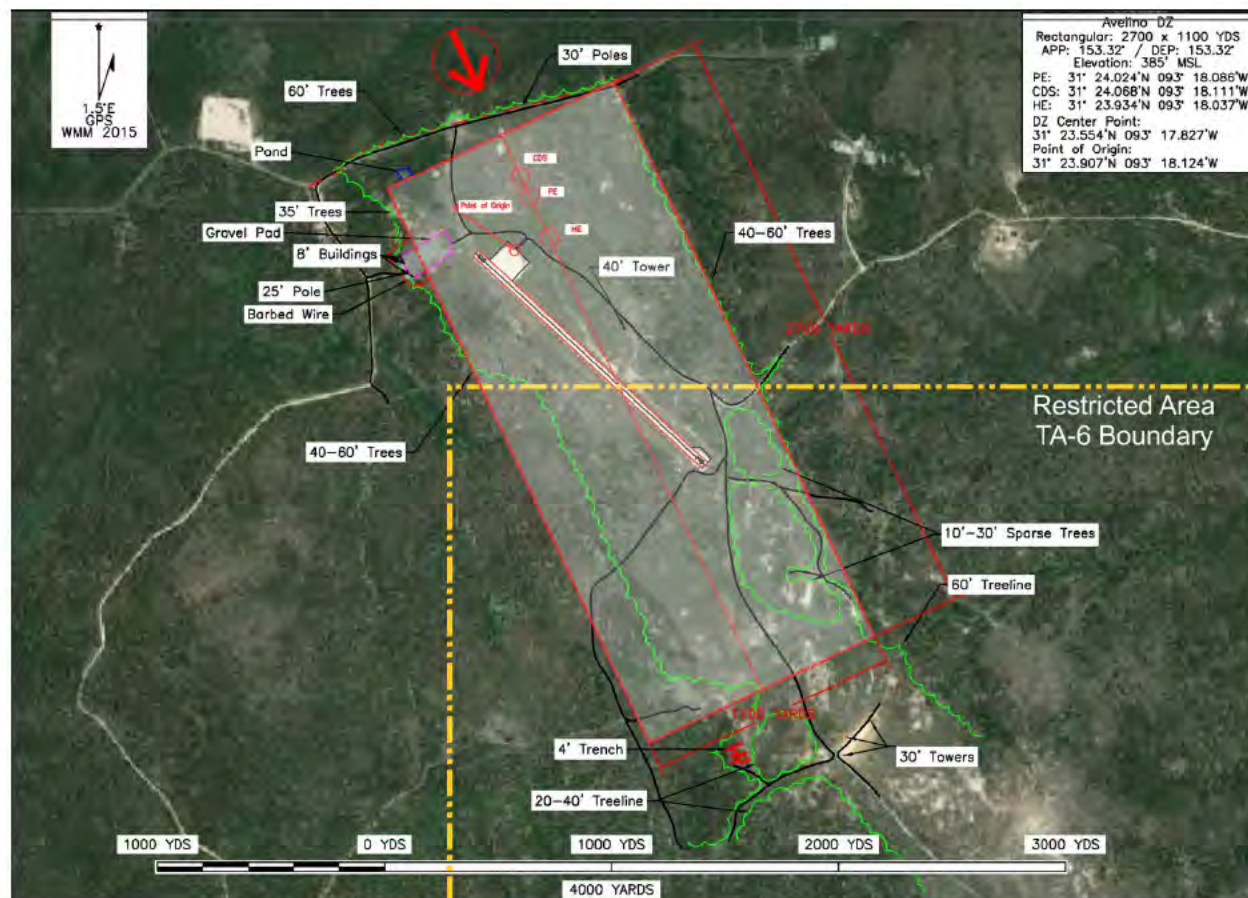


Figure 3.2-8. Avelino DZ Survey

3.2.1.2.4 Restricted Area

The immediate ROI includes three separate groupings of eight RAs that may have an effect on air operations (see Figure 3.2-9). These include the following:

- R-3801 A, B & C
- R-3803 A & B
- R-3804 A, B & C

R-3801. The R-3801 overlies the Claiborne Bombing Range along the eastern boundary of the Warrior 1 MOA. The using agency is the 307th Bomb Wing out of

Barksdale Air Force Base (AFB), Louisiana. The controlling agency is Polk Approach when activated. It is a single lateral area with stacked stratifications denoted by the identifiers A, B & C. R-3801A extends from surface up to but not including 10,000 feet above MSL. R-3801B continues on from 10,000 feet above MSL up to but not including FL180. The R-3801C continues on through Class-A airspace extending from FL180 up to FL230. Designated times of use are from 0800 to 2200 hours Monday through Friday and other times by NOTAM issued at least 24 hours in advance. RAs R-3801 A & B are supported by parallel stratifications of the Claiborne MOA to the northwest to allow for bombing run alignment and loiter. The CADD0 and Warrior ATCAAs surround this area from FL180 up to FL230. Air corridors V-212 and J50 penetrate this RA from the northwest corner diagonally through the middle, requiring a complete discontinuation of use when the RA is activated.

R-3803. The R-3803 complex consists of vertical stratifications of the same horizontal area over what is known as Peason Ridge. The using agency is Fort Polk and the controlling agency is Polk Approach. The R-3803A extends from surface up to but not including 18,000 feet above MSL. The R-3803B continues upwards through Class-A airspace from 18,000 feet above MSL up to but not including 35,000 feet above MSL. These altitudes are identified in feet above MSL rather than flight level because they are associated with ground activities as per FAA Order 7400.2L Chapter 21-2-3.b, *Vertical Limits*. R-3803A is surrounded by the Warrior 1 High and Low MOAs, which excludes this area when it is activated. The CADD0 and Warrior ATCAAs surround this RA from FL180 to FL230.

This range (beneath the R-3803) occupies land in three parishes including Sabine Parish, Vernon Parish, and Natchitoches Parish. It is used for a wide variety of training activities that have an effect on airspace including small arms fire, mortar fire, artillery up to 155mm Howitzer, aerial gunnery, BSA, SAT, CAS, MEDEVAC, SEAD/DEAD, E-War, electronic jamming, EOD, flares, smoke, LZs for rotary and fixed wing assault, DZs for cargo and personnel drops, FARP, and UAS L/R and flight operations including intelligence, surveillance, and reconnaissance (ISR).

In fiscal year (FY) 2015 the R-3803A was utilized a total of 725 hours (out of a total 8,760 for the year, day and night) or 8 percent. It was scheduled for 8,760 hours or continuous use and activated for a total of 1,688 hours. Out of 365 available days it was activated 173 days or 47 percent but only actually utilized 77 days or 21 percent. There were a total of 16,321 sorties conducted by the following aircraft types: A-10, F-15, F-16, C-130, C-17, AH-60, UH-60, MH-60, AH-64, UH-72, and UAS of various types. Activities performed include: CAS, live ordnance delivery, non-traditional ISR, combat search & rescue, para-drop, and cargo drops. Ground-to-air activities included the following: Tube launched optically tracked wire guided (TOW) missiles, Hellfire missiles, 60mm / 81mm / 120mm mortars; 105mm / 155mm artillery, and .50 caliber machine gun.

In FY15 the R-3803B was utilized for a total of 152 hours or 2 percent. It was scheduled for use 168 hours and activated for 176 hours. The airspace was

utilized a total of seven days or 2 percent. There were 35 sorties flown during FY15. This minimal usage is due to lack of horizontal area necessary for long distance / high altitude artillery fire.

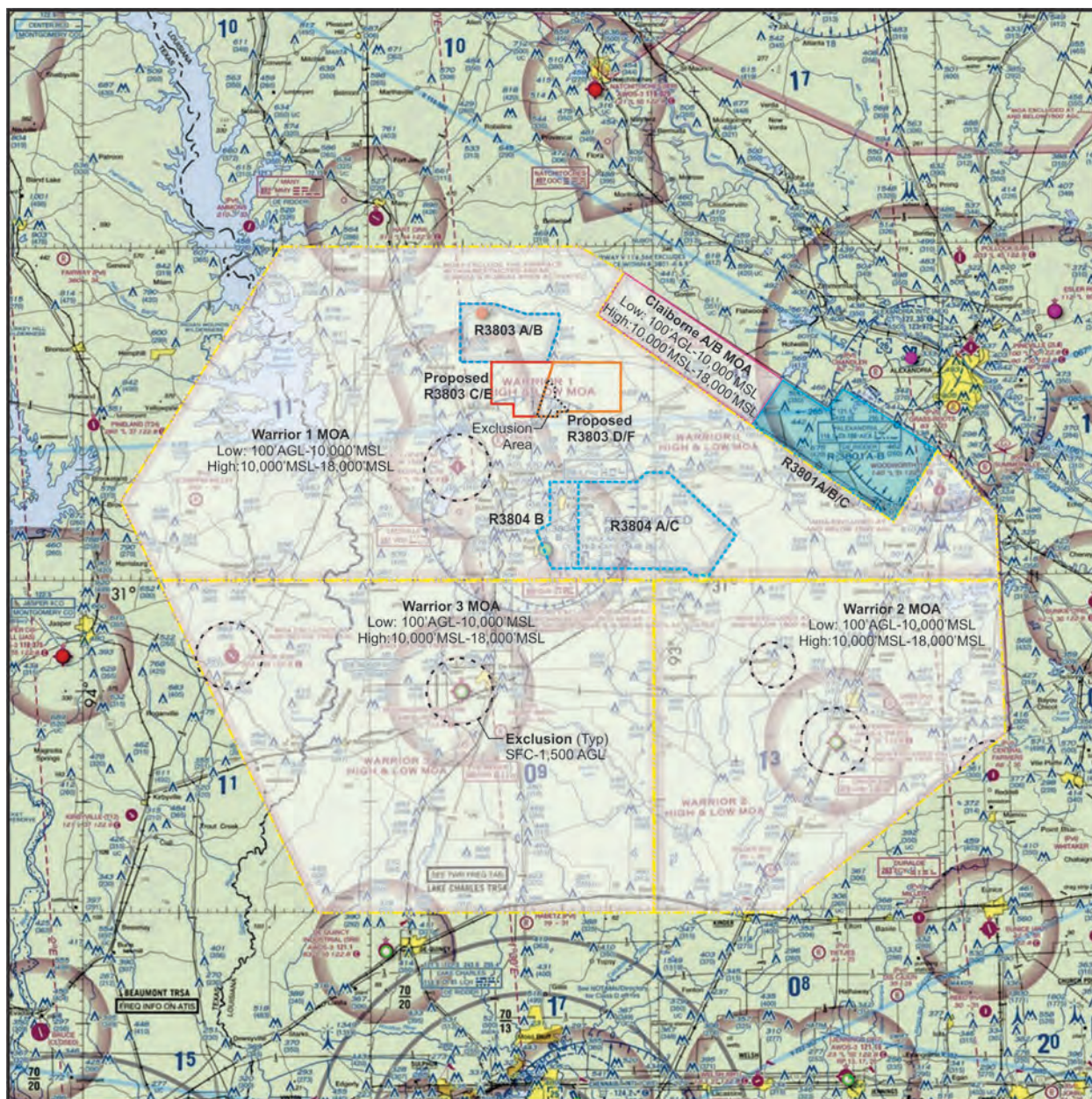


Figure 3.2-9. MOAs in the ROI

R-3804. The RA consists of two side-by-side designated RAs (A & B) and a third (C) located over A. The R-3804A is the larger of the two and sits over the main portion of the range, connected to the east boundary of the R-3804B. It extends from surface up to but not including 18,000 feet above MSL. Air traffic and ground activity (that would interfere with air traffic such as live-fire) are coordinated by

three entities including Polk Approach, Range Control, and Green Flag Airspace Management Office. Green Flag working with the JACC Cell schedules Air Force activities while the JACC Cell, Range Control and Polk Approach provide direct control of air and ground activities. A fourth entity, the Joint Terminal Attack Controllers (JTACs) intercede for temporary cease-fires at the impact areas to accommodate strafing runs. The JTACs sit in observation towers at the edge of the impact area and call in, by radio, cease-fires to ground units and aircraft. Times of operation are by NOTAM issued 24 hours in advance.

R-3804B is located over the Zion Hills Small Arms Ranges and Polk AAF on the west side of the range, east of the Fort Polk main cantonment. It extends from surface up to but not including 10,000 feet above MSL. Heavy fixed wing traffic departing POE traverses over the small arms range located near the end of the runway. This is managed by close coordination between Talatha Radio and Range Control. Zion Hills Small Arms Range is used for all small arms fire, grenade training and controlled mortar fire. Times of operation are continuous.

The R-3804C is a vertical continuation of the R-3804A horizontal boundary from 18,000 feet above MSL up to but not including 35,000 feet above MSL. Times of usage are by NOTAM issued 24 hours in advance.

This group of RAs support the primary contiguous area for live-fire training at Fort Polk. It is used by JRTC rotational units as well as permanent station units for a wide variety of range training activities that have an effect on airspace including small arms fire, mortar fire, artillery up to 155mm Howitzer, aerial gunnery, BSA, SAT, CAS, MEDEVAC, SEAD/DEAD, laser operations, E-War, electronic jamming, EOD, flares, smoke, LZs for rotary and fixed wing assault, DZs for cargo and personnel drops, FARP, and UAS L/R and flight operations including laser target acquisition and ISR. All fixed wing air activity is IFR and all rotary wing air activity is VFR. UAS activity is restricted to specific areas and times to prevent accidental contact.

In FY15 the R-3804A was utilized a total of 1,585 hours or 18 percent of the total available hours. It was scheduled for 4,922 hours and activated for 2,390 hours. This airspace was scheduled for use 248 days but only activated a total of 213 days and utilized just 170 of those. There were 28,742 sorties flown utilizing a variety of aircraft including A-10, F-15, F-16, C-130, C-17, AH-60, UH-60, MH-60, AH-64, UH-72, and UAS of various types.

The R-3804B was utilized a total of 2,600 hours or 30 percent in FY15. It was scheduled for 5,902 hours and activated for 3,229 of those. The airspace was scheduled for 356 days of the year, activated for 333 days and actually utilized 317 days. There were 39,721 sorties flown using the same aircraft identified in the R-3804A.

By contrast, the higher stratification designated R-3804C was not utilized and was only activated for two hours of a single day. No sorties were flown.

3.2.1.2.5 Military Operations Area

There are several MOAs within the ROI that serve a variety of functional purposes including the Warrior 1, 2 & 3 high MOA; Warrior 1, 2 & 3 low MOA, and the Claiborne A & B MOA. All are contiguous to one another making a very large SUA if activated at the same time. See Figure 3.2-9.

Warrior 1 MOA. The Warrior 1 Low MOA overlies the R-3803A, R-3804A, R-3804B, and beyond. It extends from well inside the Texas boundary on the east, near Alexandria, Louisiana on the west and from just below Fort Polk up near Many, Louisiana to the north. It exists from 100 feet AGL up to but not including 10,000 feet above MSL. The Warrior 1 High MOA exists in the same horizontal plane and is a continuation of the Low MOA from 10,000 feet above MSL up to but not including 18,000 feet above MSL or the floor of Class-A airspace. Activation times are Monday through Friday from 0700 to 2200 hours or otherwise by NOTAM with 24 hours advanced notice. There is a 6.5 NM exclusion area centered over the Leesville Airport (L39) from surface up to 1,500 feet AGL. The RAs are also excluded from the MOA when activated. Airspace is managed by Polk Approach.

The Warrior 1 Low MOA was utilized 4,564 hours in FY15 or 52 percent of the total time. It was scheduled for 4,620 hours and actually activated for 4564 hours. It was utilized 326 days or 89 percent of the total. It was scheduled for 330 days and activated for 326. There were 6,233 sorties flown in the Warrior 1 Low MOA. The scheduled activation times equal 3,900 hours per year. This means that the MOA was activated an additional 664 hours and 39 days in FY15.

Usage of the Warrior 1 High MOA were exactly the same as the Warrior 1 Low MOA suggesting that they were always activated and deactivated simultaneously.

Aircraft that used these MOAs include A-10, AV-8, F-15, F-16, F/A-18, B-2, B-52, KC-130, KC-135, T-1, T-6, T-38, AH-60, UH-60, MH-60, AH-64, and UH-72. Activities conducted while in the airspace include SAT, CAS, air combat maneuvering, dissimilar aircraft combat training, functional check flight, combat search and rescue, air defense training, aerial refueling, and media / incentive flights.

Warrior 2 MOA. The Warrior 2 & 3 MOAs are together roughly a mirror image of the Warrior 1 MOA to the south. Warrior 2 Low MOA occupies a little less than half of the eastern side of that area down to State Highway 190. Like its counterpart (1) it extends from 100 feet AGL up to but not including 10,000 feet above MSL. Warrior 2 High MOA occupies the same horizontal boundaries as the Low MOA and is a vertical continuation from 10,000 feet above MSL up to but not including 18,000 feet above MSL. Activation times are Monday through Friday from 0700 to 2200 hours or otherwise by NOTAM with 24 hours advanced notice. Airspace is managed by Polk Approach. There are three exclusion areas of the Low MOA from surface up to 1,500 feet AGL including:

- A 4.3 NM circle center over Elisabeth, LA
- A 6.5 NM circle centered over Allen Parish Airport (ACP)

- A small portion of a 6.5 NM circle centered over Central Farmers COOP Airport (LA25) residing in Mamou, Louisiana south of the MOA boundary.

The Warrior 2 Low and High MOAs were utilized exactly the same as the Warrior 1 Low and High MOAs suggesting that they were always activated and deactivated simultaneously.

Warrior 3 MOA. These roughly mirror Warrior 2 MOA to the east but a little larger. Warrior 3 Low MOA follows the same parameters as the others extending from 100 feet AGL up to but not including 10,000 feet above MSL and Warrior 3 High MOA is directly above from 10,000 feet above MSL up to but not including 18,000 feet above MSL. Activation times are Monday through Friday from 0700 to 2200 hours or otherwise by NOTAM with 24 hours advanced notice. Airspace is managed by Polk Approach. There are two exclusions from surface up to 1,500 feet AGL as follows:

- A 6.5 NM circle centered over Newton Municipal Airport (61R)
- A 6.5 NM circle centered over Beauregard Regional Airport (DRI)

The Warrior 3 Low and High MOAs were utilized exactly the same as the Warrior 1 & 2 Low and High MOAs suggesting that they were always activated and deactivated simultaneously.

Claiborne MOA. These MOAs exist as a narrow strip adjacent to the Claiborne Bombing Range designated as R-3801A, B & C. These two entities form a notch out of the eastern edge of the Warrior 1 MOA. Claiborne A MOA extends from 100 feet AGL up to but not including 10,000 feet above MSL. The Claiborne B MOA occupies the same horizontal boundary and is a continuation of the Claiborne A extending from 10,000 feet above MSL up to but not including 18,000 feet above MSL. The designated times of use are from 0730 to 2200 Monday through Friday and other times by NOTAM with 24 hours advanced notification. Airspace is managed by Polk Approach.

3.2.1.2.6 Air Traffic Control Assigned Airspace

The ROI includes three ATCAA segments all at the same altitude covering the same general area. These exist in the upper levels of Class-A airspace and allow for change of control from Houston Center to Polk Approach when military operations are being conducted. They function similar to a MOA except under IFR controlled conditions. See Figure 3.2-10.

Warrior ATCAA. This SUA exists directly above and sharing the same overall boundary of the three Warrior MOAs 1, 2, & 3. It extends from and is contiguous to the Warrior High 1, 2 & 3 MOAs from FL180 up to but not including FL 230. Times of activation are by NOTAM issued with 24 hours advanced notification. Airspace is managed by Polk Approach.

CADDO ATCAA. The CADDO ATCAA envelopes the Warrior ATCAA at the same altitude segment but extends farther to the east and south. The Warrior ATCAA is primarily for fighter aircraft such as F-15, F-16 and A-10 while the CADDO ATCAA is used for B-52 bomb runs on the Claiborne Range. Since they both occupy large

portions of the same airspace they cannot be activated at the same time. Airspace is managed by Polk Approach.

Claiborne ATCAA. This area exists as an extension of the Claiborne MOA extending upward from FL180 up to but not including FL230. Times of activation are by NOTAM with 24 hours advanced notification. Airspace is managed by Polk Approach.

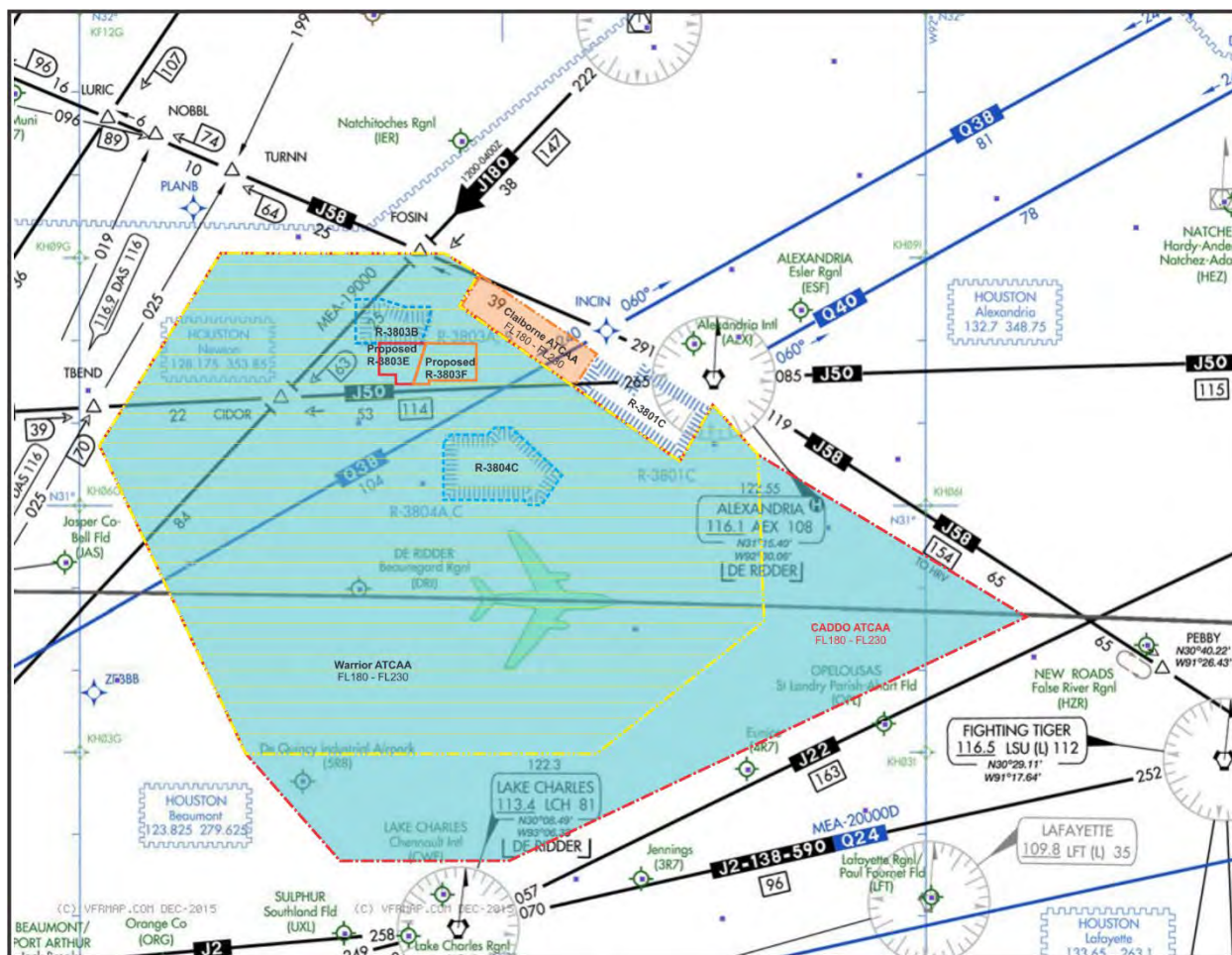


Figure 3.2-10. Hi-IFR Sectional with Proposed RA and ATCAAs (above 18,000 feet MSL)

3.2.1.2.7 Federal Air Corridors

Federal Airways are designated linear routes that extend between navigational beacons that broadcast directional information to aircraft allowing them to maintain course along a route. Pilots will establish a route weaving from beacon to beacon in the general direction of their destination. Federal airways include low-level Victor airways and high altitude Jet routes. Victor airways extend from 1,200 feet AGL up to 18,000 feet above MSL in what is considered Class-E airspace. High altitude jet routes extend from FL180 up to FL450. The high altitude enroute system consists of different types of routes with different

designators. Jet routes are identified with the designator 'J' followed by the identifier number. High altitude routing (HAR) Phase I expansion airspace, or that above FL350, allows for non-restrictive routing (NRR). Under NRR pilots are able to fly user-preferred routes between specific entry points (pitch point) and exit points (catch point) in HAR airspace. Certain Area Navigation (RNAV) routes within the HAR program have been identified to provide a more systematic flow of high altitude air traffic. These routes are referred to with the designator 'Q' followed by the number identifier.

A third stratum allows random operations above FL450. Victor airways operate under both VFR and IFR conditions while high altitude routes are exclusively flown IFR. They all have an established width of four miles on either side of the airway centerline. It should be noted that these systems could be phased out over the next 20 years as the FAA begins to implement its "NextGen" ATC system excluding RNAV routes which are part of the NextGen navigation system. Enroute traffic is managed by Polk Approach within their area of responsibility up to but not including 10,000 feet above MSL. Outside of these parameters, traffic is managed by either Houston Center or Fort Worth Center. There are two Victor airways that traverse the ROI as follows (see Figure 3.2-11 for low-level Victor air routes).

V-212. The Victor-212 commercial air corridor runs at a heading of 265 degrees. It is focused on the Very High Frequency Omni-Directional Range/Tactical Aircraft Control (VORTAC) beacon located near Alexandria, Louisiana and the VORTAC near Lufkin, Texas. It is an eight mile wide corridor extending from 1,200 feet AGL up to 18,000 feet above MSL. This is seemingly in conflict with the Warrior 1 High & Low MOAs as the V-212 traverses east-west through the middle of the area, effectively restricting its use when the MOAs are active. Polk Approach typically reroutes traffic around this area in those situations. This airway resides at the southern edge of the proposed R-3803C/E & R3803 D/F. It can be clearly seen on the graphic that the eight mile clearance width (four miles per side) of the V-212 transects the proposed R-3803C/E & R-3803D/F. It also passes directly through the upper northwest half of the existing R-3801A & B.

The FAA has determined that this route is infrequently used due to preferred direct routing (NextGen). It should also be noted that a single controlling agency (Polk Approach) manages all traffic in this area below 10,000 feet above MSL including the Warrior MOAs, R-3803 and Victor Route traffic. This significantly reduces the complexity of airspace management and control when diverting traffic.

V-114. This air corridor runs diagonally from the same VORTAC at the Alexandria Airport to a VORTAC located at the East Texas Regional Airport (GGG) near Longview, Texas. It retains the same dimensional characteristics as V-212 (see Figure 3.2-11).

There are three J-Routes that traverse the ROI including J50, J58 and J180 (See Figure 3.2-12 for Jet Routes and Q-Routes on the high altitude sectional). Enroute traffic is managed by the appropriate ARTCC. Each of these routes is described in the following sections.

J50. This air corridor overlies the V-212 with the same horizontal configuration. It extends from FL180 up to FL450. Consistent with the V-212, this route is seemingly in conflict with the higher stratifications of the proposed R-3803E & F. The difference between these two however, is that while the V-212 resides within the Warrior 1 MOA, this route exists above that SUA. This configuration would typically allow continued use of the airway even when the MOA was activated. It does however, reside within the Warrior ATCAA, which is a SUA that is less actively utilized than the MOAs. Refer to Section 3.2.1.2.6 for a description of that airspace.

The FAA has determined that this route is infrequently used due to preferred direct routing (NextGen).

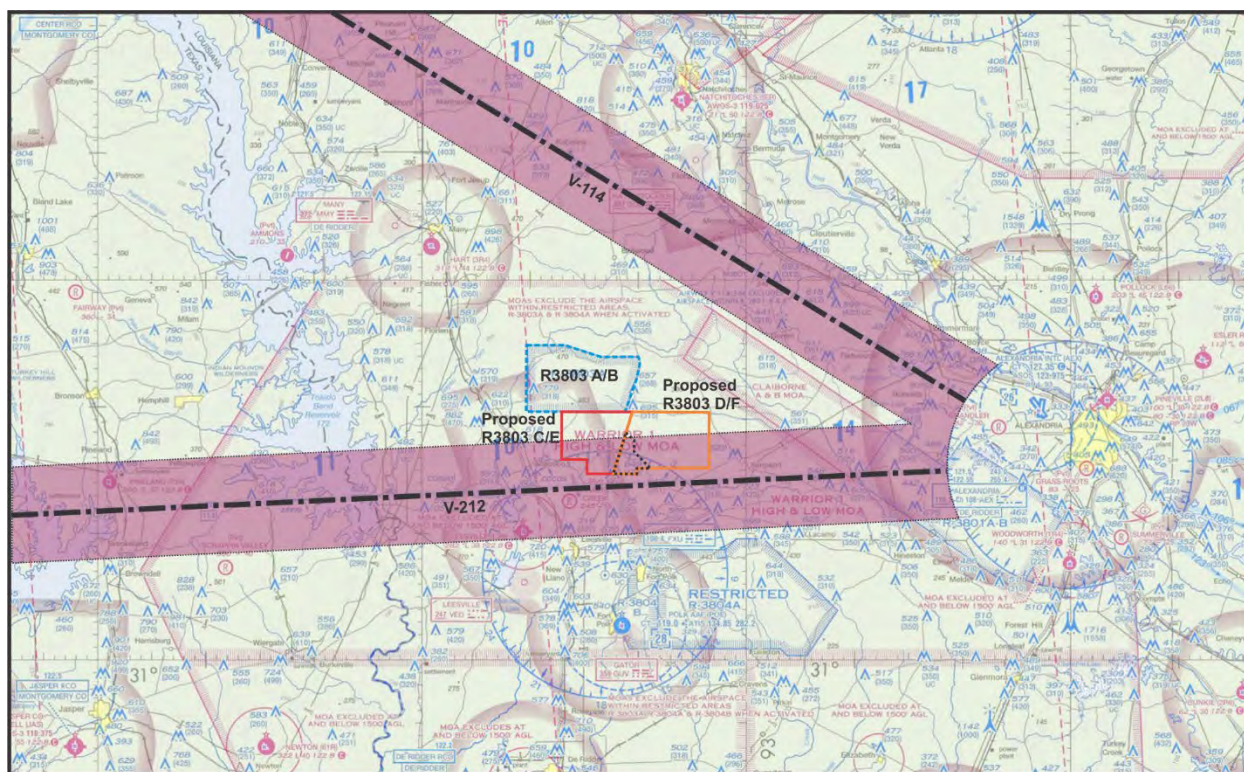


Figure 3.2-11. Low-Level Victor Air Routes

J58. This air corridor runs at a heading of 291 degrees. It is focused on the VORTAC beacon located near Alexandria, Louisiana and the VORTAC located at Dallas-Fort Worth International Airport (DFW). It extends from FL180 up to FL450 with a clearance width of eight NM. This airway does not come into conflict with the existing or proposed R3803 airspaces. It does intersect the northern corner of the Claiborne ATCAA and the northeast boundary of the Warrior ATCAA and CADD O ATCAA.

J180. This air corridor runs at a heading of 222 degrees. It is focused on the Sawmill very high frequency omnidirectional range (VOR) – distance measuring

equipment (DME) located near Winnfield, Louisiana and the Daisetta VORTAC located near Batson, Texas, northeast of Houston. It extends from a minimum enroute altitude (MEA) of 19,000 feet above MSL up to FL450 with a clearance width of eight NM. This airway clips the northwest corner of the existing R-3803B. There were no identified conflicts concerning this overlap according to the FAA.

There is only one Q –Route in the ROI as defined in the following text (also see Figure 3.2-12):

Q-38. This is a high altitude preferred NRR route which extends from FL350 up to but not including FL600. It runs at a heading of 60 degrees between Houston and Atlanta. It has a standard width of eight NM. This route lies above any existing or proposed RA. Enroute traffic is managed by the appropriate ARTCC.

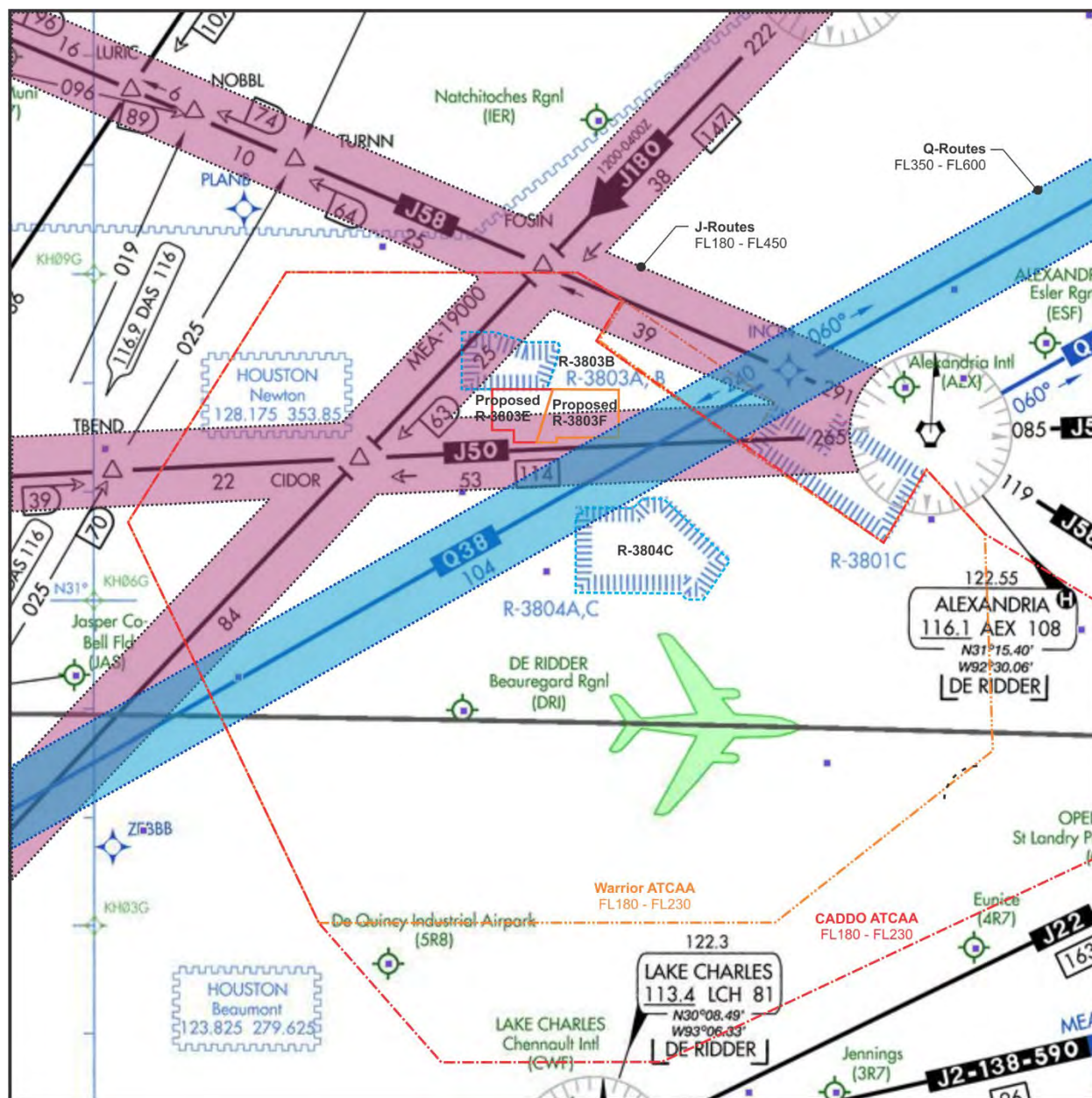


Figure 3.2-12. High-Level J & Q Air Routes

3.2.1.2.8 Military Training Routes

In addition to the Federal air corridors in the ROI, there are several established routes used by the military for access to and from Peason Ridge. These are not official MR or IR routes typically found on sectionals but are on range maps and are published in the Fort Polk Aviation Procedures Guide to aid military pilots transiting between the R-3804 and R-3803 as well as from the R-3804 to and from other destinations typically flown during training. These routes and their parameters are identified as follows and are depicted in Figure 3.2-13:

- **Perimeter Route** – Eastbound 1,300 feet above MSL / westbound at 1,000 feet above MSL. Check Point East Gate will divide eastbound and westbound altitudes. Eastbound traffic will descend from 1,300 feet above MSL to 1,000 feet above MSL. Aircraft must remain clear of Zion Hills range between checkpoints “Lookout” and “Blue Hole”.
- **Pipeline Route** – Northbound 1,300 feet above MSL and southbound 1,000 feet above MSL.
- **Mill Creek Route** – Eastbound 1,300 feet above MSL and westbound 1,000 feet above MSL. Remain outside of Zion Hills range.
- **South Route** – Eastbound 1,300 feet above MSL and westbound 1,000 feet above MSL.
- **Peason East Route** - Northbound 1,300 feet above MSL and southbound 1,000 feet above MSL.
- **Peason West Route** - Northbound 1,300 feet above MSL and southbound 1,000 feet above MSL.
- **Wires Route** - Eastbound 1,300 feet above MSL and westbound 1,000 feet above MSL.
- **Highway 28 Route** - Eastbound 1,300 feet above MSL and westbound 1,000 feet above MSL.

Air traffic on these routes is managed by Polk Approach when outside of the Class-D airspace, Talatha Radio when in the Class-D and the JACC Cell when in RA although most traffic flies VFR. Aircraft must make radio contact at all checkpoints. The ceiling of the high corridor for Perimeter Route, South Route, Wires Route and Highway 28 Route overlaps at the intersection of the V-212 by 100 feet. That is between the floor of the V-212 at 1,200 feet above MSL and the ceiling of the military routes at 1,300 feet above MSL. Potential conflicts are managed by Polk Approach and aircraft circumnavigate the airspace while the RA is activated.

There are also separately defined routes for UAS traffic in the R-3804, and between it and the R-3803 (See Figure 3.2-14). These routes are defined with an altitude corridor of between 5,000 and 7,000 feet above MSL. Air traffic is managed by Polk Approach while on these routes. They are typically used for RQ-7B Shadow UAS transit traffic. The larger Gray Eagle typically spiral up into Class-A airspace to transit between RA areas and beyond. UAS traversing between the RAs at altitudes below Class-A must employ the use of observation chase aircraft under current FAA rules and the COA for these activities.

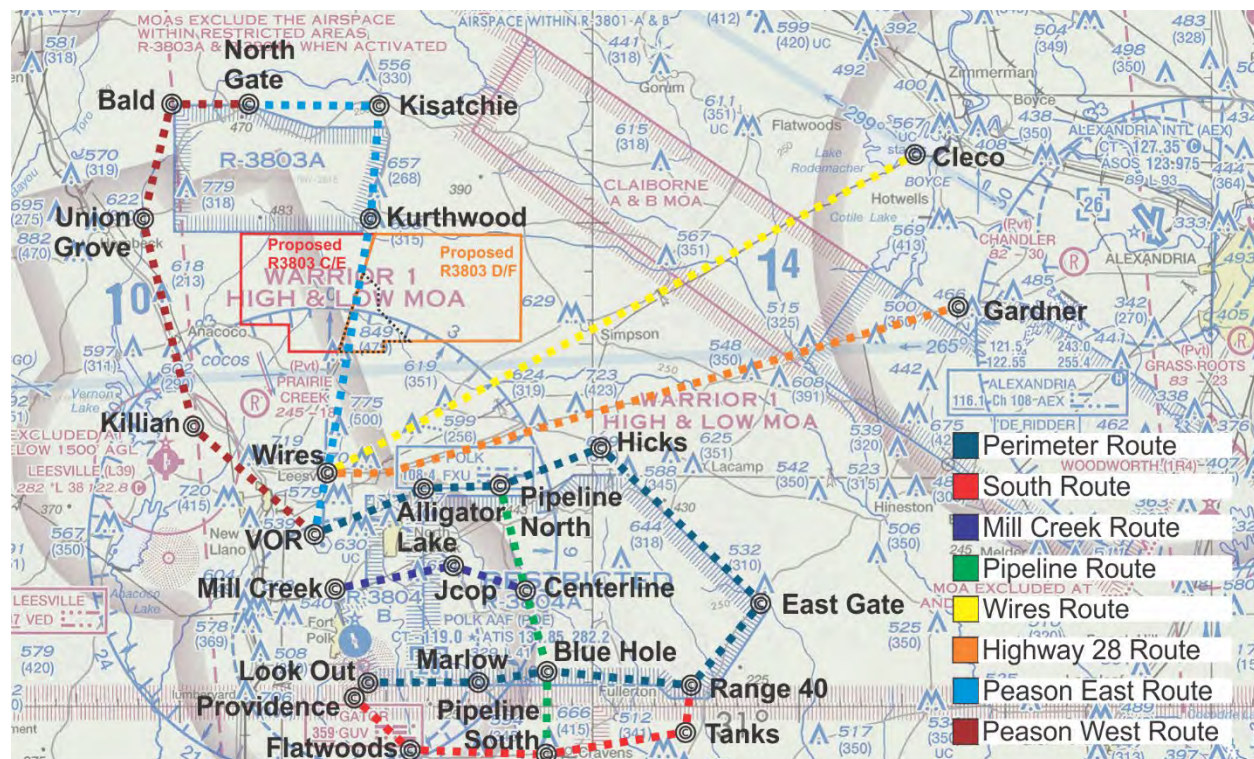


Figure 3.2-13. Fort Polk Rotary Wing Air Routes



Figure 3.2-14. Fort Polk UAS Air Routes

3.2.1.2.9 Civilian Airfields

The following contains information on civilian airfields located within the Immediate ROI (see Figure 3.2-5 for airfields in the ROI) listed in order of distance from Peason Ridge and/or potential level of impact:

Leesville Airport (L39). Leesville Airport is a local service commercial airfield located approximately four miles northwest of the town of Leesville, Louisiana and approximately 12.5 NM northwest of Polk AAF. It has a single lighted, asphalt runway with designation 18-36 that is 3,807 feet long by 75 feet wide at elevation 282 feet above MSL. The airport is attended Monday through Friday from 0800 to 1600 hours. There is no control tower, approach / departure services are provided by Polk Approach. It resides within an extended transitional Class-E circle together with Prairie Creek Airport, Polk AAF and Self FLS. It also resides within the Warrior 1 Low MOA but has an exclusion area approximately 6.5 NM diameter from surface up to 1,500 feet AGL. There are 15 aircraft based at the airfield. Traffic consists of approximately 41 operations per day consisting of 67 percent local general aviation, 20 percent transient and 13 percent military.

Prairie Creek Airport (57LS). This is a small private airfield located approximately 5 NM northeast of the Leesville Airport, directly north of the town of Leesville. It has a single grass runway with designation 18-36 that is 1,800 feet long by 50 feet wide. There is no control tower and no NAVAIDS. It is within the Polk transitional Class-E circle of control. While Polk Approach does not control approach / departure activities for this airfield, aircraft are required to notify them of intended activities flying VFR in the airspace. There is one single engine aircraft stationed at the airfield.

Cook Airport (No Record). There is no official record of this airfield although it was identified on Google Earth. It is located south of the town of Florien, Louisiana. It appears to have a single asphalt runway with orientation 06-24 of approximately 1,016 feet long by 20 feet wide. It may or may not be active.

Hart Airport (3R4). This is a public airport south of the town of Many, Louisiana. It has a single asphalt, lighted runway with designation 12-30 that is 4,402 feet long by 75 feet wide at an altitude of 319 feet above MSL. It is unattended and has no control tower. It does have RNAV global positioning satellite (GPS) systems for both approaches, glide slope indicators and a T-Bar visual wind indicator. It resides within a 13.8 NM transitional Class-E circle. Polk Approach provides approach / departure services. There are eight aircraft based at the airfield. Traffic consists of approximately 98 operations per week consisting of 59 percent local general aviation, 39 percent transient and 2 percent military.

Natchitoches Regional Airport (IER). IER is a regional public airport located at the south end of Natchitoches, Louisiana. It has two runways, both of which are lighted and asphalt paved. The primary runway 17-35 is 5,003 feet long by 150 feet wide with a parallel taxiway. Runway 07-25 is perpendicular and is 4,000 feet long by 100 feet wide with a partial parallel taxiway. It resides at an elevation of 121 feet above MSL. There is no control tower but the airport is attended daily

from dawn to dusk. Approach / departure services are provided by Polk Approach. The airport resides within a 14.4 NM transitional Class-E circle with an approach arm extending off of Runway 35 to the south. There are 33 aircraft based on field including fixed wing, rotary wing and ultralight aircraft. They see on average 44 operations per day consisting of 54 percent local general aviation, 44 percent transient flights, 1 percent air taxi and less than 1 percent military.

Robinson Landing Strip (No Record). There is no official record of this airfield although it was identified on Google Earth. It is located west of the town of Montgomery, Louisiana. There is no apparent runway or air strip and no apparent facilities to house aircraft. It may be a simple field used for personal recreational flying or abandoned.

Bayou Camitte Landing Strip (No Record). There is no official record of this airfield although it was identified on Google Earth. It is located south of the town of Cloutierville, Louisiana. It appears to have a single turf runway with orientation 10-28 of approximately 2,000 feet long by 50 feet wide. It may or may not be active.

Little River Landing Strip (No Record). There is no official record of this airfield although it was identified on Google Earth. It is located 2.7 miles north-northeast of the town of Cloutierville, Louisiana. It appears to have a single turf runway with orientation 02-20 of approximately 3,000 feet long by 100 feet wide. It appears to be an active airfield.

Little Eva Plantation Landing Strip (No Record). There is no official record of this airfield although it was identified on Google Earth. It is located approximately 2 miles north of the town of Chopin, Louisiana. It appears to have a single turf runway with orientation 05-23 of approximately 2,700 feet long by 75 feet wide. There are no identifiable aircraft or facilities to house aircraft and therefore may or may not be active.

Nichols Landing Strip (No Record). There is no official record of this airfield although it was identified on Google Earth. It is located less than one mile south of the town of Leander, Louisiana. It appears to have a single turf runway with orientation 11-29 of approximately 2,500 feet long by 100 feet wide. It appears to have some overgrowth on half of the old runway indicating that it is either not used or only a portion is still used for lighter aircraft. There is a hangar facility on site.

Roland Airport (70LA). This is a small private airport located approximately two miles south of the town Hineston, Louisiana. It has a single turf runway with designation 09-27 that is 2,500 feet long by 200 feet wide at an altitude of 220 feet above MSL. It has no control tower but does have a wind indicator. Documentation states there are two aircraft based at the field, however, the runway appears to be overgrown and no longer viable.

The civilian airfields located outside of the 30-mile immediate ROI are of less importance to airspace impacts with exception to major traffic generators identified herein:

Alexandria International Airport (AEX). The Alexandria International Airport is located on the western outskirts of Alexandria, Louisiana. It is the only international airport in the area and handles the majority of commercial travel. It has two active runways both with parallel taxiways and resides at an altitude of 89 feet above MSL. The primary runway 14-32 is a grooved concrete, lighted runway that is 9,352 feet long by 150 feet wide. It is outfitted with RNAV GPS instrumentation, VOR/DME and Runway 14 has an instrument landing system (ILS). Runway 18-36 is an asphalt, lighted runway that is 7,001 feet long by 150 feet wide. It is outfitted with RNAV GPS instrumentation. The airfield resides within a 10.2 NM Class-D circle that extends from surface up to but not including 2,600 feet above MSL. The northeast boundary of the R-3801 is located approximately six miles from the airport putting the edge of the Class-D airspace less than one mile apart. There is also a secondary 30.6 NM transitional Class-E circle over the area, centered on the airport. It envelopes a smaller circle over Esler Regional Airport located approximately 15 NM to the northeast. This Class-E area envelopes a number of smaller private and public airports including:

- Chandler Airport (9LA6) private.
- Myers Number 2 Landing Strip (not on Sectional).
- Polluck Municipal Airport (L66).
- Esler Regional Airport (ESF).
- Pineville Municipal Airport (2L0).
- Grass Roots Airport (05LS) private.
- Woodworth Airport (1R4).
- Summerville Airstrip (LA35) private.

It has a control tower that is continuously attended providing their own approach / departure services. The airport averages 91 operations per day consisting of approximately 25 percent local general aviation, 13 percent transient flights, 23 percent air taxi, 32 percent military, and 6 percent commercial travel.

Beauregard Regional Airport (DRI). This is a small public airport located approximately three miles west of the city of DeRidder, Louisiana. It has two active runways but was originally built as a traditional 'T' with two crosswind recovery strips. The airport elevation is 202 feet above MSL. The primary runway 18-36 is a lighted asphaltic-concrete runway that measures 5,495 feet long by 100 feet wide. Runway 14-32 is an asphalt runway measuring 4,220 feet long by 60 feet wide. Runway 18-36 is outfitted with RNAV GPS instrumentation. The airport resides within a 14.4 NM transitional Class-E circle that is completely enveloped by the Warrior 1 Low MOA. There is however, a 6.5 NM exclusion area surrounding the airfield that extends from surface up to but not including 1,500 feet AGL. Approach / departure services are provided by Polk Approach. There are 22 aircraft based at the airfield, which sees on average 39 operations per day consisting of approximately 50 percent local general aviation, 43 percent transient flights, and 7 percent military.

3.2.1.3 Airspace Use and Management

The ROI is a moderately utilized swath of airspace that regularly sees military, commercial, private and recreational air traffic flying both VFR and IFR. Nearly all traffic

in the immediate area of Peason Ridge and Fort Polk requiring ATC is managed by Polk Approach. The one exception is air traffic in and out of the Class-D circle of the Alexandria Airport (AEX), which is managed by AEX ATC. Traffic outside of the Polk Approach area of responsibility and that above 10,000 feet above MSL is managed by either Houston Center or Fort Worth Center. All SUAs are managed by Polk Approach to their full vertical extent. When SUAs are not activated they revert back to Houston Center.

3.2.1.3.1 Unmanned Aerial Systems

DoD defines a UAS as a powered, aerial vehicle that:

- Does not carry a human operator
- Uses aerodynamic forces to provide vehicle lift
- Can fly autonomously or be piloted remotely
- Can be expendable or recoverable
- Can carry a lethal or non-lethal payload

This definition does not include ballistic or semi-ballistic vehicles, cruise missiles, and artillery projectiles. Unmanned aircraft (UA) can carry cameras, sensors, communications equipment, or other payloads for military and other missions such as ISR; ordnance/messenger/object delivery; communication relay; day/night reconnaissance, surveillance, targeting, and acquisition (RSTA); and/or BDA. UA can be launched from runways, ships, vehicles, or by hand. DoD has adopted the terminology UA versus UAS / UAV when referring to the flying portion of the UAS. UAS is used to highlight the fact that the UA is only one component of the system and is compatible with the FAA's decision to treat UAS as aircraft for regulatory purposes.

UAS assets are becoming an integral component of combat and therefore mandatory for realistic combat training. Fort Polk has established a permanent facility to support these activities known as the Tactical Unmanned Aerial System Operations Facility (TUASOF). This facility supports all organizations that come to the JRTC for UAS training as well as organic units. It has an independent runway for Shadow recovery that is 1,200 feet long with a 10,000 SF training and operations facility complete with UAS simulators for the three primary airframes.

There are three organic (home station) units that fly Tier II UAS at Fort Polk. These include:

- 256th Infantry BCT flies the RQ-7B-V2 Shadow. They maintain and conduct flight operations from the TUASOF at Polk AAF.
- Louisiana Army National Guard (LAARNG) flies the RQ-7B-V2 Shadow. They maintain and conduct flight operations from the TUASOF at Polk AAF.
- 3rd BCT of the 10th Mountain Division flies the RQ-7B V2 Shadow. They store and maintain their aircraft out of Self FLS but conduct flight operations out of the TUASOF at Polk AAF.

There are also many organic units that operate the RQ-11 Raven. Nearly all JRTC rotational units bring UAS assets with them during training exercises. These typically include the Raven, Shadow and occasionally the MQ-1C Gray Eagle. Ravens are flown anywhere within RA with little preparation or coordination. Shadow launch and recovery can be conducted at any of several established airfields throughout Fort Polk and Peason

Ridge or from an impromptu flight strip that only requires a flat surface, like a roadway, that is at least 1,200 feet long. Established Shadow L/R sites include:

- TUASOF at Polk AAF
- Self FLS
- Geronimo FLS in the northeast corner of the R-3804A
- Anvil LZ near the eastern boundary of the R-3804A
- Peason Ridge FLS in the upper northwest corner of the R-3803A

There are two FAA-issued COAs established for on-going flight operations, one each per airframe type that fulfills the requirements for any unit flying that airframe. These include the RQ-7B Shadow and the MQ-1C Gray Eagle.

MQ-1C Gray Eagle

The MQ-1C Gray Eagle is a large Tier II, extended range multipurpose (ERMP) UAS. This platform is flown exclusively by the Army. It can operate for 36 hours at altitudes up to 25,000 feet above MSL. It can be flown by line-of-sight (LOS) data link or by satellite data link from the ground control station (GCS). This air frame requires a 4,500-foot long runway for L/R and therefore is typically flown from established airfields like Polk AAF. It has four hard points and can carry four AGM-114 Hellfire missiles or a variety of ISR, E-War, and communications payloads. It is considered an “unstable platform” however, requiring a much larger Weapons Danger Zone (WDZ) for live-fire ordnance delivery.



MQ-1C Gray Eagle

There are currently no MQ-1C airframes on-station but the installation anticipates receiving a Gray Eagle Battalion in the coming years. It is unclear what parent unit will receive the new Battalion or if it will be stand-alone detachment. JRTC rotational units often bring these assets to participate in training exercises.

RQ-7B Shadow UAS

The RQ-7B Shadow is a small, Tier II, short-range, tactical UAS that requires radio line-of-sight (RLOS) during operations. Shadows typically operate between 8,000 and 10,000 feet AGL and have a maximum range of 77 NM. The airframe flown at Fort Polk are version 2 with extended wingspan and improved engine, which allows for greater capabilities including a built in laser target designator and a variety of equipment payload pods. These might include the POP300D laser designator, the Intrepid Tiger II communications intelligence and jamming pod, and the ALQ-99 Tactical Jamming System (TJS) designed for IED disablement. Live-fire weaponry has not yet been approved for use on this airframe.



RQ-7B Shadow

RQ-11 Raven UAS

The RQ-11 Raven is a Tier I UAS. It is hand-launched and ground- or net-recoverable, allowing units to deploy the device practically anywhere in theater. A Raven aircraft typically operates between 250 and 500 feet AGL, although it is capable of flight up to 14,000 feet above MSL. It has a maximum range of 6.2 miles although units typically try to keep it within an observable distance. Training units operate Raven aircraft throughout Peason Ridge with no identified protections established. Ravens do not have on-board transponders or location beacons and therefore do not show up on radar. When circumstances warrant it, a temporary restricted operational zone (ROZ) will be established for Raven flights. It is much more common at Fort Polk however, to simply allow these aircraft to fly where (within RA) and when they are needed for comprehensive JRTC training.



RQ-11 Raven

3.2.2 Environmental Consequences

This section provides a discussion of the possible environmental impacts to airspace that could result from the No Action and Proposed Action Alternatives. Impacts to airspace would be considered significant if they are in violation of FAA regulations, undermine the safety of either civil or commercial aviation, or infringe upon current private and commercial airspace, flight activity and flight corridors. Table 3.2-1 provides a comparison summary of anticipated level of impacts to each of the four Proposed Action Alternatives and the No Action Alternative.

Table 3.2-1. Summary of Airspace Impacts

Alternative	Negligible	Minor	Moderate	Significant
No Action		X		
Proposed Action Alternative 1 – Establish Lower Altitude RA		X		
Proposed Action Alternative 2 – Establish Lower Altitude RA, Excluding the Airspace Above the Exclusion Area			X	
Proposed Action Alternative 3 – Establish Lower and High Altitudes (Preferred Alternative)		X		
Proposed Action Alternative 4 – Establish Lower and High Altitudes, Excluding the Airspace Above the Exclusion Area			X	

3.2.2.1 No Action Alternative – Continue Existing Mission and Training Operations at Peason Ridge within the Existing R-3803A & R-3803B

Under the No Action Alternative, the airspace would remain unchanged. Without RA expansion, intensive military training activities would increase over the new range but would be limited to the MOA. Therefore, the overall impact of the No Action Alternative to airspace is considered minor in regards to military training and airspace use. The impact to training capabilities at Peason Ridge, however, would have limitations on aerial gunnery including missile fire, laser targeting, electronic warfare, artillery fire, mortar fire, and unfettered UAS flights. Units would continue to train within the existing RA designated as R-3803A & R-3803B. Extended ground training could be conducted on newly acquired lands but no live-fire exercises would be allowed without RA. Military aircraft could operate over these areas under the protections provided by the Warrior MOAs but would continue to be restricted from conducting training activities that would endanger the public use of that airspace. Without the protections provided by an expanded RA there would be limitations as to what types of training could be conducted at Peason Ridge outside of existing RA, making it less useful for real-world scenarios and CALFEX training employing the latest and emerging technologies. These activities could still be conducted but within a very limited and congested area or within the R-3804. This level of congestion increases the possibility for unintentional conflict and/or limits the quantity and quality of exercises that can be conducted at any given time.

3.2.2.1.1 Supports Live-Fire Training Missions

Live-fire training would be limited without use of the newly acquired land, equivalent to existing training levels. Airspace would be relatively unaffected with the exception of a minor increase in low-level rotary wing traffic in support of ground maneuvers in the newly acquired lands. This traffic would be in the Warrior 1 Low MOA and be controlled by the JACC Cell or Polk Approach.

3.2.2.1.2 Supports Realistic Battlefield Situational Awareness

Without the use of airspace for ground fire and aerial gunnery, battlefield situational awareness would not be improved and would continue at existing levels. Rotary wing aircraft could provide observation and ISR, personnel transport, LZ and DZ activity, but no live fire. UAS could also be used to provide reconnaissance, ISR, and communications relay by employing the use of COAs, which would require chase planes. Both rotary wing aircraft and UAS are mandatory elements of realistic battlefield situational awareness but chase planes degrade the realism of drone use on the battlefield.

3.2.2.1.3 Supports Air Training Missions

Air training would be limited over newly acquired land without expanded RA. Training levels would remain unchanged and congested within the existing RA boundaries.

3.2.2.2 Proposed Action Alternative 1 – Establish Lower Altitude RA

This alternative provides for the establishment of two independent but contiguous sections of RA over recently acquired property adjacent to the Peason Ridge training area and its associated RA identified as R-3803A & R-3803B. Each of the two proposed RA segments identified as R-3803C & R-3803D would extend from ground up to but not including 18,000 feet above MSL, which is consistent with the adjacent R-3803A. It also includes establishing RA to encompass airspace above the area identified as the 'Exclusion area' which consists of property not owned by the Army from 2,000 feet above MSL up to but not including 18,000 feet above MSL. Presently there are 18 private residences and other unoccupied but privately used land in this area including forested and agricultural land. Public roadways also traverse this area as well as the Army owned property including highway 117, which diagonally traverses the site north-northeast to south-southwest between the proposed R-3803C and the R-3803D (refer to Figure 1-1). As stated in Chapter 2, the exclusion area of non-RA would allow aerial access to privately owned lands and would provide adequate segregation from military training activities occurring above; eliminating the potential for significant adverse impacts from infringing upon private airspace rights directly above these private landholdings. Certain activities, such as private drone use within the exclusion area, could affect military training within the proposed RA above the exclusion area. Depending upon the sophistication of the drone equipment, private drone users may not be able to accurately discern altitude, location or know when the MOA or RA are active.

Restricting airspace use between 1,201 feet above MSL and 18,000 feet above MSL would adversely affect the use of Victor route V-212 as the clearance corridor for this route intersects the RA. When the RA is activated (anticipated to be approximately 320 days per year) it would deny low-level users safe access to the air corridor. This condition however, currently exists as the V-212 route runs through the Warrior 1 MOA, prompting most users to fly over or around the area when it is activated. The high-level Jet route J50 would not be disrupted as it resides above 18,000 feet above MSL. Additionally, the use of Victor routes may soon diminish or go away all together with continued implementation of NextGen ATC. The FAA has determined that the establishment of R-3803C & R-3803D would have a negligible effect to traffic on these routes because they

“are not used on a frequent basis because aircraft are generally on direct routing” (Regotti 2016). FAA estimates that establishment of the R-3803C & R-3803D would impact an average of 4.4 operations per day. Therefore, this alternative is considered to have only a minor impact to airspace use.

A portion of the Class-E transitional area surrounding Prairie Creek Airport (57LS) would be converted to RA when the R-3803C is activated. The closest point of RA to the end of the runway of that private airfield is approximately 2.56 NM but not deemed a detriment to airport operations due to its relatively small size, number of operations and size of aircraft on station (refer to Section 3.2.1.2.9 for details about this airport and to Figure 3.2-15 for a depiction). Both entities (RA and Class-E airspace) are controlled by Polk Approach, which reduces the potential layers of control. Aircraft in pattern around Prairie Creek Airport may be required to slightly realign their approach pattern as the runway aligns with the southwest corner of the RA.



Figure 3.2-15. Prairie Creek Airport

3.2.2.2.1 Supports Live-Fire Training Missions

Table 3.2-2 lists the desired elements of live-fire training missions defined in Chapter 2 that have an impact on airspace. This includes ground and air based live-fire systems and the vertical hazards justifying proposed RA requirements.

An RA ceiling of 18,000 feet above MSL less the starting altitude of approximately 350 feet above MSL leaves approximately 17,650 feet of protected airspace. Of the activities listed in Table 3.2-2, several weapons systems would require airspace greater than that being provided through this alternative and therefore could not be utilized including: 105mm and 155mm Howitzers, M791-APDS-T, the Stinger and Redeye SAMs, laser target designators from max altitude, and the AGM-114 Hellfire missiles from both rotary and fixed wing platforms. All other activities could be conducted so long as appropriate SDZs, LSDZs and WDZs can be established within installation boundaries. Airborne weapons would not be fired while over the exclusion area.

Table 3.2-2: Weapons Systems and Vertical Hazard

Weapon System	Munition Size	Max Ordinate or Ricochet Vertical Hazard (Feet AGL)
Ground Fire		
Howitzer	105mm	26,250 (High Angle)
Howitzer	155mm	34,500 (High Angle)
Mortar	60mm	7,550
Mortar	81mm	8,200
Mortar	120mm	12,800
Tank	105mm	3,580
Tank-M865 TPCSDS-T	120mm	3,540
Cannon-M791 APDS-T	25mm	27,887
TOW Missile	BGM-71	6,010
Javelin	FJM-148	2,165
Shotgun	12-gauge	450
Rifle	5.56mm (EPR)	968
Rifle	5.56mm	1,066
Rifle	7.62mm	2,316
Rifle	9mm	305
Rifle	300 Win Mag	1,148
Rifle	25mm	15,722
Machine Gun	.50 Caliber	3,500
Grenade Launcher-MK19	40mm	709
Grenade Launcher-M203	40mm	709
Missile (SAM)	FIM-92 Stinger	26,400
Missile (SAM)	FIM-92A Redeye	26,400
Demolition	Bangalore Mines	10,000
Demolition	C-4	10,000
Laser Training	MILES/CVS/PGS	--
Laser Targeting	LLDR	20,000
Aviation Gunnery (Rotary Wing)		
Door Gun	.50 Caliber	800 ¹
Door Gun	M240H 7.62mm	--
Mounted	30mm	1,000 ¹
AGM	2.75 Rocket (Inert)	1,000 ¹
AGM	AGM-114 Hellfire	20,300 ⁶
Aviation Gunnery (Fixed Wing)		
Mounted	20mm	1,000 ²
Mounted	30mm	1,500 ³
AGM	2.75 Rocket (Inert)	1,300 ⁴
AGM	AGM-114 Hellfire	35,000 ⁵

Table 3.2-2: Weapons Systems and Vertical Hazard

Weapon System	Munition Size	Max Ordinate or Ricochet Vertical Hazard (Feet AGL)
AC130-GAU-12/U	25mm	8,000 – 10,000
AC130-Bofors Cannon	40mm	8,000 – 10,000
AC130-M102 Cannon	105mm	8,000 – 10,000
Aviation Other		
Laser Designator	LIDAR	26,000
Electronic Jamming	AN/ALQ-99	280 NM
Flares	MJU-53/B	>1,500

1. Ricochet based upon a dive angle of -5 to -30 degrees.

2. Ricochet based upon a dive angle of 15 to -50 degrees.

3. Ricochet based upon a dive angle of 0 to -50 degrees.

4. Ricochet based upon a dive angle of -2 to -7 degrees.

5. 20,000 feet above launch point minimal airspace RA. Rotary wing preferred firing altitude is 300 feet AGL.

6. 20,000 feet above launch point minimal airspace RA. In a RA with FL350 ceiling, this limits firing height to 15,000 feet above MSL.

3.2.2.2 Supports Realistic Battlefield Situational Awareness

The additional land and associated RA would greatly enhance battlefield realism by allowing troops greater space within which to conduct CALFEX. Limiting ceiling restrictions below 18,000 feet above MSL, however, would limit what weapons can be fired and by limiting where and how aircraft can operate. The existing R-3803B does extend above 18,000 feet above MSL up to but not including 35,000 feet above MSL but it is laterally small, restricting what can safely be accomplished.

In addition, inclusion of airspace above the exclusion area eliminates a potential horizontal gap in the battlefield. Having RA over the exclusion area would allow continuous flight management by airspace controllers (in this case the JACC Cell) without having to transfer control while passing over land not part of the range. True wartime situations have few external restrictions to flight operations.

3.2.2.2.3 Supports Air Training Missions

Air training involves both air defensive and offensive tactics as well as basic logistical activities, which vary between rotary wing and fixed wing platforms. Rotary wing offensive tactics are typically low-level activities including: CAS, SAT, SEAD/DEAD, aerial gunnery both mounted and door gunners, laser target designation, and E-War. Fixed wing offensive tactics can range from high-level to low-level and include aerial gunnery such as low-level strafing, AC130 big gun orbiting fire, AGM-missile launch from both low-level and high-level, laser target designation, and E-War. Fixed wing activities could also include UAS conducting laser target designation, and E-War.

Rotary wing and fixed wing defensive tactics training could include defensive maneuvering, flare release, electronic frequency spectrum GPS jamming, IED jamming, and MEDEVAC. Basic logistics training activities for rotary wing aircraft includes LZ

approach and departure, single wheel and sloped surface alighting, cargo and personnel DZ runs, aerial reconnaissance and ISR, FARP, nap of the earth, observation and basic flight training. All of these activities are conducted at low-level, well below 18,000 feet above MSL. Basic logistics training activities for fixed wing airframes includes short-field LZ launch and recovery, cargo and personnel DZ runs, parachute drops, observation and basic flight training.

All low-level activities can freely be conducted within existing and proposed RA with no negative impacts to non-participating aircraft. Range Safety criteria require absolute control over weapons release. DoD jamming equipment blocks military grade equipment signals and would not affect typical household devices such as cell phones, television, or radio signals.

High-level activities above 18,000 feet above MSL would be restricted to the existing R-3803B since the expanded RA of this alternative only goes to 18,000 feet above MSL. This elevation limit primarily affects fixed wing airframes. While this negatively limits training, it is of no impact to non-participating aircraft utilizing the J50 air corridor. Congestion within RA is a major consideration and operational limiting factor. Highly organized time and space separations would be necessary in order to deconflict the broad range of potential military activities planned.

3.2.2.3 Proposed Action Alternative 2 – Establish Lower Altitude RA, Excluding the Airspace Above the Exclusion Area

This alternative is similar to Alternative 1, except the airspace above the exclusion area would be excluded from being classified as RA with no ceiling. This airspace would remain as Warrior 1 Low MOA (down to 100 feet AGL) when the RA is activated or Class-E airspace (down to 1,200 feet AGL) when the MOA and RA are not activated.

The same RA height limitations identified in Alternative 1 would also apply for this alternative, and therefore, impacts to the V-212 would be similar to those discussed under Alternative 1. Creating a column of full height open airspace between two sections of the training “battlefield” has a greater potential for airspace conflict between military and non-participating aircraft compared to Alternative 1. Protections provided by the MOA would reduce the likelihood of conflicts but does not strictly prohibit non-participating aircraft from entering this space at any altitude. If aircraft flew into this triangular area they would most likely not be able to exit without going into RA whether intentionally or unintentionally. For this reason this alternative is considered to have a moderate level of impact to airspace use.

3.2.2.3.1 Supports Live-Fire Training Missions

The ability of Alternative 2 to support live-fire training missions would be similar to Alternative 1. Airborne weapons could not be fired while over the exclusion area nor could ordnance be fired over the exclusion area through non-restricted airspace.

3.2.2.3.2 Supports Realistic Battlefield Situational Awareness

The ability of Alternative 2 to support realistic battlefield situational awareness would be similar to Alternative 1. Impacts to military airspace use, however, would be slightly affected. The exclusion area creates a horizontal and vertical gap in the proposed RA. The presence of the exclusion area reduces realistic battlefield conditions and would present moderate impacts to military airspace use compared to Alternative 1 and 3. The same types of airspace use identified in the No Action Alternative could continue to operate within the exclusion area with or without RA.

3.2.2.3.3 Supports Air Training Missions

The ability of Alternative 2 to support air training missions would be similar to Alternative 1 except that a gap would exist in the airspace between the two segments of RA (R-3803C & R3803D). This would necessitate a control handoff of aircraft passing between these RA segments under control of the JACC Cell through MOA airspace (if activated) under control of Polk Approach. The types of authorized activities would have similar requirements for appropriate SDZ and Wdz within installation boundaries. Additionally, weapon systems may not be armed while passing through this non-RA airspace.

3.2.2.4 Proposed Action Alternative 3 – Establish Lower and High Altitudes (Preferred Alternative)

This alternative includes the same proposed RA segments as Alternative 1 (R-3803C and R-3803D, including the airspace above the exclusion area) with the addition of two other proposed RA segments, denoted R-3803E and R-3803F. R-3803-E resides directly above R-3803C and R-3803F resides directly above R-3803D in matching lateral configuration, extending from 18,000 feet above MSL up to but not including 35,000 feet above MSL. When all six RA segments are activated, there would be contiguous protected airspace over the entire range. RA would not exist over the exclusion area from surface up to 2,000 feet above MSL.

The same restrictions to use of the V-212 corridor exist as defined in Alternatives 1 and 2. Additional conflicts exist when either of these two RA are activated (R-3803E & R-3803F) with the high-level jet route J50 as it aligns with the low-level Victor route, V-212. The J50 would be only minorly affected because the projected usage rate of the R-3803E & R-3803F is only 20 days per year and usage rates of the J50 are very low at an average one operation per day. The existing R-3803B has a similar conflict with the J180, clipping the northwest corner with the 4-mile clearance width extending across half of R-3803B. This is an existing condition that would not change due to this action.

The high-level Q route Q38 is above the proposed R-3803F, and therefore, should not be affected. The RA extends up to but not including 35,000 feet above MSL while the Q38 begins at FL350 and extends upwards. This alternative is considered to have only a minor impact to airspace use.

3.2.2.4.1 Supports Live-Fire Training Missions

Compared to Alternatives 1 and 2, the additional vertical airspace provided by R3803E and R-3803F would allow use of the addition of the following systems:

- 105mm Howitzers
- 155mm Howitzers
- M791-APDS-T
- Stinger SAM
- Redeye SAM
- Laser target designators
- AGM-114 Hellfire missiles from stabilized platforms. However, it has been determined that the WDZ required for a UAS launch of AGM-114 Hellfire missiles at altitude does not fit within installation boundaries, and therefore, would not be possible at Peason Ridge.

Similar to live fire under the other alternatives, these systems (and all other live-fire weapons) would not be fired over the exclusion area. All require appropriate SDZs, LSDZs or WDZs, which must be plotted within installation boundaries.

The use of AGM-114 Hellfire missiles must be fired from below 15,000 feet above MSL due to height limitations of RA not exceeding 35,000 feet above MSL. DA Pamphlet 385-63 Range Safety, Sections 11-11 and 11-13 state that there must be a minimum 20,000 feet above the launch point. It is unclear if this also applies to the inert version of 2.75" rocket, but it is reasonably assumed to be included as the upward trajectory of a misguided missile could still take down an aircraft with or without a warhead.

3.2.2.4.2 Supports Realistic Battlefield Situational Awareness

Similar to Alternative 1, inclusion of airspace above the exclusion area eliminates a potential horizontal and vertical gap in the battlefield. In addition, Alternative 3 would improve situational awareness and decrease potential congestion of a complex variety of simultaneous air activities by having the ability to restrict private and public use of the entire vertical range airspace (up to but not including 35,000 feet above MSL).

3.2.2.4.3 Supports Air Training Missions

Scheduling and coordination of air training activities would improve due to an additional 30 percent of available RA. The additional RA would allow for vertical separations of different activities, which increases safety and reduces congestion. This may have the effect of increasing training opportunities. In particular, this benefits high-altitude activities such as fixed wing bomb runs, ISR, laser targeting, missile launch, electronic warfare, and Tier II UAS flight training.

3.2.2.5 Proposed Action Alternative 4 – Establish Lower and High Altitudes, Excluding the Airspace Above the Exclusion Area

Alternative 4 is similar to Alternative 3 regarding vertical RA, however, similar to Alternative 2, it excludes the airspace above the exclusion area from being classified as RA. Impacts would be similar to vertical RA classification described under Alternative 3 and to area exclusion, described under Alternative 2. Similar to Alternative 2, this

alternative is considered to have a moderate level impact to airspace use due to the greater potential for airspace conflict between military and non-participating aircraft.

3.2.2.5.1 Supports Live-Fire Training Missions

Support of live-fire training missions would be similar to conditions described in Alternative 3 regarding live-fire capabilities.

3.2.2.5.2 Supports Realistic Battlefield Situational Awareness

Support of realistic battlefield situational awareness would be similar to conditions described in Alternative 3. Similar to Alternative 2, however, restrictions of certain activities over the exclusion area would be an impediment to the realism of battlefield operations and would present moderate impacts to military airspace use compared to Alternative 1 and 3.

3.2.2.5.3 Supports Air Training Missions

Support of air training missions would be similar to conditions described in Alternative 3 with the same exceptions noted in Alternative 2 regarding a vertical gap in protected airspace between the four proposed RAs (R-3803C/E & R-3803D/F).

3.2.2.6 Cumulative Impacts

This section discusses cumulative impacts of the Proposed Action Alternatives for airspace related issues. Although the projects identified in Section 3.1.4 would not add to adverse cumulative impacts to airspace, in general it can be expected that air traffic would increase through establishment of RA over the expanded Peason Ridge range complex, the MOA, and area surrounding the complex. This potential cumulative increase of military airspace use would be a result of future training facilities within the newly acquired lands. Increased military traffic would result in cumulative minor to moderate negative impacts to commercial and recreational aircraft operating in the ROI.

In both Alternatives 2 and 4, the impact of increasing the impediment of the V-212 and J50 by activating both stratifications of RA (surface up to but not including 18,000 feet above MSL and 18,000 feet above MSL up to but not including 35,000 feet above MSL) reduces the options for rerouting aircraft using those airways. The activation of the existing R-3803A and R-3803B would eliminate the only possible existing route around the impediment (J180-J58) as it is not feasible to route aircraft over the RA. Anticipated implementation of NextGen ATC however, may reduce or eliminate the issue by routing aircraft from point-to-point without the need for established air corridors.

Establishment of protected airspace could increase usage for UAS training in the future as an emerging technology in modern warfare. Without proper launch and recovery facilities located at Peason Ridge, this would result in increased requirements for COAs and chase planes to ferry aircraft to-and-from Polk AAF. This would not only increase traffic in that airspace but increase paperwork to file and manage the COAs and expense in hiring chase flights.

While the Army will evaluate specific training infrastructure and locations within the new range area in future NEPA analyses, it is known that training activities will be conducted on the new ranges in a similar fashion to existing training activities at Peason Ridge. This may include artillery and mortar fire from new Position Areas for Artillery (PAA) established in the new range area to existing impact areas on Peason Ridge. It will likely include additional CAS, BSA, SEAD/DEAD, SAT, MEDEVAC, laser operations, E-War, EOD, flare drop, smoke, LZ and DZ use, FARP and UAS operations. None of these activities will disrupt the use of airspace by non-participating aircraft if conducted within the proposed expanded RA. Additionally, this proposed RA is completely surrounded by the existing Warrior MOA providing additional protections should activities extend beyond RA boundaries. These increased training opportunities would likely increase military airspace traffic to and from the range. This additional traffic may be considered as having a minor cumulative impact on non-RA airspace, but not outside of the Warrior MOAs.

The non-restricted airspace separating the two RA groups R-3803 & R-3804, along with the recent expansion of the R-3804B in conjunction with the Proposed Action would considerably decrease. This decrease in non-restricted airspace combined with an anticipated increase in traffic between these two areas could potentially create a minor negative impact to non-participating aircraft. The minor rating is qualified by the fact that the Warrior MOA would be activated at all times of heightened military training activity.

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3.3 Noise

3.3.1 Affected Environment

3.3.1.1 Noise Overview

Sound is a physical phenomenon consisting of vibrations that travel through a medium, such as air, and are sensed by the human ear. Noise is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise intrusive. Human response to noise varies depending on the type and characteristics of the noise distance between the noise source and the receptor, receptor sensitivity, and time of day. Noise is often generated by activities essential to a community's quality of life, such as construction or vehicular traffic.

Sound varies by both intensity and frequency. Sound pressure level, described in decibels (dB), is used to quantify sound intensity. The dB is a logarithmic unit that expresses the ratio of a sound pressure level to a standard reference level. Hertz are used to quantify sound frequency. The human ear responds differently to different frequencies. "A-weighting", measured in A-weighted decibels (dBA), approximates a frequency response expressing the perception of sound by humans. Sounds encountered in daily life and their dBA levels are provided in Table 3.3-1.

Table 3.3-1. Common Sounds and Their Levels

Outdoor	Sound Level (dBA)	Indoor
Motorcycle	100	Subway train
Tractor	90	Garbage disposal
Noisy restaurant	85	Blender
Downtown (large city)	80	Ringling telephone
Freeway traffic	70	TV audio
Normal conversation	60	Sewing machine
Rainfall	50	Refrigerator
Quiet residential area	40	Library

Source: Harris 1998.

A-weighted decibels describe steady noise levels, although very few noises are, in fact, constant; therefore, additional noise metrics have been developed to describe noise. Equivalent Sound Level (Leq) is the average sound level in dBA. Day-night Sound Level (DNL) is the average sound energy with a 10-dB penalty added to the nighttime levels. DNL is a useful descriptor for noise because: (1) it averages ongoing, yet intermittent, noise, and (2) it measures total sound energy over a 24-hour period.

3.3.1.2 Existing Noise Environment

Existing sources of noise near Fort Polk include military aircraft overflights, air-to-ground and ground-to-ground munitions training, commercial and private aircraft overflights,

road traffic, and other noises such as lawn maintenance equipment, construction noise, and bird and animal vocalizations.

Background noise levels without military training operations (L_{eq} and DNL) were estimated for the surrounding areas using the techniques specified in the *American National Standard Institute - Quantities and Procedures for Description and Measurement of Environmental Sound Part 3: Short-term measurements with an observer present*. Table 3.3-2 outlines estimated background noise levels for different land use categories (ANSI 2003). The area under the proposed RA is relatively quiet with background noise levels less than 48 dBA L_{eq} in the daytime, less than 42 dBA L_{eq} in the nighttime, and less than 49 dBA DNL overall.

Table 3.3-2. Estimated Background Noise Levels

Example Land Use Category	Average Residential Intensity (people per acre)	DNL	L_{eq} (dBA)	
			Daytime	Nighttime
Rural or remote areas	<2	<49	<48	<42
Quiet suburban residential	2	49	48	42
	4	52	53	47
	4.5	52	53	47
Quiet urban residential	9	55	56	50
Quiet commercial, industrial, and normal urban residential	16	58	58	52
	20	59	60	54

Source: ANSI 2003.

The largest contributors of nonmilitary noise in the area are vehicle traffic and timber harvesting. Typical traffic noise from primary and secondary roadways is audible throughout the area, particularly during the daytime. Timber-harvesting equipment generates noise levels of 69.5 dBA at 100 feet, and is audible for approximately two (2) miles (URS 2008). A typical timber harvest lasts for two (2) to three (3) weeks with return harvesting ten (10) or more years later.

Aircraft Noise. Table 3.3-3 outlines recommended noise limits from aircraft operations for land use planning purposes. The Army's land use guidelines for noise exposure are consistent with the FAA procedures for analyzing aircraft noise impacts in conjunction with the NEPA process (FAA Order 1050.1F). Both guidelines stem from the USEPA 1974 "Levels Document" which suggested continuous and long-term noise in excess of DNL 65 dBA are normally unacceptable for noise-sensitive land uses such as residences, schools, churches, and hospitals.

Table 3.3-3. Recommended Noise Limits for Land Use Planning

General Level of Noise	Aircraft Noise (DNL)	Recommended Uses
Low	< 65 dBA	noise-sensitive land uses acceptable
Moderate	65–75 dBA	noise-sensitive land uses normally not recommended
High	> 75 dBA	noise-sensitive land uses not recommended

Source: U.S. Army 2007 and FAA 2006.

Aircraft operations at the installation are concentrated at Polk Army Airfield, and in the training areas at landing zones, drop zones, and along established flight corridors. Areas above 65 dBA DNL adjacent to Polk Army Airfield are contained within the installation boundary, and do not overlap any noise sensitive areas. Noise levels beneath all flight corridors and landing/drop zones at the installation are below 65 dBA DNL. Although persons living in the immediate vicinity of a flight corridor or landing zones could be annoyed during periods of peak activity, current land use within these areas is completely compatible with the existing noise environment (URS 2008).

Other than 18 residences and additional unoccupied privately-owned lands in the exclusion area, portions underlying the proposed RA consist of entirely of newly acquired Army lands. The area is frequented by fixed-wing and rotary-wing military aircraft, and includes part of a flight corridor between Fort Polk Main Post and Peason Ridge. Although current training activity is not sufficient to produce annual noise levels greater than 65 dBA DNL, predicted *busy-day* DNL is 63.4 dBA under the flight corridor between Fort Polk and Peason Ridge (URS 2008).

Large Arms and Heavy Artillery Noise. Noise generated by the detonation of large projectiles, missiles, and bombs near the proposed RA is concentrated at live-fire ranges, PAAs, and impact areas in the northern portions of Peason Ridge. This noise is audible, but distant, in areas under the proposed RA. Noise normally not recommended for sensitive land uses associated with existing training do not extend into the newly acquired lands or the exclusion area, and do not overlap any residences, schools, hospitals, or churches (URS 2008).

Noise Complaint and Mitigation Programs. Fort Polk maintains a 24-hour hotline to receive noise complaints associated with military training operations. Complaint resolution has included adjustments to helicopter and fixed-wing aircraft flight paths and reductions in detonation charge weights. In addition, Fort Polk operates a noise abatement program, which is designed to address noise complaints raised by the public. In the 1990's, complaints averaged five or six per month; however, operational noise management practices have dramatically reduced complaints to almost none in recent years. Isolated noise complaints are sometimes still received, and every year or two several complaints may be received after a single loud training event.

3.3.2 Environmental Consequences

Effects would be considered significant if the Proposed Action were to (1) result in the violation of applicable federal, state, or local noise regulation; or (2) create appreciable

areas of incompatible land use off post. Table 3.3-4 provides a comparison summary of anticipated level of impacts to each of the four Proposed Action Alternatives and the No Action Alternative.

Table 3.3-4. Summary of Noise Impacts

Alternative	Negligible	Minor	Moderate	Significant
No Action	X			
Proposed Action Alternative 1 – Establish Lower Altitude RA			X	
Proposed Action Alternative 2 – Establish Lower Altitude RA, Excluding the Airspace Above the Exclusion Area		X		
Proposed Action Alternative 3 – Establish Lower and High Altitudes (Preferred Alternative)			X	
Proposed Action Alternative 4 – Establish Lower and High Altitudes, Excluding the Airspace Above the Exclusion Area		X		

3.3.2.1 No Action Alternative

The No Action Alternative represents the continuation of current operations without any modification of the existing airspace. The current configuration of RA would remain the same, and there would not be any changes in training operations; therefore, the No Action Alternative would not impact noise sensitive receptors or land use compatibility.

3.3.2.2 Proposed Action Alternative 1 – Establish Lower Altitude Restricted Area

Alternative 1 would have long-term moderate adverse effects to the noise environment. Effects would be due to aircraft operations within the proposed RA, and increases in heavy artillery training in the newly acquired lands. These effects would not (1) result in the violation of applicable federal, state, or local noise regulation; or (2) create appreciable areas of incompatible land use off post. In general, a one-to-one reduction in operational noise would be realized within areas that had a reduction in aircraft due to the redistribution of air training.

Aircraft Noise. Alternative 1 would not increase the number of aircraft operations or change the mix of aircraft at Fort Polk. The distribution of sorties would change under Alternative 1, with operations that are currently confined to the existing RA being redistributed to include the proposed expanded RA. Day-night sound levels would not exceed 65 dBA DNL at ground level under the proposed RA, including areas within the exclusion area (Table 3.3-5). Noise modeling and supporting documentation is in Appendix B.

Table 3.3-5. Estimated Day-night Sound Levels

Proposed Restricted Airspace	Day-Night Sound Level at Ground Surface (dBA)
R-3803C	54
R-3803D	52
Exclusion Area	49

Source: USPHC 2016.

Although sound levels would not exceed 65 dBA DNL at ground level under the proposed RA, noise from individual overflights would generate distinct acoustical events, and have the potential from time-to-time to annoy residents directly under their flight path. This would be particularly true within the exclusion area during intense training exercises such as CALFEX. Therefore, even though operational levels would be too low to generate incompatible land uses, effects from individual overflight levels are further considered below.

A good predictor of annoyance near individual overflights is the maximum sound level. The maximum sound levels for representative aircraft are listed in Table 3.3-6. In general, individual overflights of helicopters and small aircraft flying at 500 feet AGL would highly annoy greater than 13 percent of individuals directly under their flight path. In addition, individual overflights of fighters and larger aircraft flying at 1,500 feet AGL would highly annoy greater than 35 percent of individuals directly under their flight path. Although overflight would be sporadic and not create appreciable areas of incompatible land use off post, these effects would be minor for areas under the proposed RA other than the exclusion area, and moderate for areas within the exclusion area. As stated in Chapter 2, the exclusion area consists of airspace extending from the surface, to and including, 2,000 feet MSL which would not be classified as RA.

Table 3.3-6. Maximum Sound Levels for Individual Aircraft Overflights

Aircraft Type	Lmax Values (dBA) at Varying Altitudes (AGL)			
	500 ft.	1,000 ft.	2,000 ft.	5,000 ft.
H-1	83	76	66	60
H-47	80	73	61	54
H-60	79	72	60	53
H-64	83	76	65	58
OH-58	76	70	58	52
OH-58D	80	73	61	54
C-12	79	73	63	57
C-130	92	85	73	66
MQ-1	84	78	67	61
B-1	112	106	98	86

Table 3.3-6. Maximum Sound Levels for Individual Aircraft Overflights

Aircraft Type	Lmax Values (dBA) at Varying Altitudes (AGL)			
	500 ft.	1,000 ft.	2,000 ft.	5,000 ft.
B-2	110	102	94	82
B-52	105	96	86	70
F-16	101	94	86	74
F-14	110	103	94	80
F-18	116	108	99	85

Notes: Red indicates single overflight would highly annoy greater than 35% of the residences under the flight path.

Yellow indicates single overflight would highly annoy greater than 13% of the residences under the flight path.

Source: USAF 2007, Rylander 1974, and Rylander 1988.

Large Arms and Heavy Artillery Noise. New artillery PAAs may be established in the newly acquired lands, which would fire into the Peason Ridge impact areas. This would constitute a broader distribution of heavy artillery noise when compared to existing conditions. The BNOISE2 noise model was run for a single 155mm Howitzer. It was estimated that a distance of 3,280 feet (1,000 meters) would be the minimum distance for which there would be elevated concern or the potential for complaints from nearby noise sensitive areas. The training noise resulting from establishing a PAA within 3,500 feet of the installation boundary could generate complaints from communities along the perimeter of the installation, potentially constituting significant adverse effects. Although the exact location of the proposed PAAs is unknown, in the final planning stages, PAAs would be located at least 3,280 feet (1,000 meters) from the installation boundary, to ensure they would not appreciably affect the overall noise at the installation, and the effects would be less than significant under NEPA. If PAAs were to be established within 3,280 feet (1,000 meters) of the installation boundary, subsequent analysis would be conducted.

Noise from training activities was addressed at a programmatic level in the 2010 Land Acquisition FEIS. At this time, the Army is uncertain as to the exact nature of additional training that would occur within the newly acquired lands; therefore, noise effects resulting from additional live-fire training are discussed in general terms for the purpose of this EA. In general, the nature and the overall level of noise associated with these activities would be similar to those under existing operations in other areas of the installation. The training noise resulting from live-fire activities could highly annoy communities along the perimeter of the installation, constituting potential significant adverse effects. Subsequent analysis would be conducted, where necessary, to determine the effects of specific activities.

3.3.2.3 Proposed Action Alternative 2 – Establish Lower Altitude Restricted Area, Excluding the Airspace Above the Exclusion Area

Alternative 2 would have long-term minor adverse effects to the noise environment. Effects would be due to aircraft operations within the proposed RA, except the airspace above the exclusion area, and increases in heavy artillery training in the newly acquired

lands. These effects would not (1) result in the violation of applicable federal, state, or local noise regulation; or (2) create appreciable areas of incompatible land use off post. In general, a one-to-one reduction in operational noise would be realized within areas that had a reduction in aircraft due to the redistribution of air training.

Similar to Alternative 1, Alternative 2 would not increase the number of aircraft operations or change the mix of aircraft at Fort Polk. The distribution of sorties would change under Alternative 2, with operations that are currently confined to the existing RA being redistributed to include the proposed expanded RA, except the airspace above the exclusion area. Day-night sound levels would not exceed 65 dBA DNL at ground level under the proposed RA (Table 3.3-6). As with Alternative 1, individual aircraft overflights could from time-to-time annoy individuals; however, there would be no additional low-level overflights over individuals or residences within the exclusion area when compared to existing conditions. These effects would be minor.

Effects from large arms and heavy artillery noise would be similar in nature and overall level as Alternative 1. Additional training noise resulting from PAAs established within 3,280 feet (1,000 meters) of the installation boundary and any other live fire activities could highly annoy communities along the perimeter of the installation, constituting potential significant adverse effects. Subsequent analysis would be conducted, where necessary, to determine the effects of specific activities.

3.3.2.4 Proposed Action Alternative 3 – Establish Lower and High Altitudes (Preferred Alternative)

Alternative 3 would have long-term moderate adverse effects. Effects would be due to aircraft operations within the proposed RA, including the airspace above the exclusion area, and increases in heavy artillery training in the newly acquired lands. These effects would not (1) result in the violation of applicable federal, state, or local noise regulation; or (2) create appreciable areas of incompatible land use off post. In general, a one-to-one reduction in operational noise would be realized within areas that had a reduction in aircraft due to the redistribution of air training.

Effects from aircraft noise would be similar in nature and overall level as Alternative 1. Day-night sound levels would not exceed 65 dBA DNL at ground level under the proposed RA (Table 3.3-6). As with Alternative 1, low-level aircraft overflights could from time-to-time annoy individuals, and in particular residences within the exclusion area. High-altitude overflights (i.e. greater than 18,000 feet MSL) would be audible, but distant. They would not change the overall DNL at ground level or annoy individuals or residences under their flight path. Similar to Alternative 1, the exclusion area would extend from the surface, to and including, 2,000 feet MSL which would not be classified as RA. Overall effects to the noise environment would be moderate.

Effects from large arms and heavy artillery noise would be similar in nature and overall level as Alternative 1. Additional training noise resulting from PAAs established within 3,280 feet (1,000 meters) of the installation boundary and any other live fire activities could highly annoy communities along the perimeter of the installation, constituting potential significant adverse effects. Subsequent analysis would be conducted, where necessary, to determine the effects of specific activities.

3.3.2.5 Proposed Action Alternative 4 – Establish Lower and High Altitudes, Excluding the Airspace Above the Exclusion Area

Alternative 4 would have long-term minor adverse effects. Effects would be due to aircraft operations within the proposed RA, except the airspace above the exclusion area, and increases in heavy artillery training in the newly acquired lands. These effects would not (1) result in the violation of applicable federal, state, or local noise regulation; or (2) create appreciable areas of incompatible land use off post. In general, a one-to-one reduction in operational noise would be realized within areas that had a reduction in aircraft due to the redistribution of air training.

Effects from aircraft noise would be similar in nature and overall level as Alternative 2. Day-night sound levels would not exceed 65 dBA DNL at ground level under the proposed RA (Table 3.3-6). As with Alternative 1, low-level aircraft overflights could from time-to-time annoy individuals; however, there would be no additional low-level overflights over individuals or residences within the exclusion area when compared to existing conditions. High-altitude overflights (i.e. greater than 18,000 feet MSL) would be audible, but distant. They would not change the overall DNL at ground level or annoy individuals or residences under their flight path. These effects would be minor.

Effects from large arms and heavy artillery noise would be similar in nature and overall level as Alternative 1. Additional training noise resulting from PAAs established within 3,280 feet (1,000 meters) of the installation boundary and any other live fire activities could highly annoy communities along the perimeter of the installation, constituting potential significant adverse effects. Subsequent analysis would be conducted, where necessary, to determine the effects of specific activities.

3.3.3 Cumulative Effects

The Proposed Action would introduce long-term minor to moderate increases to the noise environment. All noise associated with the Proposed Action would be in addition to other on-going air operations and military training activities in the area. Overall, these increases would be relatively minor and have a negligible cumulative effect on the overall noise environment.

4 Summary of Environmental Consequences and Proposed Mitigation

Table 4-1 provides a summary of the level of potential environmental impacts discussed within this EA. These conclusions are based on existing protection measures currently in place at Fort Polk, along with proposed measures and mitigations to minimize or prevent impacts and avoid significance thresholds (see Table 4-2 and 4-3). As shown in Table 4-1, the Proposed Action Alternatives would result in minor to moderate impacts.

Table 4-1. Comparison Summary of Potential Effects¹

RESOURCE	ALTERNATIVES					CUMULATIVE EFFECTS
	No Action Alternative	Proposed Action 1	Proposed Action 2	Proposed Action 3	Proposed Action 4	
Airspace	Minor	Minor	Moderate	Minor	Moderate	Minor to Moderate
Noise	Negligible	Moderate	Minor	Moderate	Minor	Minor to Moderate

¹Refer to Section 3.1 for a discussion of impact ratings.

Table 4-2 summarizes existing operational and management controls that are currently in place at Fort Polk. These measures benefit resources and would address some impacts potentially generated by the Proposed Action Alternatives.

Table 4-2. Summary of Fort Polk Existing Resource Protection Measures

Concern	Primary Resource(s) Affected	Existing Control/Description
Noise	Noise Environment	<ul style="list-style-type: none"> Management Control: Fort Polk would continue to maintain the 24-hour hotline to receive noise complaints associated with military training operations. Management Control: Fort Polk would continue to operate a noise abatement program, designed to increase pilot awareness of noise issues and encourage practices that reduce aircraft noise in sensitive areas (such as the exclusion area).

Table 4-3 identifies proposed operational and management controls that could be enacted by Fort Polk minimize or prevent potentially-significant impacts generated by the Proposed Action Alternatives.

Table 4-3. Summary of Proposed Mitigations for RA Expansion

Concern & Related Resource Significant Thresholds	Description of Proposed Mitigation	Mitigative Effect	Alternative
Airspace Use: Infringement upon current private airspace	<ul style="list-style-type: none"> <u>Operational Control:</u> Fort Polk is in the process of establishing a firebreak that could be used by pilots as a visual reference for the edges of the proposed RA. 	Firebreaks will exist providing a visual boundary between the newly acquired lands and private landholdings within the exclusion area which would allow aircraft to visually identify the edge of private property.	1 through 4

RA = restricted area (airspace)

5 Acronyms

05LS	Grass Roots Airport
1R4	Woodworth Airport
2L0	Pineville Municipal Airport
34LA	Swamp Smith Airport
3R4	Hart Airport
4XS5	Scrappin Valley Airport
57LS	Prairie Creek Airport
5LS9	Ammons Airport
61R	Newton Municipal Airport
6LA4	Dyer Airport
70LA	Roland Airport
9LA6	Chandler Airport
AA	assembly area
AAF	Army Airfield
AAR	After Action Report
ABC	air battle captain
ACP	Allen Parish Airport
ADA	air defense artillery
ADCS	Approach-Departure Control Surface
ADP	Army Doctrine Publication
ADRP	Army Doctrine Reference Publication
AEX	Alexandria International Airport
AFB	Air Force Base
AGL	Above Ground Level

ANSI	American National Standard Institute
APDS-T	armor-piercing discarding sabot with tracer
ATC	Air Traffic Control
ATCAA	Air Traffic Control Assigned Airspace
ATGM	antitank guided missile
BCT	Brigade Combat Team
BSA	basic surface attack
BT	battalion train
CALFEX	Combined Arms Live Fire Exercises
CAS	close air support
CATS	Combined Arms Training Strategies
COA	certificate of authorization
CTC	Combat Training Center
CVS	Combat Vehicle System
dB	decibel
dBA	A-weighted decibel
DFW	Dallas-Fort Worth International Airport
DME	Distance measuring equipment
DNL	day-night sound level
DoD	Department of Defense
DRI	Beauregard Regional Airport
DZ	Drop Zone
EIS	Environmental Impact Statement
EO	Executive Order
EOD	explosive ordinance disposal
ERMP	extended range multipurpose

ESF	Esler Regional Airport
E-War	electronic warfare
FA	field artillery
FAC	forward air controller
FARP	forward arming and refueling point
FIST	fire support elements and fire support teams
FL	Flight Level
FLS	Flight Landing Strip
FM	Field Manual
FNSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FSO	fire support officer
FY	Fiscal year
GCS	ground control station
GGG	East Texas Regional Airport
GIS	Geographic Information Systems
GPS	global positioning satellite
HALO	high-altitude low open
HAR	High altitude routing
IER	Natchitoches Regional Airport
IFR	Instrument Flight Rules
ILS	instrument landing system
ISA	International Standard Atmosphere
ISB	Intermediate Staging Base
ISR	intelligence, surveillance, and reconnaissance
IUA	Intensive Use Area

JAAT	Joint Air Attack Team
JACC	Joint Aviation Control Center
JRTC	Joint Readiness Training Center
JTAC	Joint Terminal Attack Controllers
JO	Joint Order
km	kilometer
L/R	Launch/recovery
L39	Leesville Airport
L66	Polluck Municipal Airport
LA35	Summerville Airstrip
LAANG	Louisiana Army National Guard
L _{eq}	equivalent sound level
LFX	live fire exercises
LOS	Line-of-sight
LSDZ	Laser surface danger zone
LUA	Limited Use Area
LZ	Landing zone
MEA	minimum enroute altitude
MEDEVAC	medical evacuation
MILES	Multiple Integrated Laser Engagement System
MOA	Military Operation Area
MOU	Memorandum of Understanding
MSL	Mean Sea Level
NAS	National Airspace System
NAVAIDS	navigational aids
NM	Nautical miles

NOI	Notice of Intent
NOTAM	Notices to Airmen
NRR	non-restrictive routing
PAA	Position Area for Artillery
PGS	Precision Gunnery System
POE	Polk Army Airfield
PPP	Power Projection Platform
RA	Restricted Area (airspace)
RLOS	radio line-of-sight
RNAV	Area Navigation
ROI	Region of Influence
ROZ	restricted operational zone
RPA	remotely piloted aircraft
RSTA	reconnaissance, surveillance, targeting, and acquisition
RTU	Rotational Training Unit
SAT	surface attack tactics
SCAR	strike, coordination and reconnaissance
SDZ	Surface danger zone
SEAD/DEAD	suppression/destruction of enemy air defenses
SLUA	Special Limited Use Area
SME	Subject Matter Expert
SUA	Special Use Airspace
T24	Pineland Municipal Airport
TPCSDS-T	target practice cone stabilized discarding sabot tracer
TJS	Tactical Jamming System
TOC	Tactical Operation Center

TUASOF	Tactical Unmanned Aerial System Operations Facility
UA	Unmanned aircraft
UAS	unmanned aerial systems
U.S.	United States
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
USPHC	U.S. Army Public Health Command
VEC	Valued Environmental Component
VFR	Visual Flight Rules
VOR	very high frequency omnidirectional range
VORTAC	Very High Frequency Omni-Directional Range/Tactical Aircraft Control
WDZ	Weapons Danger Zones
ZFW	Fort Worth Center
ZHU	Houston Center

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Appendix A – Public Involvement

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DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT POLK
1697 23RD STREET, BUILDING 2643
FORT POLK, LOUISIANA 71459

November 20, 2015

Re: Notice for Public Scoping Meeting – Expansion of R-3803 Restricted Area Complex Environmental Assessment

To All Concerned:

This letter invites all interested parties to participate in a scoping meeting for an Environmental Assessment (EA) pertaining to the expansion of R-3803 restricted area complex airspace to include recently acquired land at Fort Polk, Louisiana. The Army is requesting that the Federal Aviation Administration (FAA) reclassify a portion of the Warrior 1 Military Operations Area (MOA) as Restricted Area airspace. The Restricted Area would overlie the lands recently purchased for training and consists of four discrete polygons of airspace (two at lower altitude and two at higher altitude) to be used for managing the airspace as it is needed.

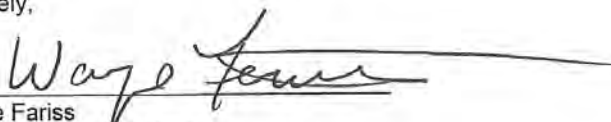
The purpose of the EA is to evaluate the impacts of the reclassification in airspace designation (see attached description of the purpose and need). The proposal would enhance the utilization of current ranges for larger weapon systems with higher trajectories. Although Fort Polk is not ready to develop infrastructure on the new training lands, training activities were addressed at a programmatic level in previous environmental studies. Future training activities would be analyzed in project-specific analyses once proposed locations and details are further developed.

Consistent with Department of Army policy, the Army invites you to be involved in the scoping process for the preparation of this EA by participating in, and providing comments on, the Proposed Action. The scoping process will help identify possible alternatives, potential environmental impacts, and key issues of concern to be analyzed in the EA.

A public scoping meeting will be conducted in Leesville, Louisiana on December 8, 2015. This meeting will be held between 5:30pm and 7:30pm CST at the following location: Leesville City Airport, 424 Airport Road Leesville, LA 71446.

You may provide comments or direct questions regarding the environmental analyses to the Public Affairs Office, 7033 Magnolia Drive, Building 4919, Fort Polk, LA 71459 or call (337) 531-7203. Comments may also be submitted via email to: usarmy.polk.imcom.mbx.pao-public-response@mail.mil. Public comments must be postmarked no later than December 21, 2015. Thank you for your participation in this important decision-making process.

Sincerely,


Wayne Fariss
Chief, Conservation Branch
Fort Polk Environmental



**Purpose and Need for the
Fort Polk
Expansion of Restricted Airspace R-3803A
Environmental Assessment
Fort Polk, LA**



Fort Polk recently purchased land adjacent to Peason Ridge to develop additional maneuver and live-fire training area. To enhance future training activities, the Army's Proposed Action is to request the Federal Aviation Administration (FAA) establish new restricted area (RA) airspace overlying recently purchased land. Fort Polk is one of two Army Combat Training Centers with increasing and enduring requirements for realistic force-on-force and force-on-target exercises. In the future, the Joint Readiness and Training Center (JRTC) and Fort Polk propose to conduct Combined Arms Live Fire Exercises (CALFEX) on the newly purchased training lands, as well as utilize current ranges for larger weapon systems with higher trajectories. Although Fort Polk is not ready to develop infrastructure on the new training lands, training activities were addressed at a programmatic level in the *Joint Readiness Training Center and Fort Polk Land Acquisition Program (including purchase and lease), Final Environmental Impact Statement, February 2010*. Future training activities would be analyzed in project specific NEPA documents once proposed locations and details are further developed.

The Proposed Action would enable the Army to conduct the necessary type, level, duration, and intensity of live-fire and other military training exercises for the combat units assigned to Fort Polk and the Rotational Training Units at the JRTC. Units undertaking these exercises will attain and maintain their combat readiness. To be operationally effective in the combat environment, Soldiers must acquire and sustain the skills and experience to operate and maintain weapons. They must also train as they fight, incorporating into training the same munitions and equipment used in combat. Units must conduct live-fire training exercises to ensure they have rehearsed battle procedures and are prepared for wartime operations. Larger units, company and battalion level, must conduct combined arms live-fire training exercises to ensure proper integration of units in combat scenarios. These operations include offensive, defensive, stability, and support operations in particular company-level CALFEXs.

The JRTC and Fort Polk must be prepared to execute the full spectrum of military operations in complex terrain. To ensure that Soldiers develop these skills and experience, the Army has developed standardized training requirements. These standards are derived from the Army Doctrine Reference Publication (ADRP) 3-0, which augments the unified land operations doctrine established in Army Doctrine Publication (ADP) 3-0, Unified Land Operations. Army doctrine requires combined arms teamwork and synchronization. Units must train for wartime combined arms operations. Combined arms proficiency results from regular practice of combat missions and tasks in the live domain. It starts with developing individual skills. Individual skills, when combined and practiced, build unit proficiency from crew through brigade task force.

The Fort Polk and JRTC Mission

The primary mission of Fort Polk is to support and train home stationed units while providing superior training to support the JRTC. Fort Polk is home to the 3rd Brigade Combat Team - 10th Mountain Division; 5th Aviation Battalion; 46th Engineer Battalion; 519th Military Police Battalion; 3rd Battalion 353d Regiment; and 115th Combat Support Hospital. Fort Polk supports the JRTC's advanced-level joint training for Army, Air Force, Navy, and Marine Units under conditions that simulate low-and mid-intensity conflicts.

The JRTC is a key component of the Army's Combat Training Centers (CTC) and training is focused on Army infantry, airborne and air assault forces. The JRTC, in particular, provides forces across DoD (Army, Air Force, Navy, Marines, etc.) with the opportunity to encounter and respond to a wide variety of mission scenarios. The JRTC allows the Army to train and develop highly proficient and cohesive units capable of conducting operations across the full spectrum of conflict.

REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT POLK
6661 WARRIOR TRAIL, BLDG 350
FORT POLK, LOUISIANA 71459-5339

MAY 10 2016

Directorate of Public Works

Mr. Bryant Celestine
Alabama-Coushatta Tribe of Texas
Tribal Historic Preservation Officer
571 State Park Road 56
Livingston, Texas 77351

RE: Section 106 Consultation
Restricted Airspace on Newly Acquired Lands

Dear Mr. Celestine:

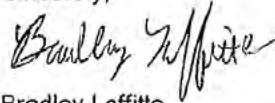
As recently discussed at the annual consultation meeting, the Joint Readiness Training Center (JRTC) and Fort Polk have acquired new training lands. Fort Polk's Directorate of Plans, Training, Mobilization, and Security has informed this office of a pending application to the Federal Aviation Administration (FAA) to modify the installation's existing Restricted Airspace (RA) by expanding it over the new lands (i.e., within and above the installation boundaries). The Proposed Action would enable the Army to conduct the necessary type, level, duration, and intensity of live-fire and other military training exercises for the combat units assigned to Fort Polk and the Range Training Units at the JRTC. A document providing additional details on the project location and scope has been enclosed.

The main purpose behind restricting the airspace is to prevent conflicts between training and commercial/private air traffic. We do not anticipate impacts to cultural resources based on the restriction of airspace for training due to a lack of eligible structures in the Area of Potential Effect. Further, we do not anticipate impacts to any eligible or potentially eligible archaeological sites within the Area of Potential Effect. No new Impact Areas will be created as a result of this airspace restriction. Any artillery fired from the new lands will continue to be fired into the Peason Impact Area where the majority of noise will continue to be centered. The airspace over the new lands is currently used by the military, but the military does not hold an FAA-issued restriction on its usage. The exact amount of restricted airspace usage by military aircraft and the specific noise impacts are unknown at this time. Fort Polk maintains a Noise Monitoring Program that will continue to operate and examine noise impacts within the Peason Ridge and new lands training area.

In summary, we believe the restriction of airspace on the newly acquired lands will have no effect on National Register-eligible or -listed historic properties. We ask for your concurrence on our determination of no effect within 30 days of receipt of this

documentation. If you have questions, please do not hesitate to call me at [REDACTED]
[REDACTED]

Sincerely,



Bradley Laffitte
Cultural Resources Manager
Fort Polk

Enclosure



ALABAMA-COUSHATTA TRIBE OF TEXAS

571 State Park Road 56 • Livingston, Texas 77351 • (936) 563-1100

June 8, 2016

US Army Installation, Fort Polk
Attn: Bradley Laffitte
Cultural Resources Office
6661 Warrior Road, Bldg. 350
Fort Polk, LA 71459-5339

Dear Mr. Laffitte:

On behalf of Mikko Colabe III Clem Sylestine and the Alabama-Coushatta Tribe, our appreciation is expressed on your efforts to consult us regarding the Restricted Airspace on Newly Acquired Lands proposal in Vernon Parish.

Our Tribe maintains ancestral associations throughout the state of Louisiana despite the absence of written records to completely identify Tribal activities, villages, trails, or burial sites. However, it is our objective to ensure significances of American Indian ancestry, especially of Alabama-Coushatta origin, are administered with the utmost considerations.

Upon review of your May 10, 2016 submission, no known impacts to cultural assets of the Alabama-Coushatta Tribe of Texas are anticipated in conjunction with this proposal. Further, we concur with your "No Effect" determination regarding this proposal.

Should you require further assistance, please do not hesitate to contact us.

Sincerely,

A handwritten signature in black ink, appearing to read "B. Celestine".

Bryant J. Celestine
Historic Preservation Officer



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT POLK
6661 WARRIOR TRAIL, BLDG 350
FORT POLK, LOUISIANA 71459-5339

MAY 10 2016

Directorate of Public Works

Ms. Samantha Robinson
Alabama-Quassarte Tribal Town
Tribal Historic Preservation Officer
P.O. Box 187
Wetumka, Oklahoma 74883

RE: Section 106 Consultation
Restricted Airspace on Newly Acquired Lands

Dear Ms. Robinson:

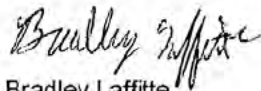
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documentation. If you have questions, please do not hesitate to call me at [REDACTED]
[REDACTED]

Sincerely,



Bradley Laffitte
Cultural Resources Manager
Fort Polk

Enclosure

REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT POLK
6661 WARRIOR TRAIL, BLDG 350
FORT POLK, LOUISIANA 71459-5339

MAY 10 2016

Directorate of Public Works

Ms. Kim Penrod
Caddo Nation of Oklahoma
Tribal Historic Preservation Officer
P.O. Box 487
Binger, Oklahoma 73009

RE: Section 106 Consultation
Restricted Airspace on Newly Acquired Lands

Dear Ms. Penrod:

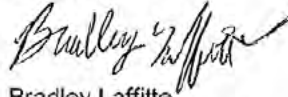
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documentation. If you have questions, please do not hesitate to call me at [REDACTED]
[REDACTED]

Sincerely,



Bradley Laffitte
Cultural Resources Manager
Fort Polk

Enclosure

From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: [Non-DoD Source] Restricted Air Space on New Lands
Date: Tuesday, May 24, 2016 3:19:33 PM

Attachments: [REDACTED]

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Bradley,

Thank you for the recent correspondence related to the expansion of Restriction of Air Space on Newly Acquired Lands located at Fort Polk and JRTC training lands in Fort Polk, Louisiana

With the information you have submitted we can concur at present with this plan.

As with any new project, we never know what may come to light until work begins.

The Caddo Nation of Oklahoma asks that you keep us up to date on the progress of this project and if any discoveries arise please contact us immediately.

Kim

--

Respectfully,

Kim Penrod

Director

Caddo Nation Heritage Museum, Library and Archives

Acting NAGPRA Coordinator

Acting THPO

Caddo Nation of Oklahoma

P.O. Box 487

Binger, OK 73047

[REDACTED]

Be who you are and say what you feel, because those who mind don't matter and those who matter don't mind.~Dr. Seuss < Caution-<http://www.brainyquote.com/quotes/quotes/d/drseuss104299.html> >

REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT POLK
6661 WARRIOR TRAIL, BLDG 350
FORT POLK, LOUISIANA 71459-5339

MAY 10 2016

Directorate of Public Works

Ms. Kimberly Walden
Chitimacha Tribe of Louisiana
Tribal Historic Preservation Officer
P.O. Box 661
Charenton, Louisiana 70523

RE: Section 106 Consultation
Restricted Airspace on Newly Acquired Lands

Dear Ms. Walden:

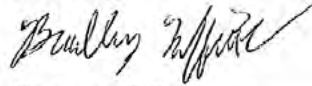
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[REDACTED]

Sincerely,



Bradley Laffitte
Cultural Resources Manager
Fort Polk

Enclosure

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US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT POLK
6661 WARRIOR TRAIL, BLDG 350
FORT POLK, LOUISIANA 71459-5339

MAY 10 2016

Directorate of Public Works

Dr. Linda Langley
Coushatta Tribe of Louisiana
Cultural Preservation Officer
P.O. Box 818
Elton, Louisiana 70532

RE: Section 106 Consultation
Restricted Airspace on Newly Acquired Lands

Dear Dr. Langley:

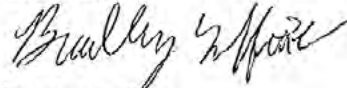
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[REDACTED]

Sincerely,



Bradley Laffitte
Cultural Resources Manager
Fort Polk

Enclosure

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US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT POLK
6861 WARRIOR TRAIL, BLDG 350
FORT POLK, LOUISIANA 71459-5339

MAY 10 2016

Directorate of Public Works

Ms. Alina Shively
Jena Band of Choctaw
Deputy Tribal Historic Preservation Officer
P.O. Box 14
Jena, Louisiana 71342

RE: Section 106 Consultation
Restricted Airspace on Newly Acquired Lands

Dear Ms. Shively:

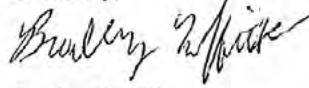
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[REDACTED]

Sincerely,



Bradley Laffitte
Cultural Resources Manager
Fort Polk

Enclosure

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US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT POLK
6661 WARRIOR TRAIL, BLDG 350
FORT POLK, LOUISIANA 71459-5339

MAY 10 2016

Directorate of Public Works

Mr. Kenneth Carleton
Mississippi Band of Choctaw Indians
Tribal Historic Preservation Officer
P.O. Box 6257
Philadelphia, Mississippi 39350

RE: Section 106 Consultation
Restricted Airspace on Newly Acquired Lands

Dear Mr. Carleton:

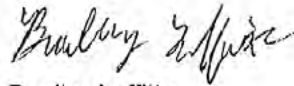
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Sincerely,



Bradley Laffitte
Cultural Resources Manager
Fort Polk

Enclosure

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US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT POLK
6661 WARRIOR TRAIL, BLDG 350
FORT POLK, LOUISIANA 71459-5339

MAY 10 2016

Directorate of Public Works

Dr. Ian Thompson
Choctaw Nation of Oklahoma
Tribal Historic Preservation Officer
P.O. Box 1210
Durant, Oklahoma 74702

RE: Section 106 Consultation
Restricted Airspace on Newly Acquired Lands

Dear Dr. Thompson:

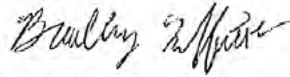
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[REDACTED]

Sincerely,



Bradley Laffitte
Cultural Resources Manager
Fort Polk

Enclosure

From: [REDACTED]

To: [REDACTED] Subject: [Non-DoD Source] Re: [REDACTED] Date: Friday, June 17, 2016 4:12:09 PM

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

The Choctaw Nation of Oklahoma thanks the FEMA for consultation on the above-referenced undertaking. The Choctaw Nation concurs that restricting the airspace over the newly acquired land will have “No Adverse Effect” to historic properties.

Thank you,

Ian Thompson PhD, RPA

Tribal Historic Preservation Officer,

Senior Director

Historic Preservation Dept,

Wheelock Academy,

Tuskahoma Capitol Museum.

Choctaw Nation of Oklahoma

PO Drawer 1210

Durant, OK 74701

[REDACTED]

Caution-www.choctawnationculture.com < Caution-<http://www.choctawnationculture.com> >

This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is privileged, confidential and exempt from disclosure. If you have received this message in error, you are hereby notified that we do not consent to any reading, dissemination, distribution or copying of this message. If you have received this communication in error, please notify the sender immediately and destroy the transmitted information. Please note that any view or opinions presented in this email are solely those of the author and do not necessarily represent those of the Choctaw Nation.

REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT POLK
6661 WARRIOR TRAIL, BLDG 350
FORT POLK, LOUISIANA 71459-5339

MAY 10 2016

Directorate of Public Works

Mr. Phil Boggan
State Historic Preservation Officer
Office of Cultural Development
P.O. Box 44247
Baton Rouge, Louisiana 70804

RE: Section 106 Consultation
Restricted Airspace on Newly Acquired Lands

Dear Mr. Boggan:

As recently discussed with your staff in the annual consultation meeting, the Joint Readiness Training Center (JRTC) and Fort Polk have acquired new training lands. Fort Polk's Directorate of Plans, Training, Mobilization, and Security has informed this office of a pending application to the Federal Aviation Administration (FAA) to modify the installation's existing Restricted Airspace (RA) by expanding it over the new lands (i.e., within and above the installation boundaries). The Proposed Action would enable the Army to conduct the necessary type, level, duration, and intensity of live-fire and other military training exercises for the combat units assigned to Fort Polk and the Range Training Units at the JRTC. A document providing additional details on the project location and scope has been enclosed.

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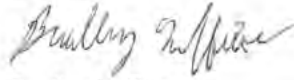
RECEIVED

MAY 10 2016

ARCHAEOLOGY

documentation. If you have questions, please do not hesitate to call me at [REDACTED]
[REDACTED]

Sincerely,



Bradley Laffitte
Cultural Resources Manager
Fort Polk

Enclosure

No known historic properties will be affected by this undertaking.
Therefore, our office has no objection to the implementation of
this project. This effect determination could change should new
information come to our attention.



Phil Boggan
State Historic Preservation Officer

Date

06/16/2016

REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT POLK
6661 WARRIOR TRAIL, BLDG 350
FORT POLK, LOUISIANA 71469-5339

MAY 10 2016

Directorate of Public Works

Mr. Charles Coleman
Thlopthlocco Tribal Town of Oklahoma
Tribal Historic Preservation Officer
P.O. Box 188
Okemah, Oklahoma 74859

RE: Section 106 Consultation
Restricted Airspace on Newly Acquired Lands

Dear Mr. Coleman:

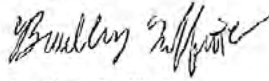
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Bradley Laffitte
Cultural Resources Manager
Fort Polk

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HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT POLK
6661 WARRIOR TRAIL, BLDG 350
FORT POLK, LOUISIANA 71459-5339

MAY 10 2016

Directorate of Public Works

Mr. Earl J. Barbry, Jr.
Tunica-Biloxi Tribe of Louisiana
Tribal Historic Preservation Officer
P.O. Box 1589
Marksville, Louisiana 71351

RE: Section 106 Consultation
Restricted Airspace on Newly Acquired Lands

Dear Mr. Barbry:

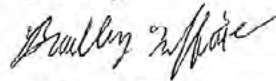
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[REDACTED]

Sincerely,



Bradley Laffitte
Cultural Resources Manager
Fort Polk

Enclosure

Appendix B – Supporting Noise Documentation

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5158 Blackhawk Road, Aberdeen Proving Ground, Maryland 21010-5403

OPERATIONAL NOISE CONSULTATION
NO. WS.0019562-a-16
OPERATIONAL NOISE ASSESSMENT
PROPOSED RESTRICTED AIRSPACE EXPANSIONS
FORT POLK, LOUISIANA
16 FEBRUARY 2016

PHC FORM 433-E (MCHB-CS-IP), NOV12

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Preventive Medicine Survey: 40-5f1

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MCHB-IP-EON

DEPARTMENT OF THE ARMY
ARMY PUBLIC HEALTH CENTER (PROVISIONAL)
5158 BLACKHAWK ROAD
ABERDEEN PROVING GROUND, MD 21010-5403

EXECUTIVE SUMMARY
OPERATIONAL NOISE CONSULTATION
NO. WS.0019562-a-16
OPERATIONAL NOISE ASSESSMENT
PROPOSED RESTRICTED AIRSPACE EXPANSIONS
FORT POLK, LOUISIANA
16 FEBRUARY 2016

1. PURPOSE. To provide a noise assessment to secure additional restricted airspace within the Warrior Military Operations Area. The additional restricted airspace would establish new restricted airspace (R-3803 C/E and R-3803 D/F) overlying recently purchased land adjacent to Peason Ridge. The proposed airspace is adjacent to the existing R-3803 A/B airspace (Peason Ridge).

2. FINDINGS AND RECOMMENDATIONS.

a. The operating environment within the proposed special use airspace scenarios does not generate an A-weighted Day-Night average Level (ADNL) contour above 55 decibels (dB). This indicates that annual average noise levels from the proposed aviation activity are compatible with the surrounding environment.

b. The R-3803D Divot is a small area in the southwest corner of R-3803D airspace with a floor of 2,000 Mean Sea Level (MSL). Within the Divot, the proposed activity does not generate levels above 50 dB ADNL. Although ADNL indicates compatibility between the proposed restricted airspace and the homes within the Divot, individual overflights may be annoying or disrupted to the residents.

c. Although noise levels would not be significant, annoyance potential could be lowered if fixed-wing aircraft maintain 3,000 MSL and helicopters 2,000 MSL when above or within 0.5 nautical miles of the Divot.

d. Include the information from this consultation in the appropriate National Environmental Policy Act documentation.

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1. REFERENCES. Appendix A contains a list of references used in this consultation. A glossary of terms and abbreviations used is in Appendix B.
2. PURPOSE. To provide a noise assessment to secure additional restricted airspace within the Warrior Military Operations Area (MOA). The additional restricted airspace would establish new restricted airspace (R-3803 C/E and R-3803 D/F) overlying recently purchased land adjacent to Peason Ridge. The proposed airspace is adjacent to the existing R-3803 A/B airspace (Peason Ridge).
3. NOISE CONTOURING PROCEDURES.
 - a. The noise simulation program used to assess Special Use Airspace (SUA) noise is MR_NMAP (U.S. Air Force 1999). The program requires operations data concerning type of aircraft, altitude, time in airspace, and number of sorties. The inputs used to generate the noise contours for each alternative were created using the data detailed in Appendix C.
 - b. Per Federal Aviation Administration Order 1050.1E, the metric used to address SUA noise is the yearly A-weighted Day-Night average Level (ADNL) with the requirement to plot levels exceeding 65 decibel (dB).
4. GENERAL. Figure 1 depicts the Fort Polk Warrior 1, 2, and 3 High & Low MOA and the restricted airspace located within. The operating altitude of the existing restricted airspaces is:

R-3803A: Surface (SFC) – 18,100 Mean Sea Level (MSL)
R-3803B: 18,000 MSL – Flight Level (FL) 350
R-3804A: SFC – 18,000 MSL
R-3804B: SFC – 10,000 MSL
R-3804C: 18,000 MSL – FL350

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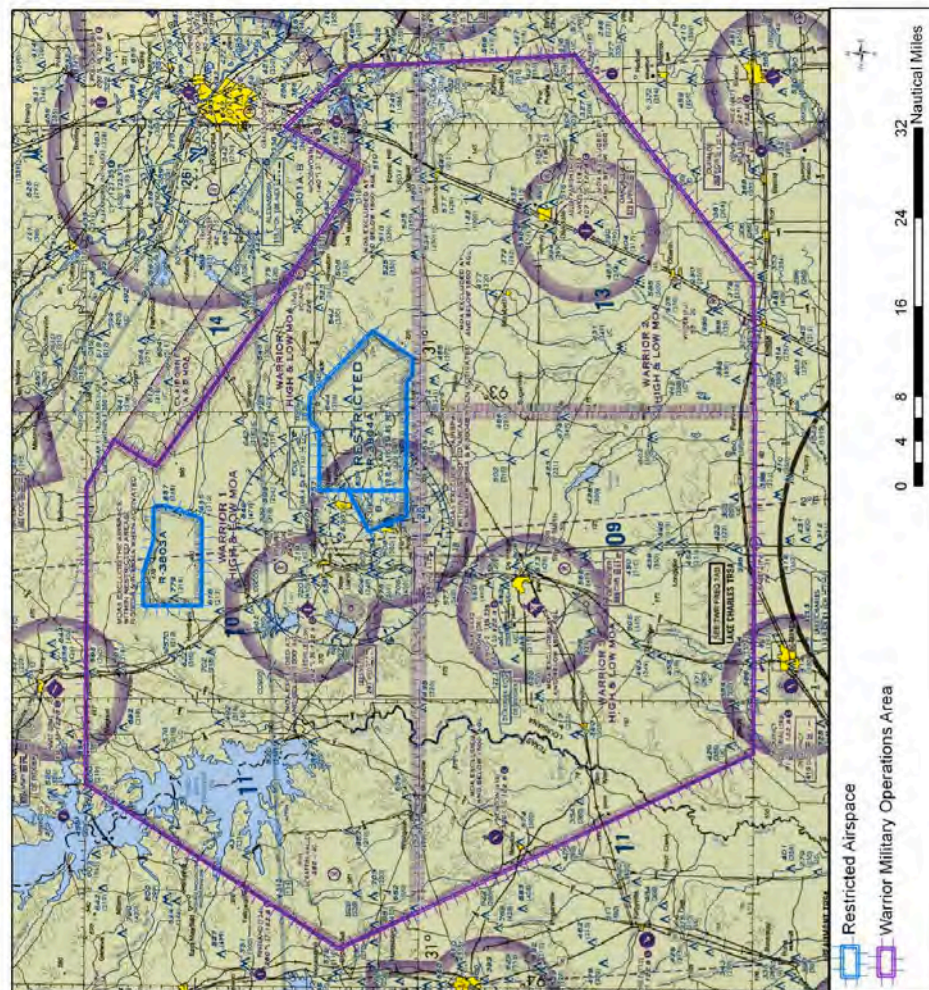


FIGURE 1. EXISTING SPECIAL USE AIRSPACE

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5. PROPOSED ACTIONS. The restricted airspace would overlie lands recently purchased for training and consists of four discrete polygons of airspace (two at lower altitude and two at higher altitude) (R-3803 C/E and R-3803 D/F) (Figure 2). The proposed airspace is adjacent to the existing R-3803 A/B airspace. Figures 3 and 4 illustrate and describe the proposed restricted airspace.

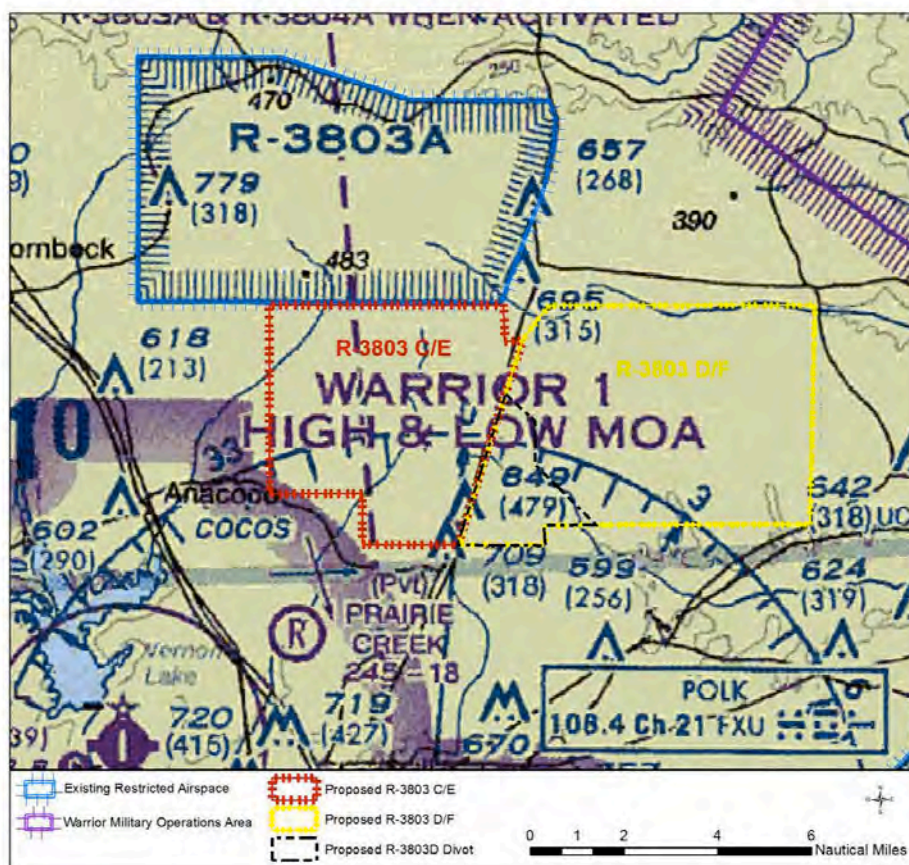


FIGURE 2. RESTRICTED AIRSPACE 3803 EXPANSIONS

The airspace overlying the western portion of the new training land is divided into two polygons and consists of a lower altitude block of airspace (R-3803C SFC to but not including 18,000 MSL) and a higher altitude block of airspace(R-3803E 18,000 MSL to but not including FL350).

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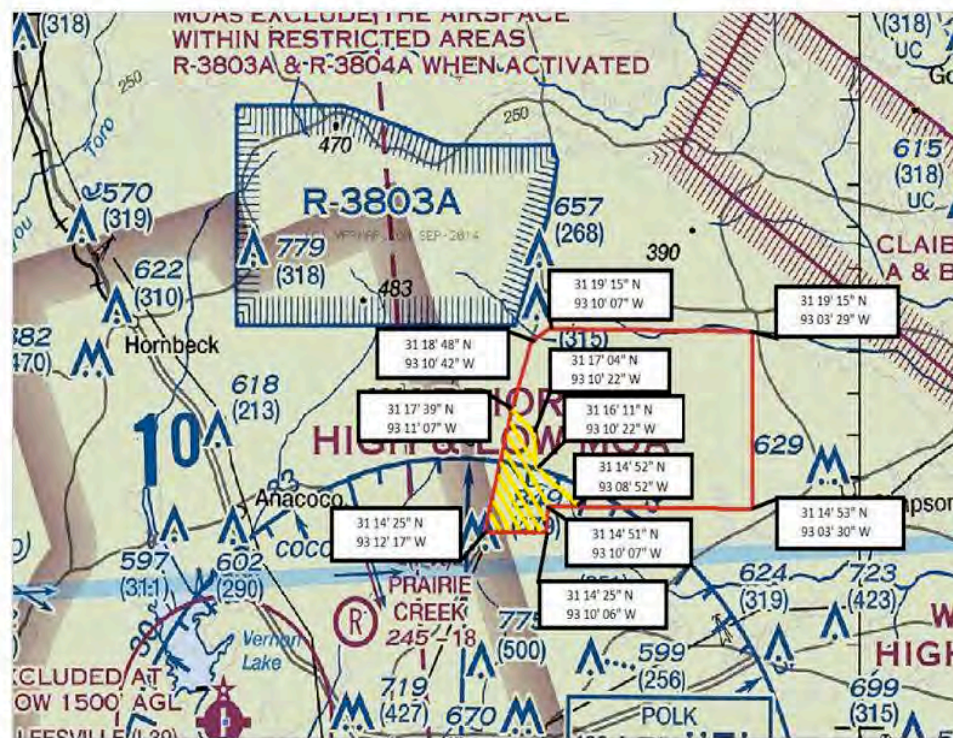


FIGURE 4. PROPOSED R-3803D (low) and R-3803F (high)

The airspace overlying the western portion of the new training land is divided into two polygons and consists of a lower altitude block of airspace (R-3803D SFC to but not including 18,000 MSL) and a higher altitude block of airspace (R-3803F 18,000 MSL to but not including FL350).

It should be noted that R-3803D has an excluded area of airspace in the southwest corner extending from the surface, to and including, 2,000 feet MSL (R-3803D Divot). For reference, the average elevation in the Peason Ridge area is 300 feet so the floor is approximately 1,700 feet Above Ground Level.

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6. NOISE ASSESSMENT.

a. The operating environment within any of the SUA scenarios does not generate an ADNL contour above 55 dB. The table summarizes the results. The noise levels presented are conservative, as a portion of the fixed-wing aircraft will use the higher airspace in R-3803E/F.

b. R-3803D Divot is a small area in the southwest corner of R-3803D airspace with a floor of 2,000 MSL. Within the Divot, the proposed activity generates an ADNL of 49 dB. Although ADNL indicates compatibility between the proposed restricted airspace and the homes within the Divot individual overflight may be annoying or disrupted to the residents.

TABLE. NOISE ASSESSMENT RESULTS

SUA SCENARIO	DESCRIPTION	HIGHEST PREDICTED ADNL
R-3803C	Activity occurring within the proposed restricted airspace of R3803C SFC – 18,000 MSL	54
R-3803D	Activity occurring within the proposed restricted airspace of R3803D SFC – 18,000 MSL	52

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7. FINDINGS AND RECOMMENDATION.

a. The operating environment within any of the SUA scenarios does not generate an ADNL contour above 55 dB. This indicates that annual average noise levels from the proposed aviation activity are compatible with the surrounding environment.

b. R-3803D Divot is a small area in the southwest corner of R-3803D airspace with a floor of 2,000 MSL. Within the Divot, the proposed activity does not generate levels above 50 dB ADNL. Although ADNL indicates compatibility between the proposed restricted airspace and the homes within the Divot, individual overflights may be annoying or disruptive to the residents.

c. Although noise levels would not be significant, annoyance potential could be lowered if fixed-wing aircraft maintain 3,000 MSL and helicopters 2,000 MSL when above or within 0.5 nautical miles of the Divot.

d. Include the information from this consultation in the appropriate National Environmental Policy Act documentation.

KRISTY BROSKA
Environmental Protection Specialist
Operational Noise

APPROVED:

CATHERINE STEWART
Program Manager
Operational Noise

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APPENDIX A

REFERENCES

1. Federal Aviation Administration (FAA), 2006, Order 1050.1E, Environmental Impacts: Policies and Procedures.
2. U.S. Air Force, 1999, MR_NMAP, Wright-Patterson Air Force Base, OH.

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APPENDIX B

GLOSSARY OF TERMS, ACRONYMS & ABBREVIATIONS

B-1. GLOSSARY OF TERMS.

Above Ground Level – a measurement of altitude above a specific land mass, and differentiated from MSL.

A-weighted Sound Level – the ear does not respond equally to sounds of all frequencies, but is less efficient at low and high frequencies than it is at medium or speech range frequencies. Thus, to obtain a single number representing the sound pressure level of a noise containing a wide range of frequencies in a manner approximating the response of the ear, it is necessary to reduce, or weight, the effects of the low and high frequencies with respect to the medium frequencies. Thus, the low and high frequencies are de-emphasized with the A-weighting. The A-scale sound level is a quantity, in decibels, read from a standard sound-level meter with A-weighting circuitry. The A-scale weighting discriminates against the lower frequencies according to a relationship approximating the auditory sensitivity of the human ear. The A-scale sound level measures approximately the relative “noisiness” or “annoyance” of many common sounds.

Average Sound Level – the mean-squared sound exposure level of all events occurring in a stated time interval, plus ten times the common logarithm of the quotient formed by the number of events in the time interval, divided by the duration of the time interval in seconds.

Day-Night Average Sound Level (DNL) – the 24-hour average frequency-weighted sound level, in decibels, from midnight to midnight, obtained after addition of 10 decibels to sound levels in the night from midnight up to 7 a.m. and from 10 p.m. to midnight (0000 up to 0700 and 2200 up to 2400 hours).

Decibels (dB) – a logarithmic sound pressure unit of measure.

Flight Level (FL) - stated in three digits that represent altitude in hundreds of feet at or above 18,000 feet.

Mean Sea Level (MSL) – the average height of the surface of the sea for all stages of tide; used as a reference for elevations, and differentiated from AGL.

B-1

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Military Operations Area (MOA) - an airspace of defined vertical and lateral limits established for the purpose of separating certain military training activities from Instrument Flight Rules traffic.

Noise – any sound without value.

Restricted Area – Airspace identified by an area on the surface of the earth within which the flight of aircraft, while not wholly prohibited, is subject to restrictions. Activities within these areas must be confined because of their nature or limitations imposed upon aircraft operations that are not a part of those activities or both. Restricted areas denote the existence of unusual, often invisible, hazards to aircraft such as artillery firing, aerial gunnery, or guided missiles.

B-2. GLOSSARY OF ACRONYMS AND ABBREVIATIONS.

ADNL	A-weighted average Day Night Level
dB	Decibels
FL	Flight Level
MOA	Military Operations Area
MSL	Mean Sea Level
R	Restricted Area
SFC	Surface
SUA	Special Use Airspace

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APPENDIX C

SPECIAL USE AIRSPACE MR_NMAP INPUTS

C-1. The proposed R-3803C/D activity is summarized in Table C. Pages C-2 through C-5 contains a copy of the R-3804C MR_NMAP inputs. Pages C-6 through C-9 contains a copy of the R-3804C MR_NMAP inputs.

TABLE C. PROPOSED R-3803C/D ACTIVITY

Aircraft	Altitude Range MSL	Yearly Sorties		Time in Airspace per Operations (Hours)
		Daytime (0700-2200)	Nighttime (2200-0700)	
A-10	1000-17999	19	6	1.5
C-130	1000-17999	2	3	1
F-15	1000-17999	5	3	1
F-16	1000-17999	10	5	1
AH-64	SFC-1000	23	25	1
CH-47	SFC-1000	2	3	1
OH-58	SFC-1000	25	22	1
UH-60	SFC-1000	51	85	1
UH-72	SFC-1000	89	75	1
UAS	SFC-3000	48	28	1

Please note:

Unmanned Aerial Systems (UAS) were not included in the calculations, as they are not available in the noise model. Additionally, due the low noise signature, these operations would not noticeably alter the projected noise environment. The UAS are largely silent above 2,000 feet Above Ground Level.

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***** MOA RANGE NOISEMAP *****	
Version 2.2	
Release Date 15 August 1998	
SETUP PARAMETERS	
Number of MOAs and Ranges = 1	Number of tracks = 0
Lower Left Corner of Grid (lat/long) = 30 21 13 N 094 02 40 W	
Upper Right Corner of Grid (lat/long) = 31 34 59 N 092 13 33 W	
Grid spacing = 5000. feet	Number of events above an SEL of 65 dB
Temperature = 54 F	Humidity = 70
	flying days per month = 30
MOA SPECIFICATIONS	
MOA name 3803C	
Latitude	Longitude
31 17 28 N	093 11 10 W
31 16 57 N	093 11 06 W
31 16 57 N	093 10 01 W
31 15 50 N	093 11 06 W
31 12 35 N	093 12 18 W
31 12 35 N	093 14 40 W
31 13 41 N	093 14 40 W
31 13 41 N	093 16 38 W
31 17 27 N	093 16 59 W
31 17 28 N	093 11 10 W
Floor =	0 feet AGL
	Ceiling = 18000 feet AGL
MISSION DATA	
Mission name = A-10 MOA	
Aircraft code = 32	Speed = 265 kias
	Power = 3555.0
Altitude Distribution	
Lower Alt. (feet AGL)	Upper Alt. (feet AGL)
1000	2500
2500	5000
5000	17999
	Percent Utilization
	86

Proposed R-3803C Airspace

1

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```

Mission name = F-16 MOA
Aircraft code = 184 Speed = 420 kias Power = 85.1
Altitude Distribution
Lower Alt Upper Alt Percent
(feet AGL) (feet AGL) Utilization
1000 2500 5
2500 5000 12
5000 10000 35
10000 17999 44

Mission name = C-130 MOA
Aircraft code = 83 Speed = 150 kias Power = 97.0
Altitude Distribution
Lower Alt Upper Alt Percent
(feet AGL) (feet AGL) Utilization
1000 2500 25
2500 5000 25
5000 17999 50

Mission name = F15
Aircraft code = 146 Speed = 550 kias Power = 82.0
Altitude Distribution
Lower Alt Upper Alt Percent
(feet AGL) (feet AGL) Utilization
1000 2500 5
2500 5000 12
5000 10000 35
10000 17999 48

Mission name = AB64
Aircraft code = 318 Speed = 100 kias Power = 100.0
Altitude Distribution
Lower Alt Upper Alt Percent
(feet AGL) (feet AGL) Utilization
100 1000 100

```

Proposed R-3803C Airspace 2

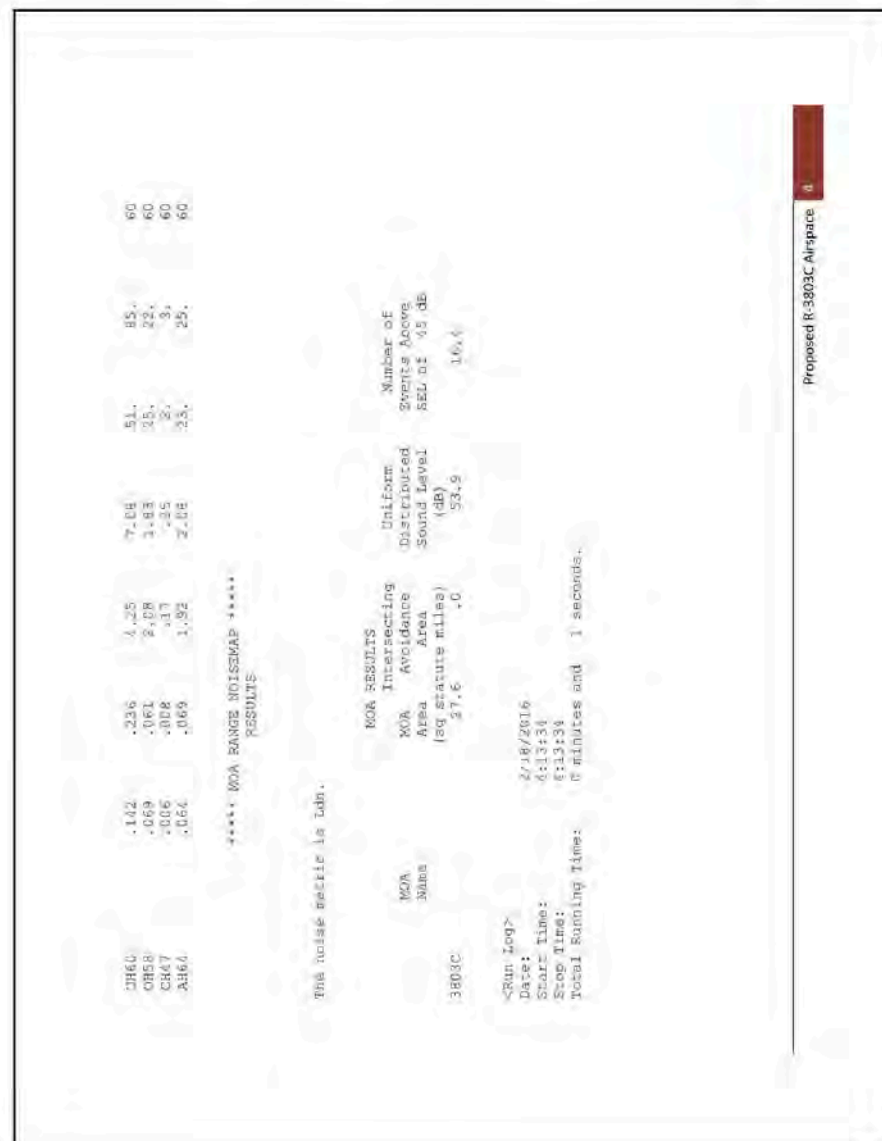
C-3

Operational Noise Consultation No. WS.0019562-a-16, 16 February 2016

Mission name = CH47									
Aircraft code = 359 Speed = 100 kias Power = 100.0									
Altitude Distribution									
Lower Alt Upper Alt Percent									
(feet AGL) (feet AGL) Utilization									
100 1000 100									
Mission name = UH60									
Aircraft code = 415 Speed = 100 kias Power = 100.0									
Altitude Distribution									
Lower Alt Upper Alt Percent									
(feet AGL) (feet AGL) Utilization									
100 1000 100									
Mission name = UH72									
Aircraft code = 389 Speed = 116 kias Power = 116.0									
Altitude Distribution									
Lower Alt Upper Alt Percent									
(feet AGL) (feet AGL) Utilization									
100 1000 100									
Mission name = OH58									
Aircraft code = 376 Speed = 100 kias Power = 100.0									
Altitude Distribution									
Lower Alt Upper Alt Percent									
(feet AGL) (feet AGL) Utilization									
100 1000 100									
MOA name = 3803C MOA OPERATION DATA									
Mission Name									
Daily Night									
Day OPS Night OPS									
A-10 MOA .053 .017 1.58 .50									
C-130 MOA .006 .006 .77 .25									
F-16 MOA .028 .013 .83 .52									
F15 .014 .008 .42 .23									
UH72 .247 .206 7.42 6.25									
Monthly									
Day OPS Night OPS									
Yearly									
Day OPS Night OPS									
Time On Range (minutes)									
19. 6. 90									
2. 3. 60									
10. 5. 60									
5. 3. 60									
89. 75. 60									
Proposed R-3803C Airspace									

C-4

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C-5

Operational Noise Consultation No. WS.0019562-a-16, 16 February 2016

<p>***** MVA RANGES NOISEMAP *****</p> <p>Version 2.2</p> <p>Release Date 15 August 1999</p>																													
<p>SZTDF PARAMETERS</p> <p>Number of MVA's and Ranges = 1 Number of Tracks = 11</p> <p>Lower Left: Corner of Grid (Lat/Long) = 30 21 15 N 094 02 40 W</p> <p>Upper Right: Corner of Grid (Lat/Long) = 31 34 59 N 092 13 33 W</p> <p>Grid Spacing = 5000. feet Number of Events above an ESL of 45 dB</p> <p>Temperature = 59 F Humidity = 70 Flying days per month = 30</p>																													
<p>MVA SPECIFICATIONS</p> <table border="1"> <thead> <tr> <th>MVA Name</th> <th>3803H</th> </tr> <tr> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr><td>31 13 17 N</td><td>093 03 27 W</td></tr> <tr><td>31 14 53 N</td><td>093 03 31 W</td></tr> <tr><td>31 14 53 N</td><td>093 08 52 W</td></tr> <tr><td>31 14 51 N</td><td>093 10 05 W</td></tr> <tr><td>31 14 27 N</td><td>093 10 05 W</td></tr> <tr><td>31 14 27 N</td><td>093 12 18 W</td></tr> <tr><td>31 14 02 N</td><td>093 11 06 W</td></tr> <tr><td>31 18 48 N</td><td>093 10 42 W</td></tr> <tr><td>31 13 16 N</td><td>093 10 05 W</td></tr> <tr><td>31 19 17 N</td><td>093 03 27 W</td></tr> <tr><td>Floor =</td><td>0 feet AGL</td></tr> <tr><td>Ceiling =</td><td>12000 feet AGL</td></tr> </tbody> </table>		MVA Name	3803H	Latitude	Longitude	31 13 17 N	093 03 27 W	31 14 53 N	093 03 31 W	31 14 53 N	093 08 52 W	31 14 51 N	093 10 05 W	31 14 27 N	093 10 05 W	31 14 27 N	093 12 18 W	31 14 02 N	093 11 06 W	31 18 48 N	093 10 42 W	31 13 16 N	093 10 05 W	31 19 17 N	093 03 27 W	Floor =	0 feet AGL	Ceiling =	12000 feet AGL
MVA Name	3803H																												
Latitude	Longitude																												
31 13 17 N	093 03 27 W																												
31 14 53 N	093 03 31 W																												
31 14 53 N	093 08 52 W																												
31 14 51 N	093 10 05 W																												
31 14 27 N	093 10 05 W																												
31 14 27 N	093 12 18 W																												
31 14 02 N	093 11 06 W																												
31 18 48 N	093 10 42 W																												
31 13 16 N	093 10 05 W																												
31 19 17 N	093 03 27 W																												
Floor =	0 feet AGL																												
Ceiling =	12000 feet AGL																												
<p>AVOIDANCE SPECIFICATION</p> <p>Number of Avoidance Areas = 1</p> <table border="1"> <thead> <tr> <th>Latitude</th> <th>Longitude</th> <th>Radius (feet)</th> <th>Floor (feet AGL)</th> <th>Name</th> </tr> </thead> <tbody> <tr> <td>31 15 33 N</td> <td>093 11 10 W</td> <td>6076.</td> <td>2000</td> <td>DIVOT</td> </tr> </tbody> </table>		Latitude	Longitude	Radius (feet)	Floor (feet AGL)	Name	31 15 33 N	093 11 10 W	6076.	2000	DIVOT																		
Latitude	Longitude	Radius (feet)	Floor (feet AGL)	Name																									
31 15 33 N	093 11 10 W	6076.	2000	DIVOT																									

Proposed R-3803D Airspace

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MISSION DATA				
Mission name = A-10 MOA				
Aircraft code = 22 Speed = 265 kias Power = 3555.0				
Altitude Distribution				
Lower Alt	Upper Alt	Percent		
(feet AGL)	(feet AGL)	Utilization		
1000	2500	5		
2500	5000	9		
5000	17999	86		
Mission name = F-16 MOA				
Aircraft code = 166 Speed = 420 kias Power = 95.6				
Altitude Distribution				
Lower Alt	Upper Alt	Percent		
(feet AGL)	(feet AGL)	Utilization		
1000	2500	5		
2500	5000	12		
5000	10000	35		
10000	17999	44		
Mission name = C-130 MOA				
Aircraft code = 83 Speed = 150 kias Power = 970.0				
Altitude Distribution				
Lower Alt	Upper Alt	Percent		
(feet AGL)	(feet AGL)	Utilization		
1000	2500	25		
2500	5000	25		
5000	17999	50		
Mission name = F15				
Aircraft code = 146 Speed = 550 kias Power = 82.0				
Altitude Distribution				
Lower Alt	Upper Alt	Percent		
(feet AGL)	(feet AGL)	Utilization		
1000	2500	5		
2500	5000	12		
5000	10000	35		
10000	17999	44		

2

Proposed R-3803D Airspace

Proposed R-3803D Airspace

C-7

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```

Mission name = AH6C
Aircraft code = 318 Speed = 100 Kias Power = 100.0
Altitude Distribution
Lower Alt Upper Alt Percent
(feet AGL) (feet AGL) Utilization
100 1000 100

Mission name = CH47
Aircraft code = 359 Speed = 100 Kias Power = 100.0
Altitude Distribution
Lower Alt Upper Alt Percent
(feet AGL) (feet AGL) Utilization
100 1000 100

Mission name = OH6C
Aircraft code = 415 Speed = 100 Kias Power = 100.0
Altitude Distribution
Lower Alt Upper Alt Percent
(feet AGL) (feet AGL) Utilization
100 1000 100

Mission name = UH72
Aircraft code = 389 Speed = 116 Kias Power = 116.0
Altitude Distribution
Lower Alt Upper Alt Percent
(feet AGL) (feet AGL) Utilization
100 1000 100

Mission name = OH58
Aircraft code = 374 Speed = 100 Kias Power = 100.0
Altitude Distribution
Lower Alt Upper Alt Percent
(feet AGL) (feet AGL) Utilization
100 1000 100

```

Proposed R-3803D Airspace

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MOA OPERATION DATA									
MOA Name = 3803D									
Mission Name	Daily			Monthly			Yearly		
	Day OPS	Night OPS	Time On Range (minutes)	Day OPS	Night OPS	Time On Range (minutes)	Day OPS	Night OPS	Time On Range (minutes)
A-10 MOA	.003	.017	1.58	.17	.50	60	19.	5.	90
C-130 MOA	.006	.008	.17	.83	.25	60	2.	3.	60
F-16 MOA	.008	.014	.42	.42	.25	60	10.	5.	60
F15	.014	.008	.742	6.25	7.08	60	89.	75.	60
CH72	.247	.208	4.25	3.83	2.25	60	25.	22.	60
UH60	.162	.236	1.17	1.92	2.08	60	2.	3.	60
OH58	.069	.061	.17	.17	.25	60	2.	3.	60
CH7	.006	.008	.17	.17	.25	60	2.	3.	60
AM60	.064	.069	1.92	2.08	2.25	60	23.	25.	60
***** MOA RANGE NOISEMAP *****									
RESULTS									
The noise metric is Ldn.									
MOA RESULTS									
MOA Name	Intersecting MOA Area (sq statute miles)	Avoidance Area (sq statute miles)	Number of Events Above SEL of 45 dB	Uniform Distributed Sound Level (dB)	Number of Events Above SEL of 45 dB	Uniform Distributed Sound Level (dB)	Number of Events Above SEL of 45 dB	Uniform Distributed Sound Level (dB)	Number of Events Above SEL of 45 dB
3803D	39.7	3.6	52.3	52.3	11.4	52.3	11.4	52.3	11.4
AVOIDANCE AREA RESULTS									
Avoidance Area Name	Uniform Distributed Sound Level (dB)	Number of Events Above SEL of 45 dB	Uniform Distributed Sound Level (dB)	Number of Events Above SEL of 45 dB	Uniform Distributed Sound Level (dB)	Number of Events Above SEL of 45 dB	Uniform Distributed Sound Level (dB)	Number of Events Above SEL of 45 dB	Uniform Distributed Sound Level (dB)
DIWOT	49.1	33.2	49.1	33.2	49.1	33.2	49.1	33.2	49.1
<Run Log>									
Date:	2/18/2016								
Start time:	4:46:13								
Stop time:	4:48:13								
Total Running Time:	0 minutes and 0 seconds								

Proposed R-3803D Airspace